

VAM® BOOK

December 2023

NIPPON STEEL

vallourec
SMART TUBULAR SOLUTIONS

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INTRODUCTION

VAM® Connections are supplied on new pipes from one of two steel suppliers, Vallourec and Nippon Steel Corporation. In addition to these steel tube manufacturers, VAM® Connections can also be cut onto accessories at a number of licenced machine shops located close to most drilling locations. Furthermore, it is possible to cut VAM® Connections onto older pipe in order to create a more circular economy.

VAM® Connections are designed to be easy to use by simply following this manual which includes our recommendations and best practices for the care and use of our products. In case further peace of mind is desired, then VAM® Field Service specialists can be called to the yard, workshop or rig site to provide expert advise and assist with improving operations efficiency.

Licensee Network

The VAM® Licensee network consists of over 130 machine shops with the ability to cut VAM® connections on assemblies and to repair any connections that may be damaged.

Stock Management and Supply Chain Services

Both Vallourec and Sumitomo Corporation offer stock management and supply chain services, often close to the drilling location.

VAM® Field Service

VAM® Field Service is the only official company providing on-site services to support the VAM® Connections. There are over 150 VAM® Field Service specialists located in 11 countries who can assist either physically at the rig site or remotely in real time. These specialists are available for yard inspections and to assist with assembly make-ups or rig-site support.

At the rig site they will interact with the operators, drilling contractors and service companies to provide:

- Rig-ready services / return services
- Deck management support
- Visual thread and seal inspection with rig site field repairs if appropriate

- Drifting services including laser-scanning of pipe bore
- Pipe measurement and preparation of run-in-hole tally
- Verification of suitability and confirmation of availability of make-up, handling and safety equipment (lifting tools, stabbing guides, well control crossovers, drifts, thread compounds, etc.)
- Advice and training to drill crews and running companies
- Confirmation of the torque monitoring software tolerances
- Monitoring of the running process with acceptation or rejection of make-up graphs
- Preparation of backload manifests to be passed to onshore teams
- Assembly workshop / rig-site make-up torque equipment calibration services

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1. OCTG

Pipes used in the oil and gas industry are often referred to as OCTG (Oil Country Tubular Goods). There are some very standard and common OCTG sizes and grades. The main specifications defining the manufacture and supply of standard OCTG are produced by the American Petroleum Institute and are referred to as API 5CT and API 5CRA. The ISO equivalent of these are ISO 11960 and ISO 13680.

In addition to the standard OCTG products, the steelmakers can offer non-standard sizes and grades to satisfy specific well designs and conditions.

Regardless of the pipe specification, a method of joining the pipes in a quick and efficient manner on the rig site is required and threads best satisfy these requirements.

2. VAM® CONNECTIONS

The registered trademarked VAM® means Vallourec Alexandre Madrelle as a tribute to the designer of the first connection in the 1960's. It is now the name given to most of our connections.

Today, there are two main types of threaded connection:

- Integral connections: one end of the pipe is the male (pin) part of the connection and the other one is the female (box) part. Integral connections can be flush to the pipe body or semi-flush where the pipe body is expanded slightly before threading. Integral connections are used in slim holes, slim well designs and when restricted clearance is required
- Threaded and coupled (T&C): the pipe is threaded with two pin parts and a short coupling with two box parts must be used between the pipes. The coupling is normally torqued on at the threading line, so the joint is ready for use. T&C connections are made to match the strength of the pipe body

Several options for T&C connections can be requested at the time of order:

- Special clearance couplings (SC) are machined down to a specific diameter requested by the client. The result is that the coupling cross section is reduced and therefore, the tensile performance is also reduced. The options are called SCXX, where the number XX refers to the remaining percentage of the tensile performance (typically SC80 or SC90)
- Special bevel couplings (SB) are made to reduce the size of the square edge on the coupling face to avoid hang up on sharp profiles downhole or when running dual strings. The options are a 10 or a 20-degree bevel (SB10 and SB20). The consequence is that the maximum load that can be lifted on the coupling face with side door elevators is greatly reduced. Though, even with SB20 option, as long as full coupling face is in contact with the elevator, handling and lifting of 1 to 3 joints with a standard single joint elevator remains possible

NOTE

VAM® connections may be found on pipe from other steelmakers as well as casing and completion assemblies.

3. CLEANWELL®

CLEANWELL® is the current VAM® dope-free technology, offering several solutions on VAM® Premium OCTG connections that fulfill customer needs for environmental friendliness, rig cleanliness, easy and quick running, clean wellbore, repairability, etc. It simplifies rig-preparation and eliminates the need to use running thread compounds. CLEANWELL® is applied at the mills on the surface of threads of VAM® connections.

The introduction of CLEANWELL® connections into nowadays operations can be simple and straightforward, with no expected challenges either at the rig site nor disruption of the currently available supply chain, i.e. the makeup procedure and local preparation of accessories remains unchanged. The same standard accessories can be normally ordered from standard available VAM® licensees, and this will substantially ease the life of oil and gas operators.

CLEANWELL® specific paragraphs can be found through the book, always in this light blue color. Please follow these instructions if running CLEANWELL® connections. For more details or in case of doubt, please refer to CLEANWELL® running guidelines.

› NOTES

- The data displayed in this document is the latest applicable information for CLEANWELL®
- For information on alternative versions (CLEANWELL® DRY S/ST), please contact Mr Help or your local VAM® representative

4. STORAGE AND HANDLING

Storage and handling of OCTG is related to the steel type of the pipe.

OCTG are available in hundreds of steel grades, some of these are defined by API, and many are proprietary grades. The API, Vallourec and Nippon Steel Corporation grades are listed in this book as well as indicator bands which help identify each grade. These can be found in section **15. Color codes**. For the purpose of storage and handling we can simplify this list as:

- Carbon Steels (as well as 1% Chrome and 3% Chrome)
- 13% Chrome
- Super 13% Chrome and CRA (Corrosion Resistant Alloys)

In all cases, the pipes shall not be dropped or dented such that a drift cannot pass through. There shall be no deep scratches or scores that will reduce the wall thickness below permitted levels. Care shall be taken not to expose the threaded ends during transportation or storage. As such, the connections are supplied with plastic or metal/plastic thread protectors. The thread protectors are qualified to API and ISO specifications and, if they too are cared for, can be re-used multiple times. Users are encouraged to return thread protectors through a suitable supply chain to the threading companies for re-use. This will reduce the environmental impact and the costs on both sides. Severely damaged protectors shall not be re-used under any circumstances.

Before leaving the threading factory, a VAM® approved storage thread compound or a dope-free solution (CLEANWELL®) will be applied to the threaded ends. This will prevent corrosion on the machined areas for at least one year and typically many more. It is highly recommended to use stock within a year of purchase or establish a maintenance program where checks take place at 6 months intervals and remedial action taken if required.

The table below sums up the storage, transportation and handling equipment recommendations for Carbon Steels, 13% Chrome, Super 13% Chrome and CRA. Special care must be taken for Super 13% Chrome and CRA as contact with ferrous material must be avoided.

Storage, transportation and handling equipment	Carbon Steel	13% Chrome	Super 13% Chrome and CRA
Dunnage	Hardwood or plastic	Hardwood or plastic	Hardwood or plastic
Drift mandrel	Metal	Plastic or aluminium	Plastic or aluminium
Forklift forks	Metal	Plastic covered	Plastic covered
Inspection benches	Metal	Metal	Plastic, wood or aluminium
Slings	Metal	Nylon or plastic covered	Nylon or plastic covered
Transport frames	Not required	Recommended	Required
Bump rings	Not required	Not required	Required if slung or rolled
Tongs, elevators, slip jaws, pipe handling machines	Standard	Low-marking	Low-marking and non-ferrous
Single joint elevators	Standard	Standard	Non ferrous contact area
V-door, mousehole, storage and transport support posts	No protection required	Plastic or wood covered	Plastic or wood covered
Single joint load compensator	Not required	Not required	Recommended
Paints for stencil, bands and tally	Standard	Standard	Without fluorides
Maximum grip marks	Consult section **7.1.6 Pipe Handling Tools - Dies & Inserts**		
Covered storage	Not required	Recommended	Required

Storage, transportation and handling equipment recommendations

⊕ WARNING

For cold-drawn CRA, care shall be taken not to overload the coupling face when lowering the pipe into the well as the material has a 20% derating in compression compared to tension.

4.1 Storage

4.1.1 Pipe Yard

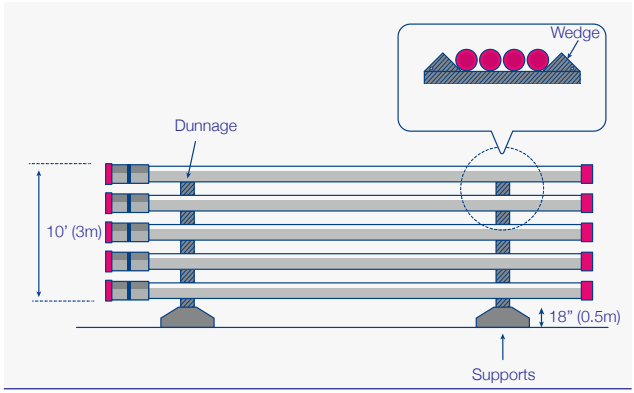
OCTG is delivered from the threading plant to a stockyard until it is ready to be delivered to the rig site. With collaborative planning, the duration that the pipe will be in a stockyard can be reduced dramatically.

The stockyard can be owned by the end user or a third party. Both Vallourec and Sumitomo Corporation own and manage stockyards which can allow end users to concentrate on core business and leave pipe management to the OEM (Original Equipment Manufacturer). Either way it is important that good standards are maintained to guarantee the value of the stock.

API and ISO have standards for care and use of tubing and casing, and these are the basis of good stock yard management. Therefore, it is preferred that the stockyard have the following attributes:

- Away from population hubs
- Security fencing to avoid non-authorised entry
- Close to local distribution hubs
- Good compacted hard standing to avoid product movement
- Away from corrosive airborne particles (especially cement dust)
- Away from costal locations where there can be salt spray
- Clear internal and external access routes
- Free from vegetation
- Indoor inspection racks for routine, rig-ready and rig returns checks
- Indoor warehousing for loose couplings or other high value accessories
- Well maintained Stock Management System

OCTG can be stored outdoors on racks as shows the illustration below:



Pipe yard storage

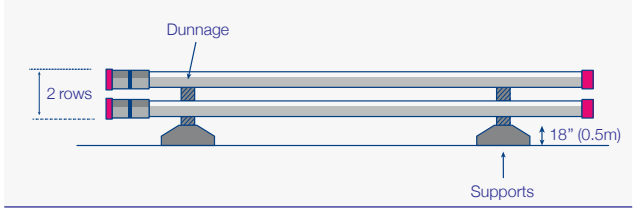
These must be at least 18" (0.5 m) from the ground level and with at least 4" x 4" (10 cm x 10 cm) dunnage between the pipe rows. The dunnage can be untreated hardwood or plastic. There shall be at least two supports distanced to spread the load and avoid pipe bending. To achieve this the spacing shall allow approximately 25% of the pipe length protruding at each end of the rack. The stacks must not be higher than 10' (3 m).

4.1.2 Land rig

If using CLEANWELL® connections, for more details or in case of doubt, please refer to CLEANWELL® running guidelines.

On arrival, OCTG can be placed directly on pipe racks next to the catwalk, respecting the following instructions:

- Pipes should be at least 18" (0.5 m) from the ground
- Make sure the racks can support the pipe weight and have end supports
- Do not place pipe more than two rows high on pipe racks
- Make sure there are wooden wedges nailed to the dunnage between the pipe rows at each end
- Use a forklift or a crane to take the pipe from the trucks to the pipe racks. The forklift should have top supports to hold the pipe secure



Land rig storage

- Ensure the thread compound is free from foreign matter. If not, clean the connection and re-apply adequate thread compound
- Ensure any wastewater is captured and disposed of in a compliant manner
- Measure the pipes and prepare a deck tally
- When the pipes are ready to run, ensure the protectors are securely fitted. Roll or lift them onto the catwalk or 'pick up and lay down machine' and transfer them to the rig floor. Use single joint elevators to lift single pipe

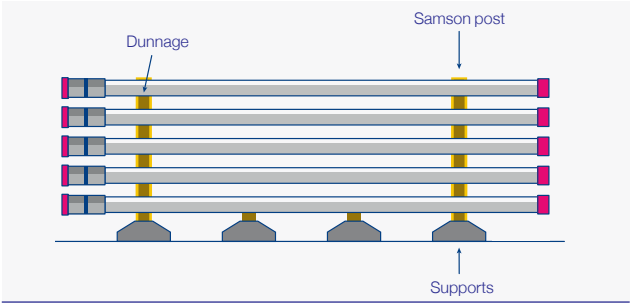
from the catwalk up the V-door.

- To save rig time it may be possible (depending on the connection) to make triple stands by using mobile bucking unit, which can be provided by third party or VAM® Field Service in some regions
- After the job, it is required to prepare all contingency pipes for backload by fitting protectors, ensuring the pipes are safely loaded onto trucks

4.1.3 Offshore Rig

On arrival, OCTG can be placed directly on the pipe bays between the Samson posts, respecting the following instructions:

- Make sure the deck support can take the pipe weight. Use additional dunnage to spread the load as required
- Do not fill the pipe bays higher than the Samson posts



Offshore rig storage

When the pipes are ready to run, lift them onto the catwalk or trolley. Use single joint elevators to drag single pipe from the catwalk up the vee door.

4.2 Handling

In order to avoid tubular goods damage, respect the following conditions.

4.2.1 Truck

If using CLEANWELL® connections, for more details or in case of doubt, please refer to CLEANWELL® running guidelines.

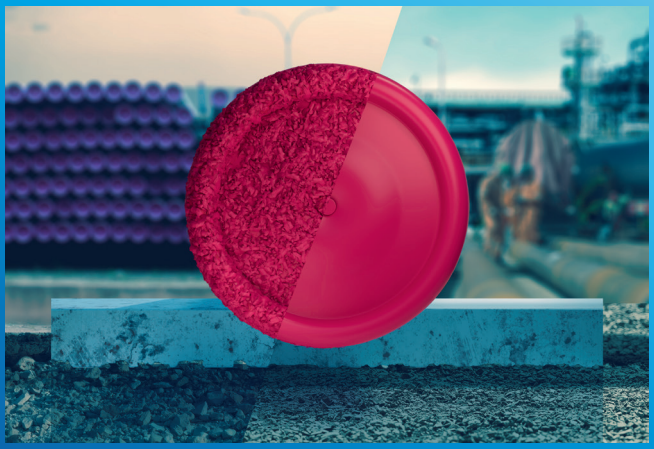
SECOND LIFE PROTECTORS

A VALLOUREC RECYCLING SERVICE

ONE INTERFACE

IMPROVED SUSTAINABILITY

A WIN-WIN SOLUTION



SECOND LIFE PROTECTORS SERVICE
collects, inspects and sorts used protectors either for reconditioning and immediate reuse or for recycling and use in the manufacture of new protectors.

TO LEARN MORE, SCAN OR CLICK ON THE QR CODE

PRE-INSTALLED CABLE PROTECTOR

MOVE CLAMPING OPERATIONS FROM THE RIG FLOOR TO THE YARD

DIRECT RIG TIME SAVINGS

SAFER OPERATIONS

PEACE OF MIND



PROVIDING SAFER AND FASTER OPERATIONS

The Pre-Installed Cable Protector (PICP) is installed on tubulars offline in the pipe yard. PICP speeds up run-in-hole by reducing critical time on the rig floor and provides safer operations with only one person needed in the Red Zone for just a few seconds, using only one tool.

TO LEARN MORE, SCAN OR CLICK ON THE QR CODE

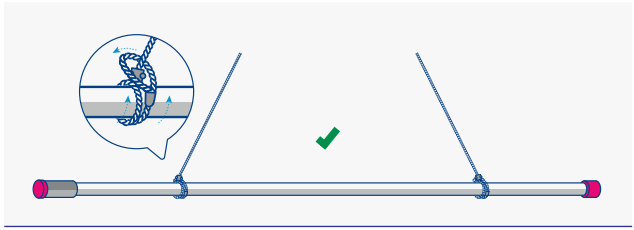
- Use plastic or wooden supports to avoid contact with trailer and prevent pipe bending
- Use plastic or wooden separators between each row
- Use textile straps to secure the load complying with local legislation
- Use thread protectors
- Ensure trucks have a headboard to protect the driver and cab
- Ensure couplings face the headboard and are as close as possible to it
- Ensure load does not exceed the height of the headboard
- Check and re-tighten the straps as required

4.2.2 Forklift

- Use heavy duty forklifts with pipe clamps, avoid using telescopic loaders
- Use only on smooth and even surfaces
- Never exceed the load restrictions of the forklift
- Keep the load as close to the ground as possible
- Never deposit pipes directly on the ground and do not drop the pipes

4.2.3 Crane

- Check wire rope sling conformity certificate and good visual condition
- If a rope is damaged, identify clearly as such and quarantine until scrapped
- Select wire rope slings according to their Working Load Limit (WLL), which shall be at least 1.25 times greater than the total weight of the load
- A wire rope sling must be double wrapped with a choke hitch at 25% of the total length from both sides of the load. A bulldog grip and a tie wrap must be used to avoid the choke losening. A 60° angle of the ropes under the hook must be respected



Wire rope sling

5. PREPARATION FOR RUNNING

5.1 Job Planning (including CDS and Interchangeability)

When planning the well, make sure the following are considered:

- Pipe and connection selection
- Connection Data Sheets are available
    - o For API and Vallourec grades
    - o For Nippon Steel Corporation grades
- Assemblies and pup joints are considered and their suitability with the make-up equipment
- Interfaces between different designs, sizes, weights and grades (Interchangeability)

5.2 Pipe Preparation

If using CLEANWELL® connections, for more details or in case of doubt, please refer to CLEANWELL® running guidelines.

Prior to running, some preparation is required to get the OCTG ready for use downhole. This can include:

- Replacing storage thread compound with running thread compound
- Visual thread and seal inspection for any kind of damage
- Full length drift
- Application of tally number
- Measuring or confirming pipe length and pipe bore for volume calculation
- Application of thread compound
- Installation of casing centralizers or Vallourec cable protectors

These jobs can be done at the rig site, but the tendency today is to prepare, as much as possible, the pipe on dedicated inspection racks in the stock yard. This service, known as Rig Ready, is available from Vallourec, Sumitomo Corporation or third parties. It is often considered preferable to have the OEM (Original Equipment Manufacturer) carry out the tasks as they know best their products.

5.3 Storage Thread Compound Replacement

VAM® connections are qualified using specific running thread compounds (CLEANWELL® connections are qualified without the need for running thread compound). These running thread compounds are seldom suitable for long term storage. For this reason, the storage thread compound must be replaced with running thread compound prior to make-up. The list of approved running thread compounds can be found on VAM® Services website.

If using CLEANWELL® connections, for more details or in case of doubt, please refer to CLEANWELL® running guidelines.

The below guidelines explain how to clean the connection prior to application of running thread compound:

- Use high pressure soapy water (preferably hot)
- Do not use wire brushes
- Use nylon bristled brush if required to apply additional soap to the threads
- Preferably roll the pipe as they are being cleaned
- Work over a bunded area to avoid ground contamination
- Do not absorb the compound with sand or grit
- Do not damage the connection
- Never use diesel or similar that would leave an oily film.

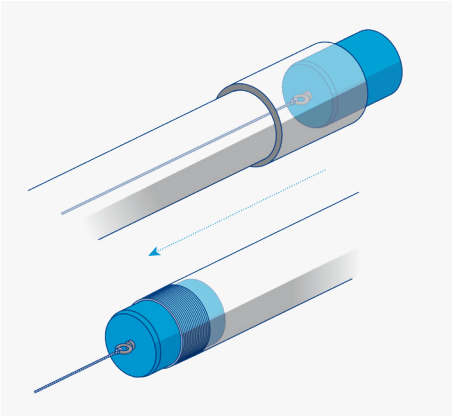
Finally, apply running thread compound according to the instructions in section **7.3 Running Thread Compound**.

5.4 Pipe Body and Bore Inspection

It is important to ensure that the pipe body and bore are free from loose debris and rust or scale. In addition, there must be no restrictions that could cause a failure to get equipment downhole.

Scale and rust can reduce the wall thickness and can become loose during handling. It is very important to ensure that loose scale does not attach to the thread compound during stabbing as it may cause damage to the critical parts of the connection during make-up.

To check for bore restrictions, it is necessary to pull a measured plug through the pipe bore. This is known as a drift mandrel, and the minimum drift mandrel sizes for each pipe are listed in the technical data tables of this book.



Drift mandrel

- When drifting a pipe, it is best to pull the drift from the box connection towards the pin
- Take care not to damage the critical parts of the connection
- Use non-ferrous drifts and ropes for 13% Chrome, Super 13% Chrome and CRA steels
- Clean and check the drift mandrel size regularly as they may become worn

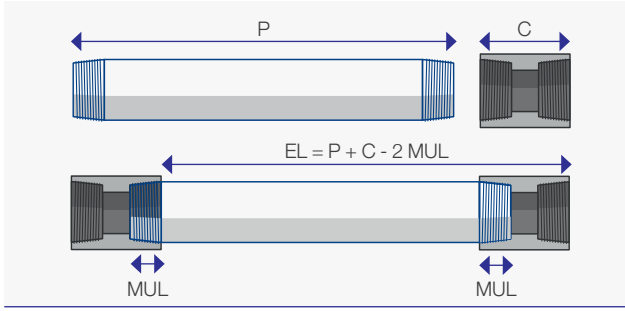
Drifting can take place on the pipe racks / deck or as the pipe is being lifted from horizontal to vertical. If the supply chain is known not to cause damage, then drifting can be carried out in the pipe yard before transportation to rig site.

Special care should be taken during CLEANWELL® drift operation especially at box end to preserve the coating.

On old stock or pipe returned from a previous rig site, it may be necessary to check the pipe body and bore for heavy grip marks caused by pipe handing equipment. The maximum depths of grip marks are listed in the table in section **7.1.6 Pipe Handling Tools - Dies & Inserts**.

5.5 Make-up Loss

Before running, it is important to have an accurate length measurement of each pipe, pup joint and assembly. The length written on the pipe and pup joints coming from the manufacturer is the overall length of the part. When running connections, the effective length (EL) is less as the box thread 'swallows' the pin thread. This is known as 'make-up loss' (MUL), and must be subtracted from the overall length to give the effective length:



Make-up loss

5.6 Visual Thread and Seal Inspection

It is mandatory to check the connections for any kind of damage. This should be done by a competent person either at the rig site or at the pipeyard if the supply chain can be trusted not to cause damage or corrosion.

If using CLEANWELL® connections, for more details or in case of doubt, please refer to CLEANWELL® running guidelines.

Ensure the following:

- Metal to metal seal area must be in a prime condition
- Threads must be free of defects that could prevent good make-up
- Coupling counterbore and shoulder area must not have been overtorqued
- All machined parts must not present any sign of corrosion including pitting

6. INTERCHANGEABILITY

If using CLEANWELL® connections, for more details or in case of doubt, please refer to CLEANWELL® running guidelines.

Certain combinations of design, size, weight and grade can be interchangeable, but the resulting performance may be impacted, and the resulting make-up torque has to be calculated.

In order to achieve high performance some connections can have different geometric designs across the weight range. These differences may include thread/seal diameter, thread taper, thread pitch, etc. Therefore:

⊕ WARNINGS

- 2 weights with the same OD might not be interchangeable
- 2 grades with the same OD and weight might not be interchangeable

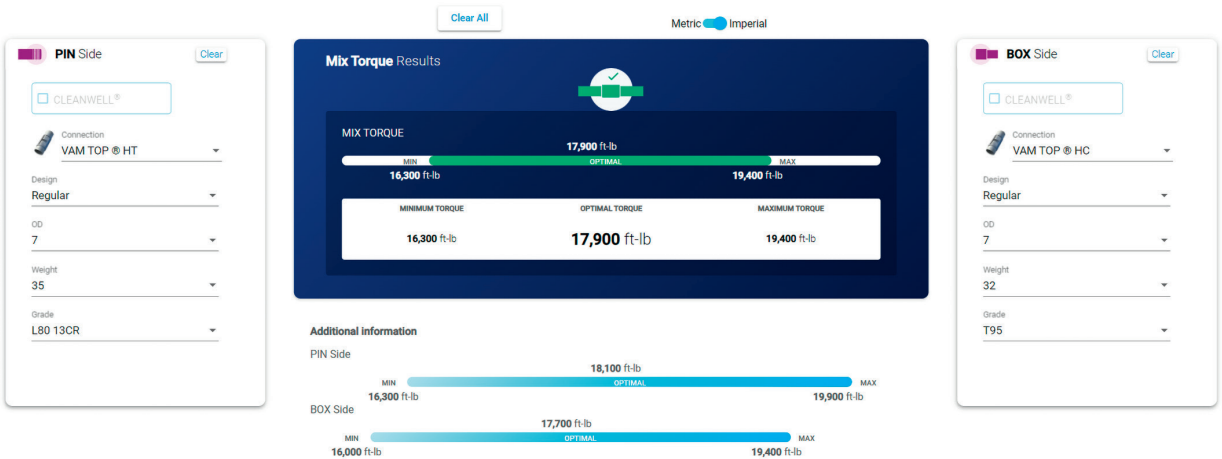
The VAM® connections Mix Torque Calculator, available on VAM® Services website, allows to determine whether or not the chosen combination is interchangeable, as well as the resulting make-up torque. An example of calculation using the Mix Torque Calculator can be found on the next page. In case of doubt, please contact Mr Help on VAM® Services website.

Interchangeable combinations can be successfully made-up and will retain, at a minimum, the performance (including sealability) of the combination of the lowest weight and grade of pin and box side. For example:

7" 29.00# P110 VAM TOP ® Pin x 7" 32.00# L80 VAM TOP ® Box

The retained performance is the one of a 7" 29.00# L80 VAM TOP ® connection. In case more performance is required, contact Mr Help on VAM® Services website.

Connections with the suffix "Kx" where 'x' is a sequential letter (A, B, C...) are interchangeable with the standard product line for the same family. K stands for: **K**ompatible, i.e., interchangeable.



Mix Torque Calculator

NOTES

- VAM TOP ® HC and VAM TOP ® HT are interchangeable with VAM TOP ®, except for 4-1/2" VAM TOP ® (no interchangeability)
- VAM TOP ®-KS designs are interchangeable with VAM TOP ® (and similarly other VAM TOP ®-Kx designs such as VAM TOP ®-KA, VAM TOP ®-KB, VAM TOP ®-KX, etc., are interchangeable)

However, in case of interchangeability between weights, internal flushness is not guaranteed as often a step may appear in the bore as a consequence of different internal diameters.



Bore step

For the OCTG interchangeability, the crossover is the best answer but particular attention must be taken not to create a weak point into the well.

VAM® connections are not interchangeable with:

- Competitors connections
- VAM® Copies
- Different type families of VAM® connections
- Connections with the suffix Nx where 'x' is a sequential letter are not interchangeable with the standard product line for the same family (except some particular cases). N stands for: **N**ot interchangeable.

PRIME MAPPING

A PIPE DATA FIELD SERVICE

ENHANCED RELIABILITY

TIME & COST SAVINGS

HIGHEST OPERATIONAL PERFORMANCE



ACTUAL PIPE DATA FOR HIGHEST PERFORMANCE

Prime Mapping delivers accurate casing and tubing geometry dimensions in digital format collected directly on the rig or at the yard. The data collected is used for calculating pipe bore volume for cement displacement, selecting the best packer-fit pipes, or determining the thickest pipes for casing wear mitigation.

TO LEARN MORE, SCAN OR CLICK ON THE QR CODE

TORQUE TURN SERVICES

ENSURE VAM® CONNECTIONS CORRECT ASSEMBLY

ENHANCED SAFETY

STREAMLINED OPERATIONS

PRODUCT EXPERTISE



VAM® Field Service (VFS) technicians employ sensory equipment to generate torque vs. turn charts, overseeing the proper make-up of VAM® connections to prevent leaks and mitigate environmental and safety risks. Having VFS carry out **Torque Turn services** reduces the personnel required on board, enhances safety, streamlines operations, and ensures expertise in both product and process.

TO LEARN MORE, SCAN OR CLICK ON THE QR CODE

7. RUNNING

7.1 Equipment & Tools

7.1.1 Single Joint Elevators

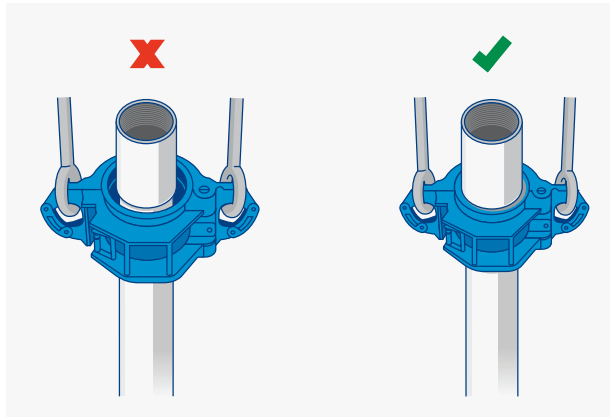
Required to lift the pipe from horizontal to vertical if the coupling cannot be presented directly to the main slips. Make sure they are the correct size for the job and that the safety pin is correctly secured.

7.1.2 Slips

Used to hold the string in the rotary table as the pipes are being made-up. Slips shall be correctly sized for the pipe being run and shall not cause severe damage to the pipe body or cause crushing.

7.1.3 Elevators

Used to lower the string into the well. The elevators shall be correctly fitting and can either grip on the pipe body (slip type) or use the coupling face to support the weight.



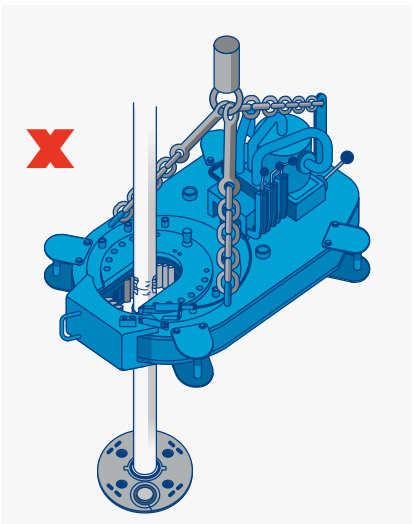
Ensure correct fitting of the elevators

NOTE

The coupling face has limited load carrying ability and must not be overloaded. Some couplings have severe limitations on load especially special clearance couplings, special bevel coupling and ‘fatigue enhanced’ couplings.

7.1.4 Power tongs

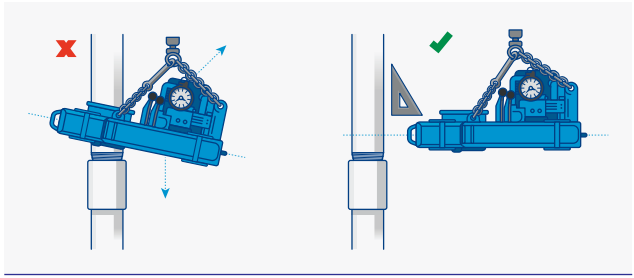
The correct power tong shall be selected for the job based on pipe size and the required torque. The tong shall have a capacity of at least 130% of the optimum torque while still being accurate at 10% of the optimum torque. Do not use an oversize power tong when a smaller one is available.



Select the adequate power tong size

For casing, a power tong with a snub line may be used. For tubing or casing up to 7-5/8”, it is best to have a power tong with a backup tong.

If using a snub line, the load cell shall be connected at the power tong end. Care shall be taken to ensure the snub line is secured to a post at the same height as the load cell. The angle between the snub line and the tong arm shall be close to 90 degrees as shown.



Respect a 90° angle between the snub line and the tong arm

If using a power tong with integral backup tong, care shall be taken to ensure that both parts are parallel and that they have 3 degrees of freedom (lateral and axial).

The power tong shall grip the pipe body just above the coupling. The backup tong shall be below the coupling so that torque is applied to both mill and field ends of the connections.

If the backup tong must be placed on the coupling, it shall be on the lower half and the supply chain shall ensure that the mill end has not been partially backed out after leaving the manufacturer.

To reduce the personnel working on the drill floor, it is encouraged to use the following equipment:

- Remote controlled power tong
- Casing Running Tool

7.1.5 Casing Running Tools

A casing running tool has 3 functions:

- Conveying the string in and out of the well
- Permitting mud circulation of the string
- Making-up the connection if used in combination with a torque sub

Take care that the casing running tool does not damage the box connections

during installation. It may be necessary to use an open-end protector to reduce this risk, as the one provided by Vallourec mentioned in section **12.3 Handling and Lifting Equipment**. There must be no parts left in the box connection during make-up including parts of the rubber sealing elements.

7.1.6 Pipe Handling Tools - Dies & Inserts

The interface between the equipment and the pipe is often made with 'dies and inserts'. These are manufactured to grip the pipe to avoid axial lowering into the well or to allow torque to be applied during connection make-up. The maximum depths of grip marks depend on diameter and steel grade, and are listed in the table below:

Material	Pipe Diameter	Maximum grip mark depth	
		inch	*mm*
Carbon steel	2-3/8" to 2-7/8"	**0.025**	**0.64**
	3-1/2" to 5-1/2"	**0.030**	**0.76**
	6-5/8" and above	**0.040**	**1.02**
13% Chrome	All	**0.012**	**0.30**
Super 13% Chrome and CRA	All	**0.012**	**0.30**

Maximum grip mark depth table

⊕ WARNINGS

- For Super 13% Chrome and CRA, low-marking dies and inserts must be used
- Watch out for slippage with low-marking equipment when running Super 13% Chrome

7.1.7 Data Logging and Display

- It is expected that companies record torque, turns, time and speed data during the make-up process
- It is expected that data be displayed in real time with at least the last two turns being saved for record keeping purpose

- To aid the operator to decide to accept or reject the make-up the torque recorded during the last turn shall be displayed in a high resolution showing the critical parts of the make-up
- It is expected that the resolution of the data acquisition be sufficient to show at least 1000 data on the last turn
- The accuracy of the logging equipment shall be:

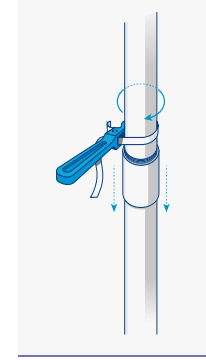
	Range	Tolerances
Torque measurement accuracy	Torque values ≤ 2,300 ft.lb (3,120 N.m)	**± 5%**
	Torque values between 2,300 ft.lb (3,120 N.m) and 5,750 ft.lb (7,800 N.m)	**± 115 ft.lb (156 N.m)**
	Torque values ≥ 5,750 ft.lb (7,800 N.m)	**± 2%**
Turn measurement accuracy	After 1 turn / After 10 turns	**± 2%**
Speed measurement accuracy	Minimum / Average / Maximum	**± 10%**

Logging equipment accuracy

- A calibration certificate shall be available at the work site. It is expected that the equipment shall be calibrated every year if there is history to demonstrate accuracy over time. Where this is not proven, it is expected that the equipment shall be calibrated prior to each job. It is best to calibrate the torque unit as a whole using a calibration bar

7.1.8 Strap Wrenches

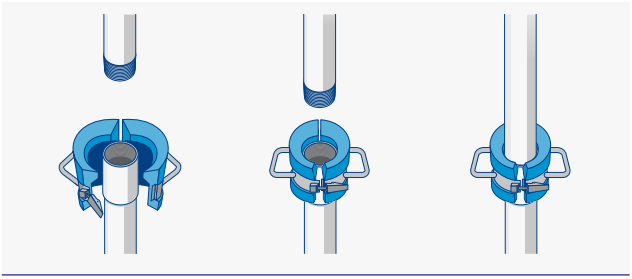
When making-up Super 13% Chrome pipes, it is recommended to use a strap wrench to initiate the make-up of the connections. However, regarding the make-up of accessories, the use of a strap wrench is mandatoy. For heavy pipes, a single joint load compensator should be used in addition. Another alternative would be using a chain tong as long as the pipe body is protected with rubber or similar to prevent ferrous contact.



Strap wrench

7.1.9 Stabbing Guides

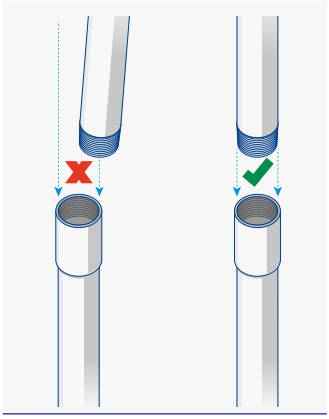
It is recommended to use a stabbing guide over the box end of the connection when lowering the pipe above, in order to protect the connections from damage. If there is good alignment during the stabbing process, it may not be required.



Stabbing guide

7.2 Stabbing

It is important to have good alignment when stabbing the pin connection into the box to prevent cross threading or make-up problems.



Be careful of stabbing alignment

7.3 Running Thread Compound

In order to provide lubrication between the connections during make-up and prevent galling of the mating areas, it is necessary to apply a running thread compound (often called dope) to the connections prior to stabbing and make-up.

This step is not required when running CLEANWELL® connections.

Running thread compound can be applied with such 'moustache' type brush:



'Moustache' type brush for running thread compound application

Some common running thread compounds are listed below. As they are not approved with all VAM® connections, please refer to each connection data to ensure the use of an approved running thread compound, which list is available on VAM® Services website:

- 'API Modified' *
- 'API High Pressure Modified' *
- 'API Modified HP/HT' *
- Jet-Lube® API-MODIFIED™ High Pressure (Lithium Based) *

- Jet-Lube® Seal-Guard™ ECF™
- Jet-Lube® Run-N-Seal® ECF™
- BESTOLIFE® 4010® NM
- BESTOLIFE® 2010® NM ULTRA

⊕ WARNING

* These running thread compounds contain high levels of lead. Ensure that barrier cream is applied to hands and wrists and wear gloves.

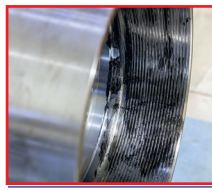
Regarding running thread compound, ensure the following:

- Only use VAM® approved running thread compound for the specific connection, available on VAM® Services website
- Check there is sufficient quantity to complete the whole job
- Check the use by date
- Check the 'use within opened date'
- Stir well before and during use
- Prevent contamination from particles and water (including rainwater)
- Never dilute the running thread compound
- Remove all other compounds from the rig floor
- Do not use drill pipe compounds
- If prepared onshore with running thread compound, only 'top up' with the same product
- Warm the running thread compound in cold climates to make application easier
- Ensure pin and box threads are thoroughly cleaned before application
- Once applied, place the lid back on the tin to avoid contamination
- Ensure brushes are secured to prevent them falling in the well

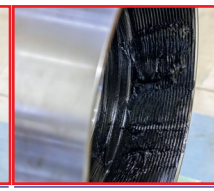
Prior to application ensure the following:

- Check that the connections are not damaged or corroded
- Connections are cleaned to remove storage thread compound
- Best to use hot high pressure soapy water
- Never use diesel or similar that would leave an oily film
- If necessary, use a nylon brush to apply a liquid soap, never use a wire brush
- Where possible, connections are blow dried or rag dried

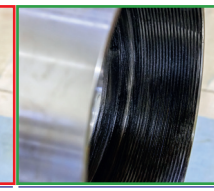
Apply running thread compound to the threads, seal and shoulder area as shown on the next page. The precise minmum and maximum quantities are available on the torque tables section of each connection. It is important to fit within these values. The consequence of too little running thread compound can be galled connections which may leak or fail in service. The consequence of too much running thread compound may be humps in the make-up graph (if severe) and contamination of the well. This contamination may lead to problems setting plugs or running wireline tools.



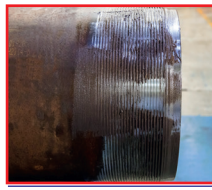
Box end - Too little



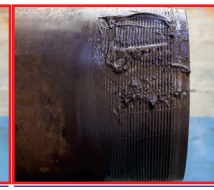
Box end - Too much



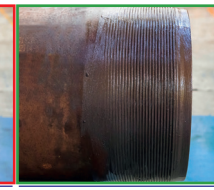
Box end - Just right



Pin end - Too little



Pin end - Too much



Pin end - Just right

It is recommended that the repartition of the running thread compound be done as following, depending on the connection:

Connection	Running thread compound repartition	
	Pin end	Box end
VAM® 21, VAM® 21 HT, VAM TOP ®, VAM TOP ® HC, VAM TOP ® HT, VAM® LOX, VAM® SLIJ-3 < 16", VAM® FJL, VAM® EDGE SF+	1/3	2/3
VAM® SLIJ-II,VAM® BOLT-II, VAM® HTF-NR, DINO VAM	1/2	1/2
VAM® HTTC, VAM® SLIJ-3 ≥ 16", BIG OMEGA ®, BIG OMEGA ®-IS	100%	–
VAM® HP	100%	On seals only
VAM® SPRINT-TC*, VAM® SPRINT-SF*, VAM® SPRINT-FJ	–	100%

Running thread compound repartition

NOTES

- *An alternate method for these connections consists in applying running thread compound 50% on pin end and 50% on box end
- For VAM® SPRINT designs, a very thin and even layer of running thread compound must be applied on the thread profile. Do not overdope the connection, the thread profile should be clearly visible

7.4 Thread Locking Compound

Historically, many operators like to lock or glue the threads on the shoe track at the bottom of a casing string. The thread locking compound can cause higher thread interference. It is not thought that thread locking is necessary with high torque connections such as VAM® 21, however there follows some guidance if thread locking compound is desired:

- Use a thread locking compound with a friction factor above 1
- Set the new minimum, optimal, maximum and shoulder torques as below
- Target to achieve a torque close to the maximum VAM® Book torque value for the connection
- When the connections are about to be stabbed, apply standard thread compound to the metal-to-metal seal areas on the pin and box
- Mix correctly and apply the thread locking compound to the pin threads taking care not to contaminate the standard thread compound on the seal area
- Stab and make-up the connections before the thread locking compound sets

For connections with a quoted MTS (Maximum Torque with Sealability) or MLT (Field Liner Max torque), the final torque can only be as high as the MTS or MLT value:

VAM® Book torque	Thread lock torque
Maximum	Maximum VAM® Book torque + 10% (or MTS / MLT if lower)
Optimum	Halfway between new maximum and new minumum
Minimum	Maximum VAM® Book torque
Maximum shoulder torque	Minimum VAM® Book torque

Calculation of make-up torque when using thread locking compound

If using CLEANWELL® connections, for more details or in case of doubt, please refer to CLEANWELL® running guidelines.

ENGINEERING SERVICES:

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EXPERT SUPPORT

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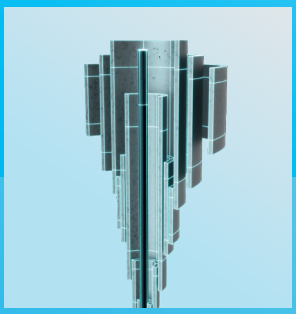
WELL ENGINEERING



WELL DESIGN

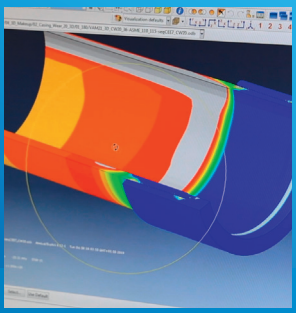


MATERIAL SELECTION

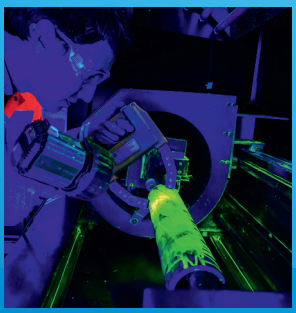
Vallourec Engineering Services puts technology at your service, offering competitive and innovative solutions and helping you select the most appropriate products based on your specific needs from conventional and unconventional fields, line pipe, offshore and onshore, to special applications including geothermal, CCUS and hydrogen.

For obtaining technical data on our products and materials, our online **Expertise Center** provides all the necessary information.

PRODUCT ENGINEERING & EVALUATION



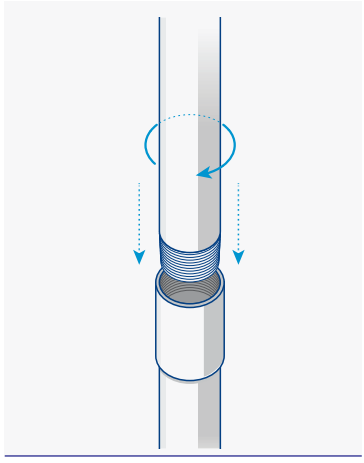
CONNECTION EVALUATION



PIPE EVALUATION

7.5 Make-up

After stabbing, rotate the pipe in a clockwise direction to engage the threads. Make sure to respect the maximum rotation speeds indicated on the next page.



Make-up with clockwise rotation

In case the threads stab crest, it may be necessary to move a little the elevators or to counter rotate the pipe to allow the threads to drop in and engage.

Rotate the threads and then change to a lower speed towards the end of the make-up. This may require a gear change to prevent the equipment stalling.

7.5.1 Make-up Torque

It is recommended that all connections designs (except VAM TOP ® HT – see hereafter) are made-up at the rig floor to their optimum torque value. The final torque shall be comprised between minimum and maximum torque values. optimum, minimum, and maximum torque values are available for each product on their datasheet (CDS) available on VAM® services website, and in the torque tables of this VAM® Book.

Material	Single joint load compensator for stabbing	Size	Initial Stabbing		Running in		Final make-up with seal and shoulder engagement	
			Tong gear or manual	Tong, CRT or manual maximum speed (rpm at pipe)	Tong gear	Tong or CRT maximum speed (rpm at pipe)	Tong gear	Tong or CRT maximum speed (rpm at pipe)
Carbon	Not required	≤ 4-1/2”	High or chain tong	5	High	30	Low	Between 2 and 5
		≥ 5”	High or chain tong	5	High	15	Low	Between 2 and 5
13% Chrome	Recommended	≤ 4-1/2”	High or nylon strap wrench / Memac	5	High	15	Low	Between 2 and 5
		≥ 5”	High or nylon strap wrench / Memac	5	High	10	Low	Between 2 and 5
Super 13% Chrome and CRA	Highly recommended	≤ 4-1/2”	High or nylon strap wrench / Memac	2	High	5	Low	Between 2 and 5
		≥ 5”	High or nylon strap wrench / Memac	2	High	5	Low	Between 2 and 5

Maximum rotation speeds for make-up

7.5.2 MTS - Maximum Torque with Sealability

For some products, especially the ones dedicated to high torque applications such as rotating liners, drilling with casing, extended reach drilling, long horizontal sections, etc. (VAM® 21 HT, VAM® HTTC, VAM® HTF-NR…), a MTS value is defined. This MTS (Maximum Torque with Sealability) is the very maximum torque the connection can withstand while rotating the string downhole, still maintaining full sealability performances. Although it is possible to make-up the connection at the rig floor to MTS (without exceeding it), it is recommended that such value is only used for in-service downhole rotation of the string.

NOTES

- When rotating the string downhole, the applied torque shall not exceed MTS
- MTS is always less than MTV (Maximal Torsional Value, or yield torque), for which the connection integrity cannot be guaranteed anymore
- MTS value may be lower for some high-alloy grades, typically cold-drawn CRA, always check the CDS on VAM® Services website

7.5.3 Specific Case of VAM TOP ® HT

When VAM TOP ® HT application requires high torque, the connection should be made-up at the rig floor to the Field Liner Max torque (MLT), as defined in the CDS and in the torque tables of this VAM® Book, without exceeding it.

NOTES

- Field Liner Max torque is based on the MTS value of the connection, yet it is to be used to make-up VAM TOP ® HT at the rig floor, while MTS is primarily to be used to rotate the string after make-up at optimum torque. If VAM TOP ® HT is used for any other application (not requiring high torque), optimum torque can be used to make-up the connection at the rig floor
- When making-up close to Field Liner Max torque, a loss of linearity may be observed on the torque/turn graph at the very end of the make-up. For Carbon Steels and 13% Chrome grades only, a 0.13-turn rotation after shouldering is acceptable. Beyond this value, the connection shall be rejected. This criterion does not apply to cold-worked CRA, Super 13% Chrome and Modified 13% Chrome grades.

7.6 Additional Requirements for Integral Connections

As integral connections do not have a coupling on which to lift the pipe and lower the string into the well, it is necessary to simulate a square lifting profile by inserting a lifting tool into the box end of the connection.

There are many designs with various lifting capacities, which can be consulted in section **12. Accessories**. Your local VAM® Field Service center can provide lifting tools on a rental basis.

Integral connections are often quite thin so take care not to damage them or create ovality. Keep thread protectors on for as long as possible.

7.7 Horizontal Make-up of Accessories

It is normal to make-up accessories at a workshop prior to sending them to the rig site with an horizontal make-up machine, also called 'bucking unit'. Ensure the following conditions are respected:

- The bucking unit must have a minimum capacity of 130% of the maximum torque to be reached (160% for BIG OMEGA ® and BIG OMEGA ®-IS)
- The bucking unit must have rotating grips and back-up grips with at least one set 'free floating' to accomodate any eccentricity
- A torque/turn monitoring device must be connected to the bucking unit
- Tong and back-up grips must be perpendicular to the pipe
- The rotation of the bucking unit must be continuous
- It is not permitted to use a chain tong type arrangement as the method of gripping

Make-up must be done following the steps bellow:

- Connections must be cleaned before applying running thread compound
- An approved running thread compound must be applied (list available on VAM® Services website)
- To avoid galling, connections shall be made-up as far as possible by hand, then by using a strap wrench or chain tong
- Make-up the connections at low speed until optimum torque by

preferentially rotating the lighter of the two components.
- Check the make-up graph for conformance and accept or reject
- If make-up is not acceptable, break-out fully until it is possible to unscrew by hand. Inspect the connections and remake if acceptable

Some situations may require applying more torque:

- If using thread locking compound, refer to table in section **7.4 Thread Locking Compound**
- When the outside diameter of accessories is larger than the standard design. To establish the correct torque to use, first make-up the connections to the standard torque and, if there is at least 20% of the torque applied to the shoulder, accept the make-up. If there is less, record the shoulder torque value and break-out the connection fully, then clean and visually inspect. If there is no galling or damage, then remake to a final torque defined by the following formula:

Final Torque (0 ; +10%) = Shoulder Torque + 0.20 x Optimum Torque

The final torque may be above the range given by the torque table. Oversized box outside diameter is forbidden for flush and semi-flush connections. In case of undersized pin inside diameter, contact Mr Help on VAM® Services website. No change in diameter shall be permitted within the make-up loss dimensions.

After making-up assemblies, they should be drifted full length and pressure tested using VAM® approved pressure test fixtures as described in section **12.4 Pressure Test Fixtures**.

If assistance is required for assembly make-up, contact your nearest VAM® Field Service center.

8. MAKE-UP ACCEPTANCE

The following conditions should be respected before reviewing make-up graphs:

- The make-up results can be reviewed only after the power tong or CRT (Casing Running Tool) jaws have been released
- There shall be no excessive heat in the connection
- The make-up graph profile with torque and turns is displayed

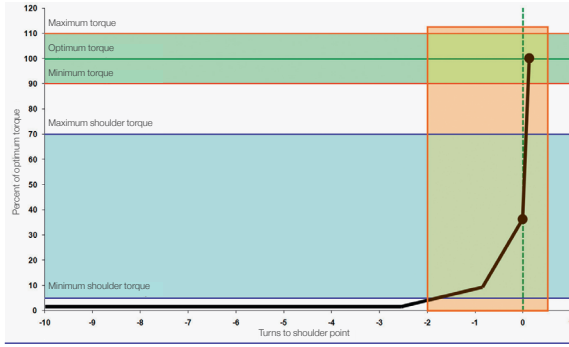
There are a number of elements to be checked on the make-up graph to confirm they are within tolerance. Most good make-up companies will allow the parameters to be pre-set in the software and will highlight anomalies. This software will also highlight anomalies compared to previous accepted make-ups within the job or even compared to previous global product experience.

The elements that must be checked are as follows:

- The connections are interchangeable
- Final torque within parameters
- Shoulder torque (or locked flank torque for dovetail thread designs)
- Delta turns within parameters
- Make-up graph profile as expected

8.1 Typical Make-up Profile

The graph on the next page shows the typical make-up profile for most VAM® connections.



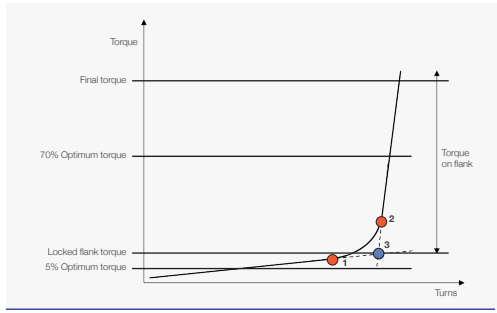
Typical make-up profile for most VAM® connections

8.2 Locking Thread Designs - Locked Flank Torque

Some connection designs such as VAM® HTTC, VAM® HTF-NR, VAM® EDGE SF+, VAM® SPRINT-TC, VAM® SPRINT-SF or VAM® SPRINT-FJ do not have a torque shoulder, therefore the term “shouldering torque” is not used. However, the point at which the flanks of the threads lock is known as the “locked flank torque”. At this point, there will be a gradual increase in torque, as shown between points 1 and 2 in the graph below.

The points represented on the graph below are:

1. Start of locking
2. End of locking
3. Locked flank torque



Locked Flank Torque

The locked flank torque is shown by point 3 in the graph above. The acceptance criteria for this point is:

- Minimum locked flank torque = 5% of the optimum torque
- Maximum locked flank torque = 70% of the optimum torque

Determination of “locked flank torque”:

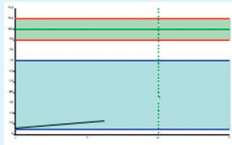
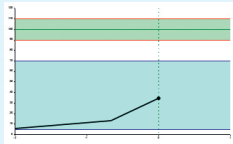
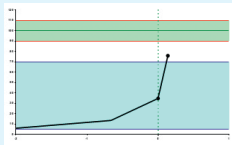
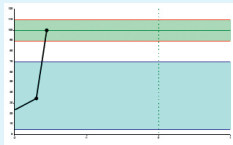
- Automatic “locked flank torque” determination is acceptable but must display a value close to manual or visual determination. In case of automatic determination, a visual spot check shall be periodically performed in order to verify that there is no discrepancy
- Many torque turn systems are not capable to display the locked flank torque (point 3), as it is not on the make-up curve. In this case, the shoulder torque determination can be used as an alternative to indicate close to the locked flank torque. When the shoulder point on the line is used, take point 2 as the locked flank torque. If point 2 is above 70% of optimum, check visually if the real locked flank point is between 5% and 70%. In this case, the final acceptance will be point 3

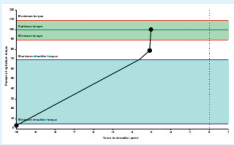
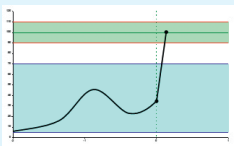
NOTE

If a target torque other than optimum torque is used, the locked flank parameters shall remain as a percentage (5% and 70%) of the book optimum torque.

8.3 Make-up Anomalies

The table hereafter shows make-up profiles with anomalies along with the possible causes and corrective actions:

Unacceptable make-up graph	Possible causes	Impact	Remedial actions
Low final torque with no seal contact			
	• Wrong dump valve setting • Unable to select low gear or stopped make-up early • Tong not powerful enough	• Risk of breaking out • Risk of leak • Risk of debris falling inside shoulder gap	Partial break out • Break out 2 turns and remake
Low final torque with no shoulder contact			
	• Wrong dump valve setting • Unable to select low gear or stopped make-up early • Tong not powerful enough	• Risk of breaking out • Risk of leak • Risk of debris falling inside shoulder gap	Total break out • Clean and visually inspect • If acceptable, make-up again with the same acceptance criteria
Low final torque having reached shoulder			
	• Wrong dump valve setting • Unable to select low gear or stopped make-up early • Tong not powerful enough	• Risk of breaking out • Risk of leak	Total break out • Clean and visually inspect • If acceptable, make-up again with the same acceptance criteria
Short graph - No thread interference			
	• Reference torque set too high	• Unknown	Total break out • Clean and visually inspect • If acceptable, make-up again with the same acceptance criteria • Adjust the make-up machine to show at least the last full turn

Unacceptable make-up graph	Possible causes	Impact	Remedial actions
High thread interference			
	• Wrong type of thread compound • Not enough thread compound • Thread compound too cold • Thread compound not stirred • Impurity in thread compound • Bad load cell • Wrong torque • Wrong tong arm setting • Running speed too high or too low • Misalignment between pin and box • Unclean threads • Galled threads • Damaged threads • Wrong surface treatment • Wrong connections	• Risk of breaking out • Risk of leak • Risk of thread galling • Risk of seal galling	Total break out • Clean and visually inspect • If acceptable, make-up again with the same acceptance criteria
Humping (peak above shoulder)			
	• Too much thread compound • Slight misalignment • Too thick phosphate layer • Minor thread damage	• Contamination impact • Risk of thread galling	Total break out • Clean and visually inspect • If acceptable, make-up again with the same acceptance criteria

TUBULAR MANAGEMENT SERVICES

OPTIMIZE YARD MANAGEMENT

ENHANCED SAFETY

REDUCE WORKING CAPITAL

STANDARDIZE STOCK MANAGEMENT



THOROUGH STOCK INSPECTION AND MANAGEMENT FOR OPTIMIZED RIG DELIVERY

At the operator's yards or in local service bases, Tubular Management Services (TMS) oversee the storage and maintenance of pipes and accessories to ensure their integrity and immediate availability, all while adhering to the highest QHSE standards.

TO LEARN MORE, SCAN OR CLICK ON THE QR CODE

TALLY**VISION**

OPTIMIZE RIG OPERATIONS THROUGH DIGITALIZATION

INCREASE SAFETY ON SITE

OPTIMIZE RUNNING OPERATIONS

REAL-TIME MONITORING FROM ANYWHERE



PRE-TALLY MANAGEMENT



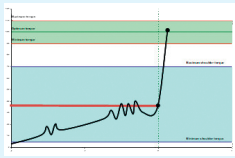
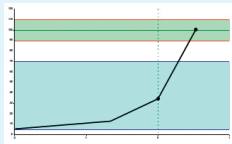
RUNNING SUPERVISION

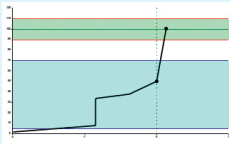
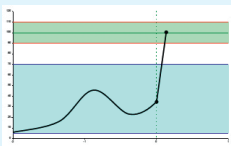
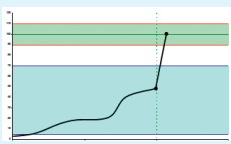


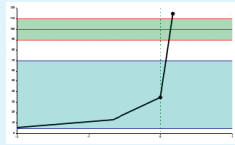
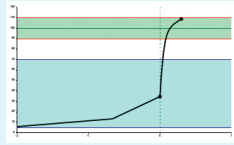
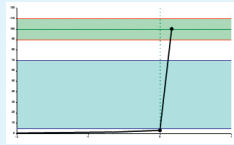
DATA ANALYSIS

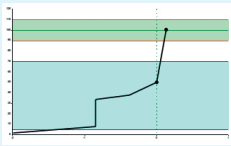
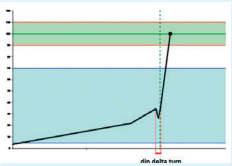
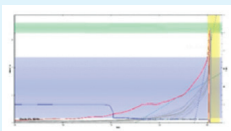
TALLYVISION ensures that pipes and accessories are run according to the planned sequence and reduces manual handling. It enhaces safety, reduces non-productive rig time, eliminates human error, and offers rig crew valuable operational KPIs such as time versus depth.

TO LEARN MORE, SCAN OR CLICK ON THE QR CODE

Unacceptable make-up graph	Possible causes	Impact	Remedial actions
Irregular thread interference			
	• Problems with hydraulic power system	• Risk of leak (foreign body in shoulder area) • Risk of thread galling • Risk of seal galling	Total break out • Clean and visually inspect • If acceptable, make-up again with the same acceptance criteria
High turns after shoulder			
	• Wrong pipe diameter for turns counter • False shoulder detected • Yielded torque shoulder • Mill end rotation on T&C connections	• False information provided in graph and data • Risk of leak • Can cause drift failure and loss in performance • Debris stuck in loose mill end shoulder/ seal area leads to leak	Total break out • Clean and visually inspect • If acceptable, make-up again with the same acceptance criteria • In the case of mill end rotation by more than 1/20 turn (=0.050 delta turn = 18 degrees) then also break out fully the coupling, clean both mill ends and remake the coupling to the pin up stump using mill torque values. If this is not permitted, then the whole pipe shall be pulled out and rejected

Unacceptable make-up graph	Possible causes	Impact	Remedial actions
Step in graph			
	• Turns counter slipping • Loss of data from turns counter	• No immediate consequences but uncertainty over what happened during make-up when turns were not recorded	Total break out • Clean and visually inspect • If acceptable, make-up again with the same acceptance criteria
Spike in graph			
	• Late gear change (spike less defined) • Radio interference (mobile phone or lightening) • Electrical interference caused by electronics being close to magnetic field • Hard shock on equipment or pipe during make up	• A risk remains as the pike might not be electronic or due to gear change, but impurities in the thread	Total break out • Clean and visually inspect • If acceptable, make-up again with the same acceptance criteria
Unusual profile			
	• Wrong connections • Teflon seal from assembly testing left in box connection **NOTE** These are not to be used for VAM® testing. This scenario may also produce a 'good' make-up graph. Always check connections before make-up	• Unable to set plugs • Drift failure • Leak is seal left in connection	Total break out • Clean and visually inspect • If acceptable, make-up again with the same acceptance criteria

Unacceptable make-up graph	Possible causes	Impact	Remedial actions
High final torque			
	• Bad load cell calibration • Wrong dump valve adjustment • Bad tong adjustment • Tong too powerful	• Risk of break out • Risk of leak • No drift - damage to pin and box shoulder area	Total break out • Clean and fully inspect the connection • If acceptable, make-up again with the same acceptance criteria
Yielded graph			
	• Bad load cell calibration • Wrong dump valve adjustment • Bad tong adjustment • Tong too powerful	• Risk of leak • No drift - damage to pin and box shoulder area	Total break out • Clean and fully inspect the connection • If acceptable, make-up again with the same acceptance criteria
Low shoulder			
	• Wrong type of thread compound • Thread compound not stirred • Thread compound too hot • Thread compound contaminated with oil or diesel • Wrong computer settings • Light sand or MoS_2 (Molykote) on connections • Wrong connections	• Risk of break out • Risk of leak	Total break out • Clean and fully inspect the connection • If acceptable, make-up again with the same acceptance criteria

Unacceptable make-up graph	Possible causes	Impact	Remedial actions
Step / torque drop during shouldering			
	• Unsuitable dies • Hydraulic pressure for skins too low • Excessive paint on pipe crossing strips	• Damage to pipe coupling body • Risk of leak	Total break out • Clean and fully inspect the connection • If acceptable, make-up again with the same acceptance criteria
Dip at shouldering			
	• Coating thickness non conform • Thread lead error mismatched pin/box	• Risk of leak • Risk of seal galling	Total break out • Clean and fully inspect the connection • Make-up again and accept if the dip delta turn is maximum 0.015 and a maximum of 5% optimum torque is measured for the dip
Overlaying not acceptable			
	• Wrong location of the jaws • Thread galling • Seal galling	• Risk of leak • Risk of thread galling • Risk of seal galling	Total break out • Clean and fully inspect the connection • If acceptable, make-up again with the same acceptance criteria

If a make-up is found to be non-conforming, it shall be broken out as per the procedure described in section **9. Break Out / Pull Out**.

VAM® FIELD SERVICE

FIELD EXPERTISE ENHANCED BY INNOVATION

ENHANCED SAFETY

ENSURED WELL INTEGRITY

REDUCED COSTS



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VAM® Field Service (VFS) is a network of over 180 expert technicians based out of 19 service centers all over the world. VFS assures Oil & Gas operators of the quality and performance of VAM® products.

VFS improves efficiency and safety, reduces risk and costs, and ensures equipment suitability, resulting in better well integrity.

TRIED AND TRUSTED SERVICES

- Running supervision
- Deck inspection
- Loading/off-loading supervision
- Thread inspections
- Sub-assembly make-up and repair
- Pipeyard management
- Rig preparation (Rig Ready)
- Rig return
- Make-up graph review
- Licensor technical representative
- Horizontal make-up qualification
- String section orientation service via Barrettes
- Torque turn services
- Rentals
- Desk engineer support at customer site

BOLSTERED BY INNOVATIVE SOLUTIONS

- TallyVision
- Prime Mapping
- Pre-Installed Cable Protector

8.4 Making-up Connections with Make-up Indicators

Some connection designs have a knurling mark or a triangle stamp on the pin OD, that serves as a make-up position indicator.

8.4.1 VAM® EDGE SF+

VAM® EDGE SF+ has a knurling mark on the pin OD. The following must be observed as a part of the overall acceptance make-up criteria (in addition to the acceptance criteria for the make-up graph profile):

- Make-up is acceptable if the box face is over or covering the knurl marking
- If make-up is short (box face is not over or partially covering the knurl marking), break out the connection, inspect for damages, and make-up again at maximum torque with minimum running thread compound
- If make-up exceeds (covers) the knurl marking, break out the connection and inspect for damages. Evaluate the make-up graph profile for over-torque or loss of linearity. If graph and connection are good, make-up again at minimum torque with maximum running thread compound. The acceptance criteria for the curve must still be respected
- If while making-up again, the connection still fails to achieve the proper position, both pin and box connections are to be laid down and rejected

8.4.2 VAM® SPRINT-TC, VAM® SPRINT-SF and VAM® SPRINT-FJ

VAM® SPRINT designs have a knurling mark on the pin OD (VAM® SPRINT-TC can have either a knurling mark or a triangle stamp). The following must be observed as a part of the overall acceptance make-up criteria (in addition to the acceptance criteria for the make-up graph profile):

- Make-up is acceptable if the box face is over or covering the knurl marking (or the triangle stamp for VAM® SPRINT-TC)
- If make-up is short (box face is not over or partially covering the knurl marking), break out the connection, inspect for damages, and make-up again with a thinner coat of running thread compound. Alternatively, for VAM® SPRINT-TC and VAM® SPRINT-SF, it is possible to simply bump the connection to the maximum torque

NOTES

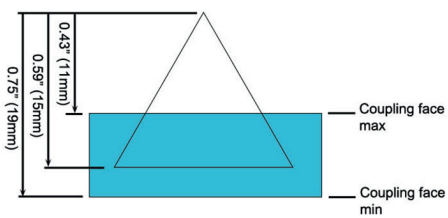
- For VAM® SPRINT-FJ, the knurling mark is machined over crests in the threaded area
- For VAM® SPRINT-TC, coupling rotation is acceptable if no visible loss of linearity is seen on the make-up graph. If graph shows loss of linearity, the connection needs to be broken out, inspected and made-up again if no issues

8.4.3 BIG OMEGA ® and BIG OMEGA ®-IS

BIG OMEGA ® and BIG OMEGA ®-IS designs have a triangle stamp on the pin OD. The location is marked by a long white line on the pin-end side.

BIG OMEGA ® connections must be made-up with a certain torque value: to find the proper torque, at least 10 power make-ups to the base of this triangle should be carried out on each running job. The average torque value of these make-ups is the proper torque to run the total casing string. Power make-up procedure should not be interrupted until the proper torque value is reached. Every connection should be checked for correct power make-up position: the coupling face after power make-up must be within the tolerance area of 0.43" (11 mm) to 0.75" (19 mm) from the apex of the triangle.

For BIG OMEGA ®-IS, it is highly recommended to use a make-up graph system: clear evidence of shoulder will allow accepting the proper make-up. If not using a make-up graph system, these connections are also supplied with a triangle stamp on the pin OD, with same acceptance make-up criteria as for regular BIG OMEGA ®.



Triangle stamp tolerance area for BIG OMEGA ® and BIG OMEGA ®-IS

For proper make-up, the coupling face shall reach the base of the triangle.

9. BREAK OUT / PULL OUT

If a connection is made-up and there is a reason to remove the pipe above, the process is called breakout. Reasons for breakout can be:

- Decommissioning a well to recover tubulars
- Workover to replace a string of pipes
- Space out
- Make-up problem

In case pipes want to be pulled out while preserving the connections for re-use, it is important to apply similar precautions to the ones taken during make-up, as per the table on the next page. The use of a stabbing guide is recommended in order to avoid cross-threading. Special attention should be brought to misalignment and stopping the power tong as soon as the connection bumps out.

Material	Single joint load compensator for stabbing	Size	Initial break out		Running out		Final break out	
			Tong gear	Tong or CRT maximum speed (rpm at pipe)	Tong gear	Tong or CRT maximum speed (rpm at pipe)	Tong gear or manual	Tong, CRT or manual maximum speed (rpm at pipe)
Carbon	Not required	≤ 4-1/2”	Low	Between 2 and 5	High	30	High or chain tong	5
		≥ 5”	Low	Between 2 and 5	High	15	High or chain tong	5
13% Chrome	Recommended	≤ 4-1/2”	Low	Between 2 and 5	High	15	High or nylon strap wrench / Memac	5
		≥ 5”	Low	Between 2 and 5	High	10	High or nylon strap wrench / Memac	5
Super 13% Chrome and CRA	Highly recommended	≤ 4-1/2”	Low	Between 2 and 5	High	5	High or nylon strap wrench / Memac	2
		≥ 5”	Low	Between 2 and 5	High	5	High or nylon strap wrench / Memac	2

Maximum rotation speeds for pull out

10. MANAGING CONTINGENCY

It is normal to bring about 10-20% extra pipes to the rig site in case of transportation damage, make-up damage, or in case the final drilling depth is longer than expected.

Typically, this 10% will be returned to the stock yard after the string has been run. When a pipe is returned, it is recommended to inspect them and prepare for restocking. This preparation will include:

- Cleaning threads and thread protectors
- Visual thread and seal inspection
- Drifting full length each pipe
- Removing any tally numbers and lengths applied during Rig Ready preparation
- Application of a VAM® recommended storage thread compound
- Fitting of clean thread protectors
- Restocking

If using CLEANWELL® connections, for more details or in case of doubt, please refer to CLEANWELL® running guidelines.

When connections are found to have been damaged, they should be sent to a licensed repair shop to cut a new thread or replace a coupling. A list of licensed machine shops is available on VAM® Services website.

If at the end of a project, there are surplus pipe, they can be:

- Scrapped for recycling into new steel
- Stored for future projects

With multi well programs, collaborative planning, operator training and rig site support, it is expected that contingency levels can be reduced to less than 5%.

11. SURFACE TREATMENT

The authorized surface treatments on VAM® connections are presented hereafter. Any other type of coating on VAM® connections is not permitted and always cause for rejection.

For CLEANWELL® connections, no surface treatment is permitted.

11.1 Phosphating

Phosphating is the anti-galling treatment for carbon steels. It is grey or black in color and must be applied to one end of each pipe (normally the box end). The phosphate may be worn in areas after repeated make-up but unless it is missing, it is not cause for rejection.

11.2 Copper Coating / Copper Plating

Copper coating (also called copper plating) is the anti-galling treatment mainly for chromium steels. It is copper in color and must be applied to one end of each pipe (normally the box end). The copper may be tarnished in appearance, which is not cause for rejection.

Copper coating both pin and box is not authorized on VAM® connections.

11.3 Blasting

Blasting is commonly used on CRA. It turns the machined surface from shiny to dull in aspect. Blasting is usually with copper coating on the counterpart connection (typically blasted pin and copper coated box).

11.4 As Machined

In case surface treatment is required, it is permitted to have one connection as machined (no treatment) as long as the other end of the connection has a treatment as described above. Never make-up two as machined connections together.

12. VAM® ACCESSORIES

To achieve the highest performances, VAM® connections can be added to specialized tubular parts or engineered products requiring premium threads to connect, allow change of diameter, and adapt the strings to the well conditions.

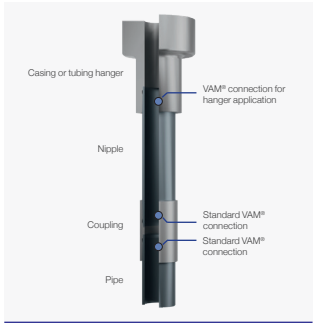
These accessories may include:

- Casing and tubing hangers
- Casing and tubing pup joints, nipples, crossovers, and couplings
- Surface equipment used to run casing and tubing into the well and to ease fluid circulating operations (handling plugs, lifting plugs, lifting subs, circulating heads, and water-bushings)
- Completion accessories installed with the tubing string and the completion equipment (flow coupling, blast joints, landing nipples, wireline re-entry guides, bull plugs, mule shoes, and pressure test fixtures)

All VAM® connections are supported on proprietary equipment manufactured by the Oil Field Services companies.

Please contact a VAM® Field Service office, or Mr Help on VAM® Services website for information about accessories.

12.1 Casing and Tubing Hangers



Casing / Tubing Hanger

Mandrel-type casing and tubing hangers are complex accessories that go into the wellhead and hold the full weight of the string whilst providing a seal between different casing strings.

Casing and tubing hangers are critical equipment and require the highest qualification level to guarantee safety at the rig.

For reduced galling risks, including when there is a big grade mismatch, oversized hanger box OD, or when using CRA, Vallourec has developed specific designs for some of the most used VAM® connections: VAM® 21, VAM TOP ® , VAM TOP ® HC, VAM TOP ® HT, VAM® HP and VAM® LOX.

For more information on casing and tubing hangers, please contact Mr Help on VAM® Services website.

12.2 Hanger Lifting Thread

A hanger lifting thread is a specific design for hanger top thread (used for lifting) with oversized ID to allow the installation of a back-pressure valve. It is available for VAM® 21, VAM® 21 HT, VAM TOP ®, VAM TOP ® HC and VAM TOP ® HT connections.

Two types of design are available:

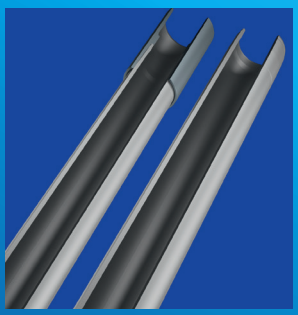
- VAM® connection for lifting only:
    - Option with shoulder (bigger ID compared to regular connection) or without shoulder (bigger ID compared to shouldered option)
    - Can be used with VAM® lifting plug or standard VAM® connection
    - Specific marking for identification of lifting-only connection
- VAM® connection for lifting with sealability:
    - Specific internal pressure sealing capacity and minimum material grade
    - Must be used with standard VAM® connection to ensure sealability. Lifting plug will not ensure sealability performances
    - Specific marking for identification of lifting with specific internal pressure capacity connection

For more information on the specific requirements regarding hanging lifting thread, please contact Mr Help on VAM® Services website.

ACCESSORIES

A FULL RANGE OF TUBING & CASING, SURFACE EQUIPMENT AND COMPLETION ACCESSORIES

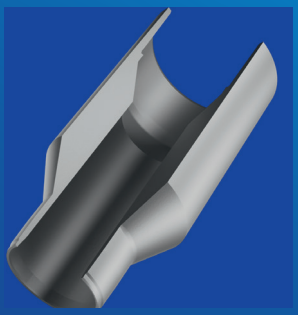
PUP JOINTS AND NIPPLES



A **pup joint** is a short casing or tubing used for handling production tubing assemblies and for spacing out full length tubing and casing strings.

A **nipple** is a pup joint delivered without a coupling and with male threads on both ends that has the same function as the pup joint.

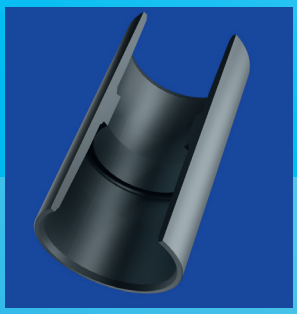
CROSSOVERS



A **crossover** is a one-piece tubular section used to join two different components with different size of diameter, type of connection, or material grade. These components can be casing, tubing, drill pipe, or a combination.

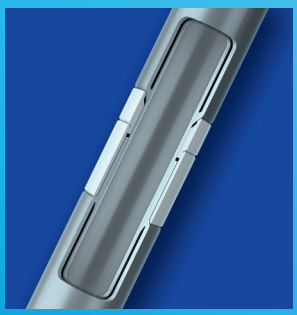
TO LEARN MORE, SCAN OR CLICK ON THE QR CODE

COUPLINGS



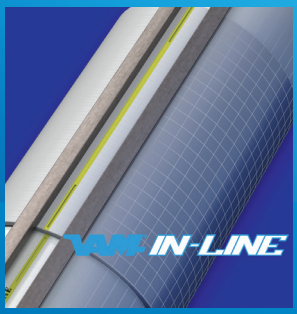
Couplings are short subassemblies used to enable two components with the same connection and size to be connected. Couplings are also known as loose coupling or spare coupling.

THERMOCASE® VIT



THERMOCASE® VIT, a high-performance double-wall insulated tubing with Gettered Vacuum MLI, excels in diverse applications: Annular Pressure Buildup prevention, Heavy Oil production, Steam Injection, Wax Appearance prevention, Permafrost/Natural Hydrates preservation as well as maximizing power output in geothermal closed-loop systems.

VAM® IN-LINE



VAM® IN-LINE, an option for VAM® connections, ensures precise pipe-to-pipe alignment during rig site assembly. It's designed for downhole equipment that needs controlled positioning around the tubing's circumference, relative to adjacent joints in the completion, for example on sand screen with shunt pipes, control lines, and other smart connection applications.

12.3 Handling and Lifting Equipment



From top to bottom: lifting sub, lifting plug, handling plug

VAM® lifting tools are compatible with API 8C (ISO 13535:2000) elevator bores for non-upset casing and tubing. These tools are presented in the table on the next page.

VAM® handling and lifting equipment can be used with all types of connections (flush, semi-flush and T&C) to:

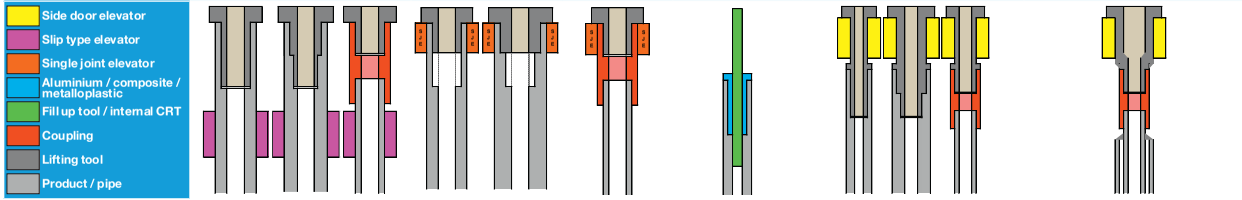
- Safely raise and lower single joints, or in certain cases the entire string
- Allow peculiar pipe/connection characteristics to be adapted to standard square or slip-type elevators
- Prevent contact between CRA material and elevator
- Protect the box connection from damage caused by elevators or fill up tools

It is highly important that the pipes, as well as the lifting/handling tools, perfectly fit into the elevator in use. Using standard square elevator or slip-type elevators with semi-flush or T&C connections, whose box OD at the connection level is slightly bigger than the pipe OD, can seriously damage the connections at a critical area.

The users may purchase lifting or handling tools with specific design adapted to the rig specificities, equipment, and procedures. However, the threads shall be machined by a VAM® Licensee. For these cases, safe working load calculation and connection validation must be part of an engineering study to be requested on Mr Help on VAM® Services website.

Vallourec has proprietary ready-made designs which address most of the situations, including cases with specific surface treatment and CRA pipes,

	Lifting plug*	Handling plug*		Protection plug	Lifting sub	Lifting sub VIT
Definition	Tool that can lift the full pipe string The rig elevator is gripped on the pipe or in contact with the pipe and the lifting plug	Tool with a limited lifting capacity (3 pipes maximum)		Tool used to protect threads from internal CRT or fill up tool	Tool that can lift the full pipe string No contact to chromium or CRA pipes (rig elevator only in contact with lifting sub)	Lifting sub to be used with THERMOCASE® VIT - Model 970 (Vacuum Insulated Tubing)
Connection type	Full thread length	Full or reduced thread length		Reduced thread length	Full thread length	Full thread length
Lifting tool capacity	Lower than the string connection due to safety factor	3 pipes (1 stand) maximum		Not for lifting	Lower than the string connection due to safety factor	Lower than the string connection due to safety factor
Recommended elevator	Slip type elevator (grip below connection) Use lifting plug as a safety device	Single joint or side door elevator			Side door elevator on lifting sub face	Side door elevator on lifting sub face
Alternate elevator	Side door elevator on lifting plug face				Slip type elevator (grip on lifting sub body)	Slip type elevator (grip on lifting sub body)
Other remarks	For CRA pipe, lifting sub is mandatory	For CRA pipe, lifting sub is mandatory	For SB or SC coupling / using a sling to lift pipe to vertical	Made of low alloy steel Not compatible with CRA pipes	Compatible with API 8C elevator designs No ferrous contamination in case of CRA pipe	Compatible with API 8C elevator designs No ferrous contamination in case of CRA pipe
Maximum tool weight	Depending on pipe OD Can be higher than 110 lb (50 kg)	55 lb (25 kg)			Depending on pipe OD Can be higher than 110 lb (50 kg)	Depending on pipe OD Can be higher than 110 lb (50 kg)
Overall length	Connection length + 4"	Connection length + 2"		Connection length + 2"	Pipe OD ≤ 7" : 27.60" Pipe OD > 7" : 31.50"	42.13"



Lifting and handling equipment

* When running casing with a semi-flush connection, the single joint or side door elevators must be capable of sliding over the expanded box OD to avoid getting hung up on the transitional area from the pipe OD to the connection OD
For semi-flush connection with expanded box OD, lifting capacity of lifting plug is lower than the one of lifting sub

and are compatible with the required VAM® thread. Their design is optimized for limitation of weight.

In all cases, the nominal lifting capacity is engraved on the tool.

VAM® lifting and handling tools have low interference threads and no contact on the metal-to-metal seal surfaces. Some connection types have different designs across the weight range. Therefore, the tools must be matched to the weight of the pipe as well as the diameter.

Be careful when installing the tools as they can be heavy. Each tool should be manually screwed into the box connection using a strap or chain wrench, or a bar inside the tool's holes (approximately 300 ft.lb / 410 N.m). They must be made up so there is no gap at the box face, except for semi-flush connections where a gap of about 1 mm is expected. It is recommended to paint a white stripe on the tools so that they can be seen to be rotating as the pipe rotates.

Be careful when installing and removing the lifting tools to ensure that no damage is done to the connection or the tool. The threads of the lifting tools shall be visually inspected before and after each use. It is recommended that the inspection be done by an inspector qualified on VAM® products. In case of galling, the piece shall be repaired by a VAM® qualified personnel. Always apply storage thread compound and a thread protector to the tools when not in use.

A dye penetrant or magnetic particle inspection can be performed to detect cracks. In case of presence of cracks, the tool shall be rejected. The square loading face shall not be deformed. The body of a lifting sub shall not present dent, nor jaw marks with a depth greater than 5% of the wall thickness.

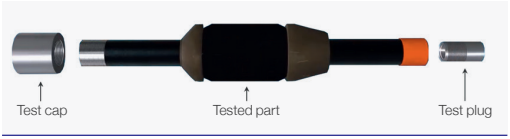
Vallourec can supply handling and lifting equipment turnkey from any of our accessories shops around the world.

If using CLEANWELL® connections, for more details or in case of doubt, please refer to CLEANWELL® running guidelines.

12.4 Pressure Test Fixtures

Pressure testing down-hole equipment is an ordinary practice. To hold the pressure, each end shall be closed by:

- A pressure test plug if the element to be tested has a box connection
- A pressure test cap if the element to be tested has a pin connection



Pressure test fixtures

The pressure test caps and plugs can be used with any type of steel, and shall meet the following requirements:

- Meet all safety standards on the use of pressure testing equipment
- Fit the connection to be tested
- Be able to hold the required test pressure
- Be easy to install and remove
- Withstand numerous make and breaks
- Be designed to prevent any change to the dimensional characteristics of the connection after test
- Not damage the connection due to make-up and breakout (removal of the surface treatment, galling of the threads or sealing area)

For safety reasons, pressure testing with gas may be prohibited or with a limited pressure level. Please refer to the corresponding user manual or contact test.fixtures@vamservices.com.

For CLEANWELL® connections, please contact Mr Help on VAM® Services website for guidelines.

12.4.1 Type-1 *(Metal-to-Metal Pressure Test Fixtures)*

The pressure tightness is achieved by metal-to-metal seal engagement.

Although designed to minimize the torque to be applied, these test fixtures need a power tong to reach the necessary complete make-up whenever the product size is greater than 5 inches.

Make-up torque = 25% of the torque needed for the lowest weight and grade of the corresponding OD.

See below an example for all 5-1/2" VAM® 21 type-1 pressure test fixtures:

Size (OD)	Nominal weight	Wall Thickness	Connection make-up torque (all grades)			Pressure test fixtures make-up torque		
in *mm*	lb/ft	in	Min.	Opti.	Max.	Min.	Opti.	Max.
5-1/2 *139.70*	17.00	0.304	7 250	7 850	8 400	**1 800**	**1950**	**2 100**
	20.00	0.361	9 450	10 200	10 900	**1 800**	**1950**	**2 100**
	23.00	0.415	11 600	12 500	13 400	**1 800**	**1950**	**2 100**
	26.00	0.476	13 300	14 350	15 400	**1 800**	**1950**	**2 100**
	26.80	0.500	14 050	15 200	16 300	**1 800**	**1950**	**2 100**

Make-up torques for VAM® 21 pressure test fixtures

Type-1 pressure test fixtures are available for all VAM® Connections and may be purchased from any VAM® Licensee or approved suppliers. For more information on ordering these, please contact Mr Help on VAM® Services website.

⊕ WARNINGS

- These type-1 test caps or plugs will not generate any product deformation under pressure, only if the make-up with the product to be tested is complete (i.e. at shoulder point). It is reminded that inserting any kind of seal ring between the shoulders to escape the power make-up is strictly forbidden because it causes permanent deformation of the product
- As there is metal-to-metal seal engagement, a particular care shall be taken on using and applying the proper thread compound. A systematic inspection shall be conducted before each engagement to prevent damaging the product due to galled or indented seal of the test cap or plug

12.4.2 **Type-2** *(Soft Seal Low Torque Pressure Test Fixtures)*

The pressure tightness is achieved by a specially designed polymeric seal ring with the ability to hold 15,000 psi maximum working pressure (22,500 psi or 30,000 psi for some advanced designs). The testing media can be water or gas. The features of type-2 pressure test fixtures are listed hereafter:

- Available for sale or on rental (short-term or long-term agreements)
- No risk of seal damage (thanks to specific soft seals)
- Real hand-tight solution for all sizes. No need of power tong, a simple strap wrench is enough
- No deformation after test, the connection remains “new” after pressure test. This has been proven by tests
- Keep control on condition and serviceability through rental option



Type-2 pressure test fixtures are available for VAM® 21, VAM® 21 HT, VAM TOP®, VAM TOP® HC, VAM TOP® HT, VAM® HP, VAM® HTTC, VAM® SLIJ-II and NEW VAM.

Type-2 pressure test fixtures

For any question on test caps and plugs availability or to order, please contact test.fixtures@vamservices.com.

Vallourec can supply test fixtures turnkey from any of our accessories shops around the world.

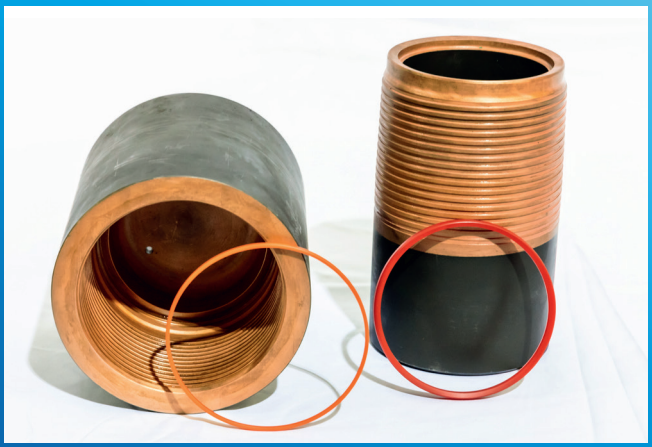
VAM® SOFT-SEAL LOW-TORQUE TEST FIXTURES

TYPE-2

ENHANCED SAFETY

STREAMLINED OPERATIONS

PRODUCT EXPERTISE



ENSURING THE INTEGRITY AND SEALABILITY OF ACCESSORY ASSEMBLIES DURING PRESSURE TESTS

The VAM® seal ring prevents galling and reduces thread interference, enabling manual assembly without the need for heavy bucking units. Type-2 fixtures can be used with water or gas, up to 15,000 psi or 22,500 psi for any grade.

TO LEARN MORE, SCAN OR CLICK ON THE QR CODE

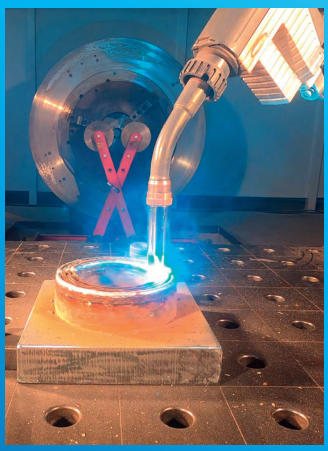
WIRE ARC ADDITIVE MANUFACTURING

DELIVERING FLEXIBILITY & QUALITY

SHORT LEAD TIMES

PRINT TO ORDER

COMPLEX SHAPES





WIRE ARC ADDITIVE MANUFACTURING (WAAM) 3D-prints and fully qualifies large metal components to the highest quality standards, offering greater efficiency and shorter lead times. WAAM takes you one step closer to a digital warehouse.

TO LEARN MORE, SCAN OR CLICK ON THE QR CODE

13. VALLOUREC SERVICES

Along with its strong global presence as pipe supplier, Vallourec has gained extensive experience in managing the full tubulars supply chain. Such Vallourec services range, but are not limited to, from online pipe procurement to yard audits to resident engineer to full VMI, from building pipe yards to operating them, from rig preparation to the construction site, even to tubular repurposing. This unique package brings the most value to our clients with a single source coordination throughout the supply chain, thus reducing overall operating costs and increasing well integrity. Our expert teams on stockyards, as well as VAM® Field Service Technicians on the rig, also have a high focus on safety, quality, health and environment during day-to-day operational activity. Our services are continually refined, focused on customer needs and on added value.

Vallourec manages more than a dozen of Service Centers and over 30 customers OCTG yards, across six continents including in USA, North Sea, Far East / Pacific, Brazil and Africa.

Vallourec Services focus on answering customer needs, based on three strategic axes: Easy Procurement, Operational Efficiency and Circular Economy.

13.1 Easy Procurement

Online sales for fast, easy and reliable procurement.

Online Offer includes:

- **Smartengo e-commerce** platform for Vallourec products online sales

Additive Manufacturing includes:

- **WAAM (Wire Arc Additive Manufacturing) solutions**: Wire Arc Additive Manufacturing is the most promising technology for large metallic component. It uses an electric arc controlled by a robotic arm to melt metal wire and manufacture components layer by layer. With this manufacturing technology, we can design, print and fully qualify metal parts of any shapes to the highest standards of quality. It offers greater efficiency

and short lead times. With the Vallourec® Additive app, customers can upload drawings of their parts on the application or use tubular shape configurator and get an instant calculation of the printing time of their part

13.2 Operational Efficiency

A full range of services to increase operational efficiency and reduce Total Cost of Ownership on your whole supply chain.

Engineering Services include:

- **Material selection**: extensive testing data base, normative material support, benchmark testing facilities, failure analysis, application modeling
- **VAM® trainings**, including Tubular Essentials
- **Well design**: mechanical and thermal analysis, connection selection, torque & drag support, software friendly Vallourec product data base
- **WAAM** (Wire Arc Additive Manufacturing) **design support**: WAAM allows to shape the part you need without manufacturing constraints, in a variety of materials. It provides total freedom to create new designs and new functionalities

Yard Services include:

- **Stock yard** to store your pipes in safe conditions
- **Inventory Management**, offering a combination of digital solutions:
    - Vallourec Traceability: access to the pipe data and pipe information you need by scanning the digital ID on the pipeInventory & stock management: review, prepare and finalize all your yard operations in our digital solution yard system – available on web browser. Access all documents and stock levels through one unique web portal
    - Services Management & Quality Tools: execute yard operations on site with a dedicated field application available on Android environment (smartphones or tablets)
- **Inspections**, including Return, powered by digital solutions
- **Rig Prep**
- **VAM® Repair**

- **Prime Mapping** service delivers accurate casing and tubing geometry dimensions in digital format. Data is collected directly at the yard or at the rig with a portable laser rover moved inside the pipe. With Prime Mapping, you can obtain the pipe bore volume and manage cement displacement, you can select the best fit pipe for packer, and you can identify the thickest pipes and optimize your tally for casing wear mitigation
- **Pre-Installed Cable Protector** is an accessory pre-installed onto the pipe before shipment to the rig. It enhances safety and boosts rig efficiency by moving operations from the drill floor to the yard. Pre-installed Cable Protector is a Vallourec patented concept

Rig Services include:

- **VAM® Field Service** for **Running Supervision**. Our expert technicians work on the rig to ensure that the products are rightly used upon running, ensuring the integrity of customers well. With extensive training and experience, they verify the condition of the products, validate all the make-up parameters and conditions, decide when a connection should be pulled out, accepted or laid down. Thanks to their expertise, pull out and reject rates are greatly reduced, helping ensure the well is safe and the connection performance is optimal
- **Torque-Turn services**, performed by our **VAM® Field Service** technicians, allow to ensure the perfect set-up of Torque-Turn and to reduce the number of people on board

13.3 Circular Economy

Reduce waste & carbon footprint from repurposing of inventories to recycling services.

Our **Circular Economy** offer includes:

- **Stock re-evaluation** by visual and / or on-site NDT (Non-Destructive Testing) inspection with UT (Ultrasonic Testing) and ET (Eddy Current) portable rovers. It allows to give a second life to surplus and leftovers: “tubulars repurposing”
- **VAM® re-thread**

- **Protector recycling**: Vallourec is committed to collecting used protectors, inspecting and sorting them either for reconditioning and immediate reuse or for grinding, recycling and use in the manufacture of new protectors. This new service facilitates your operations anywhere in the world and enables a reduction in plastic waste and carbon emissions, making us both more environmentally responsible and complying with regulations – a win-win solution

Product Lines



14. VAM® BOOK TABLES

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VAM® 21

TECHNICAL TABLE

OD 3-1/2'' - 4-1/2''

PIPE					CONNECTION PROPERTIES					CONNECTION PERFORMANCES					
Size (OD)	Nominal Weight	Wall Thickness		Drift	Design	Inside Diameter	Outside Diameter	Coupling Length	Make-up Loss	Tensile Efficiency With Sealability	Compression Efficiency With Sealability	Joint Yield Strength x1000 lb			
in *mm*	lb/ft	in	*mm*	in		in	in	in	in	% Pipe Body	% Pipe Body	80 ksi	95 ksi	110 ksi	125 ksi
3-1/2 *88,90*	9.20	0.254	*6,45*	2.900 S	Regular	2.961	3.930	7.914	3.469	100	100	207	246	285	324
	10.20	0.289	*7,34*	2.797	Regular	2.870	3.983	7.914	3.469	100	100	233	277	321	364
	12.70	0.375	*9,52*	2.625	Regular	2.706	4.107	7.914	3.469	100	100	295	350	405	460
4-1/2 *114,30*	11.60	0.250	*6,35*	3.880 S	Regular	3.942	4.934	8.150	3.587	100	100	267	317	367	417
	12.60	0.271	*6,88*	3.880 S	Regular	3.942	4.969	8.150	3.587	100	100	288	342	396	450
	13.50	0.290	*7,37*	3.845 S	Regular	3.907	4.999	8.150	3.587	100	100	307	364	422	480
	15.10	0.337	*8,56*	3.750 S	Regular	3.812	5.073	8.150	3.587	100	100	353	419	485	551
	17.00	0.380	*9,65*	3.615	Regular	3.744	5.117	9.016	4.020	100	100	393	467	541	615
	18.90	0.430	*10,92*	3.540 S	Regular	3.701	5.189	9.016	4.020	100	100	440	522	605	687
	21.50	0.500	*12,70*	3.375	Regular	3.566	5.264	10.040	4.532	100	100	503	597	691	785

Drift values: A = Alternate Drift, S = Special Drift

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

TECHNICAL TABLE

OD 5'' - 5-1/2''

PIPE					CONNECTION PROPERTIES					CONNECTION PERFORMANCES					
Size (OD)	Nominal Weight	Wall Thickness		Drift	Design	Inside Diameter	Outside Diameter	Coupling Length	Make-up Loss	Tensile Efficiency With Sealability	Compression Efficiency With Sealability	Joint Yield Strength x1000 lb			
in *mm*	lb/ft	in	*mm*	in		in	in	in	in	% Pipe Body	% Pipe Body	80 ksi	95 ksi	110 ksi	125 ksi
5 *127,00*	18.00	0.362	*9,19*	4.151	Regular	4.294	5.605	9.134	4.079	100	100	422	501	580	659
	21.40	0.437	*11,10*	4.001	Regular	4.126	5.699	9.922	4.473	100	100	501	595	689	783
	23.20	0.478	*12,14*	3.919	Regular	4.089	5.758	9.922	4.473	100	100	543	645	747	849
	24.10	0.500	*12,70*	3.875	Regular	4.069	5.790	9.922	4.473	100	100	566	672	778	884
5-1/2 *139,70*	17.00	0.304	*7,72*	4.767	Regular	4.891	6.018	9.134	4.079	100	100	397	471	546	620
	20.00	0.361	*9,17*	4.700 S	Regular	4.806	6.111	9.134	4.079	100	100	466	554	641	729
	23.00	0.415	*10,54*	4.545	Regular	4.720	6.195	9.134	4.079	100	100	530	630	729	829
	26.00	0.476	*12,09*	4.423	Regular	4.615	6.268	9.922	4.473	100	100	601	714	826	939
	26.80	0.500	*12,70*	4.375	Regular	4.593	6.304	9.922	4.473	100	100	628	746	864	982
	28.40	0.530	*13,46*	4.315	Regular	4.520	6.329	10.709	4.854	100	100	662	786	910	1,034

Drift values: A = Alternate Drift, S = Special Drift

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

VAM® 21

TECHNICAL TABLE

OD 5-1/2" - 7"

PIPE					CONNECTION PROPERTIES					CONNECTION PERFORMANCES					
Size (OD)	Nominal Weight	Wall Thickness		Drift	Design	Inside Diameter	Outside Diameter	Coupling Length	Make-up Loss	Tensile Efficiency With Sealability	Compression Efficiency With Sealability	Joint Yield Strength x1000 lb			
in *mm*	lb/ft	in	*mm*	in		in	in	in	in	% Pipe Body	% Pipe Body	80 ksi	95 ksi	110 ksi	125 ksi
5-1/2 *139,70*	29.70	0.562	*14,27*	4.251	Regular	4.461	6.375	10.709	4.854	100	100	697	828	959	1,090
6-5/8 *168,27*	23.20	0.330	*8,38*	5.840	Regular	6.018	7.174	10.158	4.591	100	100	522	620	718	816
	24.00	0.352	*8,94*	5.796	Regular	5.996	7.211	10.158	4.591	100	100	555	659	763	867
	28.00	0.417	*10,59*	5.666	Regular	5.864	7.317	10.158	4.591	100	100	651	773	895	1,017
	32.00	0.475	*12,06*	5.550	Regular	5.744	7.410	10.158	4.591	100	100	734	872	1,009	1,147
	34.50	0.525	*13,33*	5.450	Regular	5.644	7.467	10.867	4.945	100	100	805	956	1,107	1,258
	36.70	0.562	*14,27*	5.376	Regular	5.598	7.522	10.867	4.945	100	100	856	1,017	1,178	1,338
7 *177,80*	23.00	0.317	*8,05*	6.250 A	Regular	6.373	7.516	11.693	4.866	100	100	532	632	732	832
	26.00	0.362	*9,19*	6.151	Regular	6.369	7.593	11.693	4.866	100	100	604	717	830	944
	29.00	0.408	*10,36*	6.059	Regular	6.324	7.670	11.693	4.866	100	100	676	803	929	1,056

Drift values: A = Alternate Drift, S = Special Drift
For 7" and above, coupling length of all products manufactured before April 2016 is 1 inch (25.4 mm) shorter than indicated in above tables
For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

TECHNICAL TABLE

OD 7'' - 7-5/8''

PIPE					CONNECTION PROPERTIES					CONNECTION PERFORMANCES					
Size (OD)	Nominal Weight	Wall Thickness		Drift	Design	Inside Diameter	Outside Diameter	Coupling Length	Make-up Loss	Tensile Efficiency With Sealability	Compression Efficiency With Sealability	Joint Yield Strength x1000 lb			
in *mm*	lb/ft	in	*mm*	in		in	in	in	in	% Pipe Body	% Pipe Body	80 ksi	95 ksi	110 ksi	125 ksi
7 *177,80*	32.00	0.453	*11,51*	6.000 A	Regular	6.215	7.743	11.693	4.866	100	100	745	885	1,025	1,165
	35.00	0.498	*12,65*	5.879	Regular	6.101	7.813	11.693	4.866	100	100	814	966	1,119	1,272
	38.00	0.540	*13,72*	5.795	Regular	5.975	7.855	12.481	5.260	100	100	877	1,041	1,205	1,370
	41.00	0.590	*14,99*	5.695	Regular	5.930	7.932	12.481	5.260	100	100	950	1,129	1,307	1,485
	42.70	0.625	*15,88*	5.625	Regular	5.896	7.983	12.481	5.260	100	100	1,001	1,189	1,377	1,565
7-5/8 *193,67*	29.70	0.375	*9,52*	6.750	Regular	6.970	8.278	11.024	4.535	100	100	683	811	940	1,068
	33.70	0.430	*10,92*	6.640	Regular	6.883	8.371	11.024	4.535	100	100	778	923	1,069	1,215
	35.80	0.465	*11,81*	6.570	Regular	6.830	8.428	11.024	4.535	100	100	837	994	1,151	1,308
	39.00	0.500	*12,70*	6.500	Regular	6.752	8.483	11.024	4.535	100	100	895	1,063	1,231	1,399
	47.10	0.625	*15,88*	6.250	Regular	6.474	8.652	11.890	4.968	100	100	1,100	1,306	1,512	1,718

Drift values: A = Alternate Drift, S = Special Drift
For 7" and above, coupling length of all products manufactured before April 2016 is 1 inch (25.4 mm) shorter than indicated in above tables
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TECHNICAL TABLE

OD 7-3/4'' - 9-5/8''

PIPE					CONNECTION PROPERTIES					CONNECTION PERFORMANCES					
Size (OD)	Nominal Weight	Wall Thickness		Drift	Design	Inside Diameter	Outside Diameter	Coupling Length	Make-up Loss	Tensile Efficiency With Sealability	Compression Efficiency With Sealability	Joint Yield Strength x1000 lb			
in *mm*	lb/ft	in	*mm*	in		in	in	in	in	% Pipe Body	% Pipe Body	80 ksi	95 ksi	110 ksi	125 ksi
7-3/4 *196,85*	46.10	0.595	*15,11*	6.500 A	Regular	6.635	8.727	12.087	5.063	100	100	1,070	1,271	1,471	1,672
8-5/8 *219,07*	40.00	0.450	*11,43*	7.625 A	Regular	7.877	9.398	11.733	4.890	100	100	925	1,098	1,271	1,445
	44.00	0.500	*12,70*	7.500	Regular	7.796	9.483	11.733	4.890	100	100	1,021	1,212	1,404	1,595
	49.00	0.557	*14,15*	7.386	Regular	7.696	9.540	12.717	5.378	100	100	1,129	1,341	1,553	1,765
	52.00	0.595	*15,11*	7.310	Regular	7.628	9.599	12.717	5.378	100	100	1,201	1,426	1,651	1,876
9-5/8 *244,47*	40.00	0.395	*10,03*	8.750 A	Regular	8.845	10.319	11.497	4.748	100	100	916	1,088	1,260	1,432
	43.50	0.435	*11,05*	8.625 S	Regular	8.767	10.357	12.756	5.378	100	100	1,005	1,193	1,381	1,570
	47.00	0.472	*11,99*	8.525	Regular	8.852	10.420	12.756	5.378	100	100	1,086	1,289	1,493	1,697
	53.50	0.545	*13,84*	8.500 A	Regular	8.722	10.542	12.756	5.378	100	100	1,244	1,477	1,710	1,943
	58.40	0.595	*15,11*	8.375 A	Regular	8.609	10.611	12.993	5.496	100	100	1,350	1,604	1,857	2,110

Drift values: A = Alternate Drift, S = Special Drift

For 7" and above, coupling length of all products manufactured before April 2016 is 1 inch (25.4 mm) shorter than indicated in above tables

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TECHNICAL TABLE

OD 9-7/8'' - 10-3/4"

PIPE					CONNECTION PROPERTIES					CONNECTION PERFORMANCES					
Size (OD)	Nominal Weight	Wall Thickness		Drift	Design	Inside Diameter	Outside Diameter	Coupling Length	Make-up Loss	Tensile Efficiency With Sealability	Compression Efficiency With Sealability	Joint Yield Strength x1000 lb			
in *mm*	lb/ft	in	*mm*	in		in	in	in	in	% Pipe Body	% Pipe Body	80 ksi	95 ksi	110 ksi	125 ksi
9-7/8 *250,82*	62.80	0.625	*15,88*	8.500 S	Regular	8.790	10.941	12.796	5.398	100	100	1,453	1,725	1,998	2,270
	65.30	0.650	*16,51*	8.500 S	Regular	8.735	10.981	12.796	5.398	100	100	1,507	1,790	2,072	2,355
9-7/8* *250,82**	66.90	0.668	*16,97*	8.500 S	Regular	8.696	11.010	12.796	5.398	100	100	1,554	1,845	2,137	2,428
10-3/4 *273,05*	45.50	0.400	*10,16*	9.875 A	Regular	10.118	11.483	11.693	4.846	100	100	1,040	1,236	1,431	1,626
	51.00	0.450	*11,43*	9.694	Regular	10.028	11.548	12.560	5.279	100	100	1,165	1,383	1,602	1,820
	55.50	0.495	*12,57*	9.700 S	Regular	9.947	11.626	12.560	5.279	100	100	1,276	1,515	1,754	1,993
	60.70	0.545	*13,84*	9.504	Regular	9.859	11.711	12.560	5.279	100	100	1,398	1,660	1,922	2,184
	65.70	0.595	*15,11*	9.500 S	Regular	9.762	11.778	12.717	5.358	100	100	1,519	1,803	2,088	2,373
	71.10	0.650	*16,51*	9.375 S	Regular	9.443	11.839	13.268	5.638	100	100	1,650	1,959	2,269	2,578
	73.20	0.672	*17,07*	9.330 S	Regular	9.394	11.876	13.268	5.638	100	100	1,702	2,021	2,340	2,660

(*) This product is regular design threaded on a slightly oversized pipe (above 1%) to accommodate a special drift.
Drift values: A = Alternate Drift, S = Special Drift
For 7" and above, coupling length of all products manufactured before April 2016 is 1 inch (25.4 mm) shorter than indicated in above tables
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TECHNICAL TABLE

OD 11-3/4" - 13-3/8''

PIPE					CONNECTION PROPERTIES					CONNECTION PERFORMANCES					
Size (OD)	Nominal Weight	Wall Thickness		Drift	Design	Inside Diameter	Outside Diameter	Coupling Length	Make-up Loss	Tensile Efficiency With Sealability	Compression Efficiency With Sealability	Joint Yield Strength x1000 lb			
in *mm*	lb/ft	in	*mm*	in		in	in	in	in	% Pipe Body	% Pipe Body	80 ksi	95 ksi	110 ksi	125 ksi
11-3/4 *298,45*	54.00	0.435	*11,05*	10.724	Regular	11.063	12.540	12.087	5.043	100	100	1,237	1,469	1,701	1,933
	60.00	0.489	*12,42*	10.625 A	Regular	10.966	12.623	12.560	5.279	100	100	1,384	1,644	1,903	2,163
	65.00	0.534	*13,56*	10.625 A	Regular	10.885	12.701	12.560	5.279	100	100	1,505	1,788	2,070	2,352
	71.00	0.582	*14,78*	10.500 S	Regular	10.807	12.770	12.560	5.279	100	100	1,634	1,940	2,246	2,553
11-7/8 *301,63*	67.80	0.550	*13,97*	10.619	Regular	10.981	12.847	12.796	5.398	100	100	1,565	1,859	2,152	2,446
	71.80	0.582	*14,78*	10.625 S	Regular	10.933	12.894	12.638	5.319	100	100	1,652	1,962	2,271	2,581
13-3/8 *339,72*	61.00	0.430	*10,92*	12.359	Regular	12.709	14.150	12.560	5.279	100	100	1,399	1,661	1,924	2,186
	68.00	0.480	*12,19*	12.259	Regular	12.619	14.225	13.111	5.555	100	100	1,556	1,847	2,139	2,431
	72.00	0.514	*13,06*	12.250 A	Regular	12.558	14.286	13.111	5.555	100	100	1,661	1,973	2,284	2,596
	77.00	0.550	*13,97*	12.119	Regular	12.502	14.319	13.819	5.910	100	100	1,773	2,105	2,438	2,770

Drift values: A = Alternate Drift, S = Special Drift

For 7" and above, coupling length of all products manufactured before April 2016 is 1 inch (25.4 mm) shorter than indicated in above tables

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TECHNICAL TABLE

OD 13-5/8" - 14''

PIPE					CONNECTION PROPERTIES					CONNECTION PERFORMANCES					
Size (OD)	Nominal Weight	Wall Thickness		Drift	Design	Inside Diameter	Outside Diameter	Coupling Length	Make-up Loss	Tensile Efficiency With Sealability	Compression Efficiency With Sealability	Joint Yield Strength x1000 lb			
in *mm*	lb/ft	in	*mm*	in		in	in	in	in	% Pipe Body	% Pipe Body	80 ksi	95 ksi	110 ksi	125 ksi
13-5/8 *346,07*	88.20	0.625	*15,88*	12.250 S	Regular	12.444	14.699	14.843	6.425	100	100	2,042	2,425	2,808	3,191
14 *355,60*	82.50	0.562	*14,27*	12.750 S	Regular	13.100	15.022	13.741	5.878	100	100	1,898	2,254	2,610	2,966
	86.00	0.600	*15,24*	12.613	Regular	13.031	15.095	13.741	5.878	100	100	2,021	2,400	2,778	3,157
	93.00	0.650	*16,51*	12.513	Regular	12.941	15.097	16.182	7.095	100	100	2,181	2,590	2,999	3,408
	96.90	0.670	*17,02*	12.473	Regular	12.903	15.134	16.182	7.095	100	100	2,245	2,666	3,086	3,507
	100.00	0.700	*17,78*	12.413	Regular	12.850	15.189	16.182	7.095	100	100	2,340	2,779	3,217	3,656
	106.00	0.750	*19,05*	12.313	Regular	12.761	15.282	16.182	7.095	100	100	2,498	2,966	3,434	3,903
	114.00	0.800	*20,32*	12.250 S	Regular	12.671	15.373	16.182	7.095	100	100	2,654	3,152	3,649	4,147
	115.00	0.812	*20,62*	12.250 S	Regular	12.671	15.394	16.182	7.095	100	100	2,691	3,196	3,701	4,205

Drift values: A = Alternate Drift, S = Special Drift
For 7" and above, coupling length of all products manufactured before April 2016 is 1 inch (25.4 mm) shorter than indicated in above tables
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FIELD-END MAKE-UP TORQUE VALUES

OD 3-1/2" - 4-1/2"

Size (OD)	Nominal Weight	Wall Thickness	Design	MAKE-UP TORQUE 80 ksi ft.lb			MAKE-UP TORQUE 95 ksi ft.lb			MAKE-UP TORQUE 110 ksi ft.lb			MAKE-UP TORQUE 125 ksi ft.lb			MTS 80 ksi	MTS 95 ksi	MTS 110 ksi	MTS 125 ksi	Min. Dope Volume	Max. Dope Volume
in *mm*	lb/ft	in		Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	ft.lb	ft.lb	ft.lb	ft.lb	in³	in³
3-1/2 *88,90*	9.20	0.254	Regular	3,400	3,650	3,900	3,525	3,800	4,075	3,700	4,000	4,300	3,700	4,000	4,300	3,900	4,475	5,000	5,475	0.49	0.85
	10.20	0.289	Regular	4,000	4,350	4,675	4,000	4,350	4,675	4,225	4,575	4,900	4,225	4,575	4,900	4,675	5,300	5,775	6,400	0.49	0.85
	12.70	0.375	Regular	5,100	5,500	5,900	5,100	5,500	5,900	5,200	5,650	6,075	5,200	5,650	6,075	6,175	6,775	7,400	8,000	0.49	0.85
4-1/2 *114,30*	11.60	0.250	Regular	4,625	5,000	5,375	4,625	5,000	5,375	4,700	5,100	5,475	4,700	5,100	5,475	5,375	6,300	7,300	8,175	0.49	0.85
	12.60	0.271	Regular	4,700	5,100	5,475	5,100	5,500	5,900	5,325	5,750	6,175	5,325	5,750	6,175	5,475	6,475	7,400	8,400	0.49	0.85
	13.50	0.290	Regular	5,200	5,600	6,000	5,725	6,175	6,600	5,925	6,350	6,775	5,925	6,350	6,775	6,000	7,100	8,175	9,400	0.49	0.85
	15.10	0.337	Regular	6,025	6,525	7,000	7,325	7,900	8,475	7,725	8,300	8,875	7,725	8,300	8,875	7,000	8,475	10,100	11,800	0.49	0.85
	17.00	0.380	Regular	6,200	6,700	7,175	7,325	7,900	8,475	7,725	8,300	8,875	7,725	8,300	8,875	7,175	8,475	9,800	11,200	0.49	0.85
	18.90	0.430	Regular	7,500	8,100	8,700	7,600	8,200	8,800	7,725	8,350	8,975	7,725	8,350	8,975	8,800	10,200	11,675	13,200	0.49	0.85
	21.50	0.500	Regular	8,900	9,600	10,275	8,900	9,600	10,275	9,000	9,750	10,500	9,000	9,750	10,500	11,375	12,500	13,600	14,775	0.49	0.85

MTS = Maximum Torque with Sealability (maximum Torque up to which the string can be rotated downhole, with no impact on connection's performances)
MTS may be lower for anisotropic CRA materials (referenced as Type 2, 3 & 4 as per API 5CRA / ISO 13680): please check out the Connection Datasheet on VAM® Services website or contact Mr. Help.
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FIELD-END MAKE-UP TORQUE VALUES

OD 5'' - 5-1/2''

Size (OD)	Nominal Weight	Wall Thickness	Design	MAKE-UP TORQUE 80 ksi ft.lb			MAKE-UP TORQUE 95 ksi ft.lb			MAKE-UP TORQUE 110 ksi ft.lb			MAKE-UP TORQUE 125 ksi ft.lb			MTS 80 ksi	MTS 95 ksi	MTS 110 ksi	MTS 125 ksi	Min. Dope Volume	Max. Dope Volume
in *mm*	lb/ft	in		Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	ft.lb	ft.lb	ft.lb	ft.lb	in³	in³
5 *127,00*	18.00	0.362	Regular	8,750	9,450	10,150	8,750	9,450	10,150	8,750	9,450	10,150	8,750	9,450	10,150	10,150	10,300	11,800	13,250	0.73	1.22
	21.40	0.437	Regular	10,300	11,100	11,900	10,300	11,100	11,900	10,300	11,100	11,900	10,300	11,100	11,900	11,900	12,600	14,450	16,350	0.73	1.22
	23.20	0.478	Regular	11,400	12,300	13,200	11,400	12,300	13,200	11,400	12,300	13,200	11,400	12,300	13,200	13,200	13,700	15,700	17,750	0.73	1.22
	24.10	0.500	Regular	13,900	15,050	16,150	13,900	15,050	16,150	13,900	15,050	16,150	13,900	15,050	16,150	16,150	16,150	16,350	18,500	0.73	1.22
5-1/2 *139,70*	17.00	0.304	Regular	7,250	7,850	8,400	7,250	7,850	8,400	7,250	7,850	8,400	7,250	7,850	8,400	8,400	8,750	10,000	11,350	0.85	1.40
	20.00	0.361	Regular	9,450	10,200	10,900	9,450	10,200	10,900	9,450	10,200	10,900	9,450	10,200	10,900	10,900	11,650	13,350	15,000	0.85	1.40
	23.00	0.415	Regular	11,600	12,500	13,400	11,600	12,500	13,400	11,600	12,500	13,400	11,600	12,500	13,400	13,400	14,500	16,650	18,800	0.85	1.40
	26.00	0.476	Regular	13,300	14,350	15,400	13,300	14,350	15,400	13,300	14,350	15,400	13,300	14,350	15,400	15,400	15,700	17,950	20,350	0.85	1.40
	26.80	0.500	Regular	14,050	15,200	16,300	14,050	15,200	16,300	14,050	15,200	16,300	14,050	15,200	16,300	16,300	16,400	18,850	21,300	0.85	1.40
	28.40	0.530	Regular	12,250	13,250	14,200	12,250	13,250	14,200	12,250	13,250	14,200	12,250	13,250	14,200	14,650	16,150	18,550	20,900	0.85	1.40

MTS = Maximum Torque with Sealability (maximum Torque up to which the string can be rotated downhole, with no impact on connection's performances)
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FIELD-END MAKE-UP TORQUE VALUES

OD 5-1/2" - 7"

Size (OD)	Nominal Weight	Wall Thickness	Design	MAKE-UP TORQUE 80 ksi ft.lb			MAKE-UP TORQUE 95 ksi ft.lb			MAKE-UP TORQUE 110 ksi ft.lb			MAKE-UP TORQUE 125 ksi ft.lb			MTS 80 ksi	MTS 95 ksi	MTS 110 ksi	MTS 125 ksi	Min. Dope Volume	Max. Dope Volume
in *mm*	lb/ft	in		Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	ft.lb	ft.lb	ft.lb	ft.lb	in³	in³
5-1/2 *139,70*	29.70	0.562	Regular	13,350	14,450	15,550	13,350	14,450	15,550	13,350	14,450	15,550	13,350	14,450	15,550	16,150	17,800	20,400	23,050	0.85	1.40
6-5/8 *168,27*	23.20	0.330	Regular	9,300	10,050	10,800	9,300	10,050	10,800	9,300	10,050	10,800	9,300	10,050	10,800	10,800	11,200	12,750	14,450	1.10	1.83
	24.00	0.352	Regular	10,300	11,100	11,850	10,300	11,100	11,850	10,300	11,100	11,850	10,300	11,100	11,850	11,900	12,300	14,050	15,850	1.10	1.83
	28.00	0.417	Regular	14,350	15,450	16,550	14,350	15,450	16,550	14,350	15,450	16,550	14,350	15,450	16,550	16,700	18,550	21,300	24,100	1.10	1.83
	32.00	0.475	Regular	18,100	19,550	21,000	18,100	19,550	21,000	18,100	19,550	21,000	18,100	19,550	21,000	21,950	24,400	28,000	31,700	1.10	1.83
	34.50	0.525	Regular	19,550	21,100	22,600	19,550	21,100	22,600	19,550	21,100	22,600	19,550	21,100	22,600	22,600	25,050	28,900	32,700	1.10	1.83
	36.70	0.562	Regular	21,200	22,900	24,550	21,200	22,900	24,550	21,200	22,900	24,550	21,200	22,900	24,550	24,550	27,250	31,400	35,600	1.10	1.83
7 *177,80*	23.00	0.317	Regular	10,000	10,750	11,500	10,000	10,750	11,500	10,000	10,750	11,500	10,000	10,750	11,500	11,500	12,300	14,150	16,000	1.22	2.01
	26.00	0.362	Regular	11,100	12,000	12,900	11,100	12,000	12,900	11,100	12,000	12,900	11,100	12,000	12,900	12,900	12,950	14,800	16,700	1.22	2.01
	29.00	0.408	Regular	13,150	14,200	15,250	13,150	14,200	15,250	13,150	14,200	15,250	13,150	14,200	15,250	15,250	15,550	17,750	20,050	1.22	2.01

MTS = Maximum Torque with Sealability (maximum Torque up to which the string can be rotated downhole, with no impact on connection's performances)
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FIELD-END MAKE-UP TORQUE VALUES

OD 7'' - 7-5/8''

Size (OD)	Nominal Weight	Wall Thickness	Design	MAKE-UP TORQUE 80 ksi ft.lb			MAKE-UP TORQUE 95 ksi ft.lb			MAKE-UP TORQUE 110 ksi ft.lb			MAKE-UP TORQUE 125 ksi ft.lb			MTS 80 ksi	MTS 95 ksi	MTS 110 ksi	MTS 125 ksi	Min. Dope Volume	Max. Dope Volume
in *mm*	lb/ft	in		Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	ft.lb	ft.lb	ft.lb	ft.lb	in³	in³
7 *177,80*	32.00	0.453	Regular	16,600	17,950	19,300	16,600	17,950	19,300	16,600	17,950	19,300	16,600	17,950	19,300	19,300	21,200	24,300	27,650	1.22	2.01
	35.00	0.498	Regular	20,400	22,000	23,600	20,400	22,000	23,600	20,400	22,000	23,600	20,400	22,000	23,600	23,650	27,250	31,300	35,550	1.22	2.01
	38.00	0.540	Regular	22,450	24,250	26,000	22,450	24,250	26,000	22,450	24,250	26,000	22,450	24,250	26,000	26,100	29,050	33,450	38,050	1.22	2.01
	41.00	0.590	Regular	24,600	26,550	28,500	24,600	26,550	28,500	24,600	26,550	28,500	24,600	26,550	28,500	28,500	31,550	36,350	41,300	1.22	2.01
	42.70	0.625	Regular	26,050	28,150	30,200	26,050	28,150	30,200	26,050	28,150	30,200	26,050	28,150	30,200	30,200	33,400	38,400	43,550	1.22	2.01
7-5/8 *193,67*	29.70	0.375	Regular	12,800	13,800	14,800	12,800	13,800	14,800	12,800	13,800	14,800	12,800	13,800	14,800	14,800	15,900	18,100	20,500	1.40	2.20
	33.70	0.430	Regular	16,450	17,800	19,150	16,450	17,800	19,150	16,450	17,800	19,150	16,450	17,800	19,150	19,500	21,500	24,700	27,850	1.40	2.20
	35.80	0.465	Regular	18,850	20,350	21,800	18,850	20,350	21,800	18,850	20,350	21,800	18,850	20,350	21,800	22,700	25,050	28,750	32,450	1.40	2.20
	39.00	0.500	Regular	22,100	23,850	25,550	22,100	23,850	25,550	22,100	23,850	25,550	22,100	23,850	25,550	27,250	30,200	34,650	39,200	1.40	2.20
	47.10	0.625	Regular	30,100	32,550	35,000	30,100	32,550	35,000	30,100	32,550	35,000	30,100	32,550	35,000	37,800	42,100	48,450	54,850	1.40	2.20

MTS = Maximum Torque with Sealability (maximum Torque up to which the string can be rotated downhole, with no impact on connection's performances)
MTS may be lower for anisotropic CRA materials (referenced as Type 2, 3 & 4 as per API 5CRA / ISO 13680): please check out the Connection Datasheet on VAM® Services website or contact Mr. Help.
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VAM® 21

FIELD-END MAKE-UP TORQUE VALUES

OD 7-3/4'' - 9-5/8''

Size (OD)	Nominal Weight	Wall Thickness	Design	MAKE-UP TORQUE 80 ksi ft.lb			MAKE-UP TORQUE 95 ksi ft.lb			MAKE-UP TORQUE 110 ksi ft.lb			MAKE-UP TORQUE 125 ksi ft.lb			MTS 80 ksi	MTS 95 ksi	MTS 110 ksi	MTS 125 ksi	Min. Dope Volume	Max. Dope Volume
in *mm*	lb/ft	in		Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	ft.lb	ft.lb	ft.lb	ft.lb	in³	in³
7-3/4 *196,85*	46.10	0.595	Regular	29,650	32,050	34,400	29,650	32,050	34,400	29,650	32,050	34,400	29,650	32,050	34,400	37,000	41,300	47,550	53,900	1.40	2.32
8-5/8 *219,07*	40.00	0.450	Regular	18,400	19,850	21,300	18,400	19,850	21,300	18,400	19,850	21,300	18,400	19,850	21,300	23,950	26,450	30,300	34,200	1.65	2.69
	44.00	0.500	Regular	24,350	26,350	28,300	24,350	26,350	28,300	24,350	26,350	28,300	24,350	26,350	28,300	30,150	33,400	38,250	43,200	1.65	2.69
	49.00	0.557	Regular	25,600	27,650	29,700	25,600	27,650	29,700	25,600	27,650	29,700	25,600	27,650	29,700	31,850	35,150	40,250	45,500	1.65	2.69
	52.00	0.595	Regular	28,850	31,150	33,450	28,850	31,150	33,450	28,850	31,150	33,450	28,850	31,150	33,450	36,850	40,750	46,650	52,800	1.65	2.69
9-5/8 *244,47*	40.00	0.395	Regular	21,050	23,350	25,650	21,050	23,350	25,650	21,050	23,350	25,650	21,050	23,350	25,650	26,300	27,350	29,250	31,100	2.01	3.30
	43.50	0.435	Regular	24,800	27,350	29,850	24,800	27,350	29,850	24,800	27,350	29,850	24,800	27,350	29,850	29,850	30,800	32,800	34,650	2.01	3.30
	47.00	0.472	Regular	28,400	31,550	34,650	28,400	31,550	34,650	28,400	31,550	34,650	28,400	31,550	34,650	34,650	35,950	38,500	40,850	2.01	3.30
	53.50	0.545	Regular	38,300	42,550	46,800	38,300	42,550	46,800	38,300	42,550	46,800	38,300	42,550	46,800	51,400	53,600	57,500	61,100	2.01	3.30
	58.40	0.595	Regular	39,350	43,700	48,050	39,350	43,700	48,050	39,350	43,700	48,050	39,350	43,700	48,050	56,050	56,050	56,050	56,050	2.01	3.30

MTS = Maximum Torque with Sealability (maximum Torque up to which the string can be rotated downhole, with no impact on connection's performances)
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FIELD-END MAKE-UP TORQUE VALUES

OD 9-7/8'' - 10-3/4"

Size (OD)	Nominal Weight	Wall Thickness	Design	MAKE-UP TORQUE 80 ksi ft.lb			MAKE-UP TORQUE 95 ksi ft.lb			MAKE-UP TORQUE 110 ksi ft.lb			MAKE-UP TORQUE 125 ksi ft.lb			MTS 80 ksi	MTS 95 ksi	MTS 110 ksi	MTS 125 ksi	Min. Dope Volume	Max. Dope Volume
in *mm*	lb/ft	in		Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	ft.lb	ft.lb	ft.lb	ft.lb	in³	in³
9-7/8 *250,82*	62.80	0.625	Regular	40,350	44,900	49,400	40,350	44,900	49,400	40,350	44,900	49,400	40,350	44,900	49,400	57,450	57,450	57,450	57,450	2.01	3.30
	65.30	0.650	Regular	41,350	45,950	50,550	41,350	45,950	50,550	41,350	45,950	50,550	41,350	45,950	50,550	57,500	57,500	57,500	57,500	2.01	3.30
9-7/8* *250,82**	66.90	0.668	Regular	42,050	46,750	51,400	42,050	46,750	51,400	42,050	46,750	51,400	42,050	46,750	51,400	57,500	57,500	57,500	57,500	2.14	3.48
10-3/4 *273,05*	45.50	0.400	Regular	23,650	26,250	28,800	23,650	26,250	28,800	23,650	26,250	28,800	23,650	26,250	28,800	29,350	29,350	29,500	31,400	2.50	4.03
	51.00	0.450	Regular	28,000	31,050	34,100	28,000	31,050	34,100	28,000	31,050	34,100	28,000	31,050	34,100	34,100	34,100	34,100	35,600	2.50	4.03
	55.50	0.495	Regular	35,650	39,650	43,650	35,650	39,650	43,650	35,650	39,650	43,650	35,650	39,650	43,650	44,750	44,750	45,650	48,800	2.50	4.03
	60.70	0.545	Regular	38,650	42,950	47,250	38,650	42,950	47,250	38,650	42,950	47,250	38,650	42,950	47,250	55,300	56,750	57,950	62,800	2.50	4.03
	65.70	0.595	Regular	39,500	43,850	48,200	39,500	43,850	48,200	39,500	43,850	48,200	39,500	43,850	48,200	57,500	60,750	63,100	64,300	2.50	4.03
	71.10	0.650	Regular	42,350	47,100	51,850	42,350	47,100	51,850	42,350	47,100	51,850	42,350	47,100	51,850	72,900	76,150	77,350	57,500	2.50	4.03
	73.20	0.672	Regular	43,300	48,150	52,950	43,300	48,150	52,950	43,300	48,150	52,950	43,300	48,150	52,950	75,800	80,950	83,400	92,100	2.50	4.03

(*) This product is regular design threaded on a slightly oversized pipe (above 1%) to accommodate a special drift.
MTS = Maximum Torque with Sealability (maximum Torque up to which the string can be rotated downhole, with no impact on connection's performances)
MTS may be lower for anisotropic CRA materials (referenced as Type 2, 3 & 4 as per API 5CRA / ISO 13680): please check out the Connection Datasheet on VAM® Services website or contact Mr. Help.
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VAM® 21

FIELD-END MAKE-UP TORQUE VALUES

OD 11-3/4'' - 13-3/8''

Size (OD)	Nominal Weight	Wall Thickness	Design	MAKE-UP TORQUE 80 ksi ft.lb			MAKE-UP TORQUE 95 ksi ft.lb			MAKE-UP TORQUE 110 ksi ft.lb			MAKE-UP TORQUE 125 ksi ft.lb			MTS 80 ksi	MTS 95 ksi	MTS 110 ksi	MTS 125 ksi	Min. Dope Volume	Max. Dope Volume
in *mm*	lb/ft	in		Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	ft.lb	ft.lb	ft.lb	ft.lb	in³	in³
11-3/4 *298,45*	54.00	0.435	Regular	31,450	34,950	38,400	31,450	34,950	38,400	31,450	34,950	38,400	31,450	34,950	38,400	42,000	42,000	42,000	44,100	2.87	4.76
	60.00	0.489	Regular	36,600	40,700	44,750	36,600	40,700	44,750	36,600	40,700	44,750	36,600	40,700	44,750	48,800	48,800	49,600	52,650	2.87	4.76
	65.00	0.534	Regular	38,750	43,050	47,350	38,750	43,050	47,350	38,750	43,050	47,350	38,750	43,050	47,350	55,900	59,700	63,100	67,750	2.87	4.76
	71.00	0.582	Regular	39,100	43,500	47,850	39,100	43,500	47,850	39,100	43,500	47,850	39,100	43,500	47,850	62,450	65,600	66,950	72,100	2.87	4.76
11-7/8 *301,63*	67.80	0.550	Regular	40,150	44,650	49,100	40,150	44,650	49,100	40,150	44,650	49,100	40,150	44,650	49,100	59,300	63,850	68,550	74,300	2.93	4.76
	71.80	0.582	Regular	40,500	45,050	49,550	40,500	45,050	49,550	40,500	45,050	49,550	40,500	45,050	49,550	63,650	66,850	68,400	75,350	2.93	4.76
13-3/8 *339,72*	61.00	0.430	Regular	32,200	35,800	39,350	32,200	35,800	39,350	32,200	35,800	39,350	32,200	35,800	39,350	43,550	43,550	43,550	43,550	3.48	5.86
	68.00	0.480	Regular	37,700	41,900	46,050	37,700	41,900	46,050	37,700	41,900	46,050	37,700	41,900	46,050	50,350	50,350	50,350	52,050	3.48	5.86
	72.00	0.514	Regular	39,400	43,800	48,150	39,400	43,800	48,150	39,400	43,800	48,150	39,400	43,800	48,150	56,200	58,700	61,700	67,450	3.48	5.86
	77.00	0.550	Regular	39,550	43,950	48,300	39,550	43,950	48,300	39,550	43,950	48,300	39,550	43,950	48,300	59,050	61,800	63,250	68,850	3.48	5.86

MTS = Maximum Torque with Sealability (maximum Torque up to which the string can be rotated downhole, with no impact on connection's performances)
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VAM® 21

FIELD-END MAKE-UP TORQUE VALUES

OD 13-5/8" - 14"

Size (OD)	Nominal Weight	Wall Thickness	Design	MAKE-UP TORQUE 80 ksi ft.lb			MAKE-UP TORQUE 95 ksi ft.lb			MAKE-UP TORQUE 110 ksi ft.lb			MAKE-UP TORQUE 125 ksi ft.lb			MTS 80 ksi	MTS 95 ksi	MTS 110 ksi	MTS 125 ksi	Min. Dope Volume	Max. Dope Volume
in *mm*	lb/ft	in		Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	ft.lb	ft.lb	ft.lb	ft.lb	in³	in³
13-5/8 *346,07*	88.20	0.625	Regular	45,900	51,300	56,700	45,900	51,300	56,700	45,900	51,300	56,700	45,900	51,300	56,700	85,550	85,550	85,550	85,550	3.66	5.98
14 *355,60*	82.50	0.562	Regular	32,700	36,350	40,000	32,700	36,350	40,000	32,700	36,350	40,000	32,700	36,350	40,000	52,550	53,900	55,050	60,150	3.78	6.22
	86.00	0.600	Regular	36,300	40,350	44,400	36,300	40,350	44,400	36,300	40,350	44,400	36,300	40,350	44,400	64,500	66,600	68,350	74,850	3.78	6.22
	93.00	0.650	Regular	40,900	45,400	49,900	40,900	45,400	49,900	40,900	45,400	49,900	40,900	45,400	49,900	61,950	63,900	64,650	70,550	3.78	6.22
	96.90	0.670	Regular	43,150	47,950	52,700	43,150	47,950	52,700	43,150	47,950	52,700	43,150	47,950	52,700	69,300	71,450	72,550	79,100	3.78	6.22
	100.00	0.700	Regular	46,550	51,700	56,850	46,550	51,700	56,850	46,550	51,700	56,850	46,550	51,700	56,850	79,400	81,900	83,300	83,300	3.78	6.22
	106.00	0.750	Regular	52,250	58,050	63,850	52,250	58,050	63,850	52,250	58,050	63,850	52,250	58,050	63,850	83,300	83,300	83,300	83,300	3.78	6.22
	114.00	0.800	Regular	57,700	64,100	70,500	57,700	64,100	70,500	57,700	64,100	70,500	57,700	64,100	70,500	83,300	83,300	83,300	83,300	3.78	6.22
	115.00	0.812	Regular	60,700	65,600	70,500	60,700	65,600	70,500	60,700	65,600	70,500	60,700	65,600	70,500	83,300	83,300	83,300	83,300	3.78	6.22

MTS = Maximum Torque with Sealability (maximum Torque up to which the string can be rotated downhole, with no impact on connection's performances)
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VAM® 21 HT

TECHNICAL TABLE

OD 4-1/2" - 5-1/2"

PIPE					CONNECTION PROPERTIES					CONNECTION PERFORMANCES					
Size (OD)	Nominal Weight	Wall Thickness		Drift	Design	Inside Diameter	Outside Diameter	Coupling Length	Make-up Loss	Tensile Efficiency With Sealability	Compression Efficiency With Sealability	Joint Yield Strength x1000 lb			
in *mm*	lb/ft	in	*mm*	in		in	in	in	in	% Pipe Body	% Pipe Body	80 ksi	95 ksi	110 ksi	125 ksi
4-1/2 *114,30*	12.60	0.271	*6,88*	3.833	Regular	3.895	4.969	8.150	3.587	100	100	288	342	396	450
	13.50	0.290	*7,37*	3.795	Regular	3.857	4.999	8.150	3.587	100	100	307	364	422	480
	15.10	0.337	*8,56*	3.701	Regular	3.763	5.073	8.150	3.587	100	100	353	419	485	551
5 *127,00*	18.00	0.362	*9,19*	4.151	Regular	4.211	5.605	9.134	4.079	100	100	422	501	580	659
	21.40	0.437	*11,10*	4.001	Regular	4.061	5.699	9.922	4.473	100	100	501	595	689	783
	23.20	0.478	*12,14*	3.919	Regular	3.979	5.758	9.922	4.473	100	100	543	645	747	849
5-1/2 *139,70*	17.00	0.304	*7,72*	4.767	Regular	4.826	6.018	9.134	4.079	100	100	397	471	546	620
	20.00	0.361	*9,17*	4.653	Regular	4.714	6.111	9.134	4.079	100	100	466	554	641	729
	23.00	0.415	*10,54*	4.545	Regular	4.606	6.195	9.134	4.079	100	100	530	630	729	829
	26.00	0.476	*12,09*	4.423	Regular	4.483	6.268	9.922	4.473	100	100	601	714	826	939

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

TECHNICAL TABLE

OD 5-1/2'' - 7''

PIPE					CONNECTION PROPERTIES					CONNECTION PERFORMANCES					
Size (OD)	Nominal Weight	Wall Thickness		Drift	Design	Inside Diameter	Outside Diameter	Coupling Length	Make-up Loss	Tensile Efficiency With Sealability	Compression Efficiency With Sealability	Joint Yield Strength x1000 lb			
in *mm*	lb/ft	in	*mm*	in		in	in	in	in	% Pipe Body	% Pipe Body	80 ksi	95 ksi	110 ksi	125 ksi
5-1/2 *139,70*	26.80	0.500	*12,70*	4.375	Regular	4.436	6.304	9.922	4.473	100	100	628	746	864	982
6 *152,40*	24.50	0.400	*10,16*	5.075	Regular	5.138	6.668	9.607	4.303	100	100	563	669	774	880
	25.50	0.415	*10,54*	5.045	Regular	5.108	6.691	9.607	4.303	100	100	583	692	801	910
6-5/8 *168,27*	23.20	0.330	*8,38*	5.840	Regular	5.900	7.174	10.158	4.591	100	100	522	620	718	816
	24.00	0.352	*8,94*	5.796	Regular	5.856	7.211	10.158	4.591	100	100	555	659	763	867
	28.00	0.417	*10,59*	5.666	Regular	5.726	7.317	10.158	4.591	100	100	651	773	895	1,017
	32.00	0.475	*12,06*	5.550	Regular	5.610	7.410	10.158	4.591	100	100	734	872	1,009	1,147
	34.50	0.525	*13,33*	5.450	Regular	5.513	7.467	10.867	4.945	100	100	805	956	1,107	1,258
	36.70	0.562	*14,27*	5.376	Regular	5.435	7.522	10.867	4.945	100	100	856	1,017	1,178	1,338
7 *177,80*	23.00	0.317	*8,05*	6.250 A	Regular	6.310	7.516	11.693	4.866	100	100	532	632	732	832

Drift values: A = Alternate Drift, S = Special Drift
For 7" and above, coupling length of all products manufactured before April 2016 is 1 inch (25.4 mm) shorter than indicated in above tables
For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

VAM® 21 HT

TECHNICAL TABLE

OD 7'' - 7-5/8''

PIPE					CONNECTION PROPERTIES					CONNECTION PERFORMANCES					
Size (OD)	Nominal Weight	Wall Thickness		Drift	Design	Inside Diameter	Outside Diameter	Coupling Length	Make-up Loss	Tensile Efficiency With Sealability	Compression Efficiency With Sealability	Joint Yield Strength x1000 lb			
in *mm*	lb/ft	in	*mm*	in		in	in	in	in	% Pipe Body	% Pipe Body	80 ksi	95 ksi	110 ksi	125 ksi
7 *177,80*	26.00	0.362	*9,19*	6.151	Regular	6.211	7.593	11.693	4.866	100	100	604	717	830	944
	29.00	0.408	*10,36*	6.059	Regular	6.119	7.670	11.693	4.866	100	100	676	803	929	1,056
	32.00	0.453	*11,51*	6.000 A	Regular	6.060	7.743	11.693	4.866	100	100	745	885	1,025	1,165
	35.00	0.498	*12,65*	5.879	Regular	5.940	7.813	11.693	4.866	100	100	814	966	1,119	1,272
	38.00	0.540	*13,72*	5.795	Regular	5.855	7.855	12.481	5.260	100	100	877	1,041	1,205	1,370
	41.00	0.590	*14,99*	5.695	Regular	5.755	7.932	12.481	5.260	100	100	950	1,129	1,307	1,485
	42.70	0.625	*15,88*	5.625	Regular	5.686	7.983	12.481	5.260	100	100	1,001	1,189	1,377	1,565
7-5/8 *193,67*	29.70	0.375	*9,52*	6.750	Regular	6.811	8.278	11.024	4.535	100	100	683	811	940	1,068
	33.70	0.430	*10,92*	6.640	Regular	6.700	8.371	11.024	4.535	100	100	778	923	1,069	1,215
	35.80	0.465	*11,81*	6.570	Regular	6.630	8.428	11.024	4.535	100	100	837	994	1,151	1,308

Drift values: A = Alternate Drift, S = Special Drift

For 7" and above, coupling length of all products manufactured before April 2016 is 1 inch (25.4 mm) shorter than indicated in above tables

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

VAM® 21 HT

TECHNICAL TABLE

OD 7-5/8'' - 9-5/8''

PIPE					CONNECTION PROPERTIES					CONNECTION PERFORMANCES					
Size (OD)	Nominal Weight	Wall Thickness		Drift	Design	Inside Diameter	Outside Diameter	Coupling Length	Make-up Loss	Tensile Efficiency With Sealability	Compression Efficiency With Sealability	Joint Yield Strength x1000 lb			
in *mm*	lb/ft	in	*mm*	in		in	in	in	in	% Pipe Body	% Pipe Body	80 ksi	95 ksi	110 ksi	125 ksi
7-5/8 *193.67*	39.00	0.500	*12,70*	6.500	Regular	6.561	8.483	11.024	4.535	100	100	895	1,063	1,231	1,399
9-5/8 *244.47*	40.00	0.395	*10,03*	8.750 A	Regular	8.804	10.319	11.497	4.748	100	100	916	1,088	1,260	1,432
	43.50	0.435	*11,05*	8.599	Regular	8.653	10.357	12.756	5.378	100	100	1,005	1,193	1,381	1,570
	47.00	0.472	*11,99*	8.525	Regular	8.579	10.420	12.756	5.378	100	100	1,086	1,289	1,493	1,697
	53.50	0.545	*13,84*	8.500 A	Regular	8.554	10.542	12.756	5.378	100	100	1,244	1,477	1,710	1,943
	58.40	0.595	*15,11*	8.375 A	Regular	8.433	10.611	12.993	5.496	100	100	1,350	1,604	1,857	2,110

Drift values: A = Alternate Drift, S = Special Drift

For 7" and above, coupling length of all products manufactured before April 2016 is 1 inch (25.4 mm) shorter than indicated in above tables

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

VAM® 21 HT

FIELD-END MAKE-UP TORQUE VALUES

OD 4-1/2" - 5-1/2"

Size (OD)	Nominal Weight	Wall Thickness	Design	MAKE-UP TORQUE 80 ksi ft.lb			MAKE-UP TORQUE 95 ksi ft.lb			MAKE-UP TORQUE 110 ksi ft.lb			MAKE-UP TORQUE 125 ksi ft.lb			MTS 80 ksi	MTS 95 ksi	MTS 110 ksi	MTS 125 ksi	Min. Dope Volume	Max. Dope Volume
in *mm*	lb/ft	in		Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	ft.lb	ft.lb	ft.lb	ft.lb	in³	in³
4-1/2 *114,30*	12.60	0.271	Regular	5,100	5,100	5,475	5,500	5,500	5,900	5,750	5,750	6,175	5,750	5,750	6,175	6,625	7,700	8,725	9,800	0.49	0.85
	13.50	0.290	Regular	5,600	5,600	6,000	6,175	6,175	6,600	6,350	6,350	6,775	6,350	6,350	6,775	7,475	8,625	9,800	11,050	0.49	0.85
	15.10	0.337	Regular	6,525	6,525	7,000	7,900	7,900	8,475	8,300	8,300	8,875	8,300	8,300	8,875	7,875	9,125	11,725	13,200	0.49	0.85
5 *127,00*	18.00	0.362	Regular	9,450	9,450	10,150	9,450	9,450	10,150	9,450	9,450	10,150	9,450	9,450	10,150	11,700	12,950	14,800	16,800	0.73	1.22
	21.40	0.437	Regular	11,100	11,100	11,900	11,100	11,100	11,900	11,100	11,100	11,900	11,100	11,100	11,900	13,350	18,200	20,850	23,600	0.73	1.22
	23.20	0.478	Regular	12,300	12,300	13,200	12,300	12,300	13,200	12,300	12,300	13,200	12,300	12,300	13,200	15,250	20,850	23,950	27,050	0.73	1.22
5-1/2 *139,70*	17.00	0.304	Regular	7,850	7,850	8,400	7,850	7,850	8,400	7,850	7,850	8,400	7,850	7,850	8,400	10,100	11,850	13,600	15,400	0.85	1.40
	20.00	0.361	Regular	10,200	10,200	10,900	10,200	10,200	10,900	10,200	10,200	10,900	10,200	10,200	10,900	13,550	16,000	18,350	20,750	0.85	1.40
	23.00	0.415	Regular	12,500	12,500	13,400	12,500	12,500	13,400	12,500	12,500	13,400	12,500	12,500	13,400	17,000	19,950	22,900	25,950	0.85	1.40
	26.00	0.476	Regular	14,350	14,350	15,400	14,350	14,350	15,400	14,350	14,350	15,400	14,350	14,350	15,400	18,200	20,850	23,950	27,100	0.85	1.40

MTS = Maximum Torque with Sealability (maximum Torque up to which the string can be rotated downhole, with no impact on connection's performances)
MTS may be lower for anisotropic CRA materials (referenced as Type 2, 3 & 4 as per API 5CRA / ISO 13680): please check out the Connection Datasheet on VAM® Services website or contact Mr. Help.
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VAM® 21 HT

FIELD-END MAKE-UP TORQUE VALUES

OD 5-1/2'' - 7''

Size (OD)	Nominal Weight	Wall Thickness	Design	MAKE-UP TORQUE 80 ksi ft.lb			MAKE-UP TORQUE 95 ksi ft.lb			MAKE-UP TORQUE 110 ksi ft.lb			MAKE-UP TORQUE 125 ksi ft.lb			MTS 80 ksi	MTS 95 ksi	MTS 110 ksi	MTS 125 ksi	Min. Dope Volume	Max. Dope Volume
in *mm*	lb/ft	in		Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	ft.lb	ft.lb	ft.lb	ft.lb	in³	in³
5-1/2 *139,70*	26.80	0.500	Regular	15,200	15,200	16,300	15,200	15,200	16,300	15,200	15,200	16,300	15,200	15,200	16,300	19,500	22,300	25,700	29,100	0.85	1.40
6 *152,40*	24.50	0.400	Regular	13,400	13,400	14,350	13,400	13,400	14,350	13,400	13,400	14,350	13,400	13,400	14,350	18,650	21,300	24,450	27,700	0.92	1.59
	25.50	0.415	Regular	13,800	13,800	14,750	13,800	13,800	14,750	13,800	13,800	14,750	13,800	13,800	14,750	19,800	22,600	26,000	29,400	0.92	1.59
6-5/8 *168,27*	23.20	0.330	Regular	10,050	10,050	10,800	10,050	10,050	10,800	10,050	10,050	10,800	10,050	10,050	10,800	14,200	19,500	22,450	25,500	1.10	1.83
	24.00	0.352	Regular	11,100	11,100	11,850	11,100	11,100	11,850	11,100	11,100	11,850	11,100	11,100	11,850	16,050	22,050	25,350	28,750	1.10	1.83
	28.00	0.417	Regular	15,450	15,450	16,550	15,450	15,450	16,550	15,450	15,450	16,550	15,450	15,450	16,550	21,500	29,550	34,000	38,550	1.10	1.83
	32.00	0.475	Regular	19,550	19,550	21,000	19,550	19,550	21,000	19,550	19,550	21,000	19,550	19,550	21,000	26,450	36,250	41,800	47,400	1.10	1.83
	34.50	0.525	Regular	21,100	21,100	22,600	21,100	21,100	22,600	21,100	21,100	22,600	21,100	21,100	22,600	25,800	30,600	35,300	40,000	1.10	1.83
	36.70	0.562	Regular	22,900	22,900	24,550	22,900	22,900	24,550	22,900	22,900	24,550	22,900	22,900	24,550	28,650	34,000	39,200	44,500	1.10	1.83
7 *177,80*	23.00	0.317	Regular	10,750	10,750	11,500	10,750	10,750	11,500	10,750	10,750	11,500	10,750	10,750	11,500	14,950	17,400	19,950	22,700	1.22	2.01

MTS = Maximum Torque with Sealability (maximum Torque up to which the string can be rotated downhole, with no impact on connection's performances)
MTS may be lower for anisotropic CRA materials (referenced as Type 2, 3 & 4 as per API 5CRA / ISO 13680): please check out the Connection Datasheet on VAM® Services website or contact Mr. Help.
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VAM® 21 HT

FIELD-END MAKE-UP TORQUE VALUES

OD 7'' - 7-5/8''

Size (OD)	Nominal Weight	Wall Thickness	Design	MAKE-UP TORQUE 80 ksi ft.lb			MAKE-UP TORQUE 95 ksi ft.lb			MAKE-UP TORQUE 110 ksi ft.lb			MAKE-UP TORQUE 125 ksi ft.lb			MTS 80 ksi	MTS 95 ksi	MTS 110 ksi	MTS 125 ksi	Min. Dope Volume	Max. Dope Volume
in *mm*	lb/ft	in		Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	ft.lb	ft.lb	ft.lb	ft.lb	in³	in³
7 *177,80*	26.00	0.362	Regular	12,000	12,000	12,900	12,000	12,000	12,900	12,000	12,000	12,900	12,000	12,000	12,900	19,350	22,550	25,950	29,500	1.22	2.01
	29.00	0.408	Regular	14,200	14,200	15,250	14,200	14,200	15,250	14,200	14,200	15,250	14,200	14,200	15,250	24,000	27,950	32,200	36,550	1.22	2.01
	32.00	0.453	Regular	17,950	17,950	19,300	17,950	17,950	19,300	17,950	17,950	19,300	17,950	17,950	19,300	28,650	33,300	38,400	43,550	1.22	2.01
	35.00	0.498	Regular	22,000	22,000	23,600	22,000	22,000	23,600	22,000	22,000	23,600	22,000	22,000	23,600	33,150	38,550	44,400	50,350	1.22	2.01
	38.00	0.540	Regular	24,250	24,250	26,000	24,250	24,250	26,000	24,250	24,250	26,000	24,250	24,250	26,000	32,500	38,400	44,300	50,300	1.22	2.01
	41.00	0.590	Regular	26,550	26,550	28,500	26,550	26,550	28,500	26,550	26,550	28,500	26,550	26,550	28,500	37,050	43,800	50,550	57,450	1.22	2.01
	42.70	0.625	Regular	28,150	28,150	30,200	28,150	28,150	30,200	28,150	28,150	30,200	28,150	28,150	30,200	40,150	47,450	54,850	62,300	1.22	2.01
7-5/8 *193,67*	29.70	0.375	Regular	13,800	13,800	14,800	13,800	13,800	14,800	13,800	13,800	14,800	13,800	13,800	14,800	17,700	23,450	27,050	30,650	1.40	2.20
	33.70	0.430	Regular	17,800	17,800	19,150	17,800	17,800	19,150	17,800	17,800	19,150	17,800	17,800	19,150	22,700	25,250	29,100	33,100	1.40	2.20
	35.80	0.465	Regular	20,350	20,350	21,800	20,350	20,350	21,800	20,350	20,350	21,800	20,350	20,350	21,800	26,000	28,950	33,400	37,800	1.40	2.20

MTS = Maximum Torque with Sealability (maximum Torque up to which the string can be rotated downhole, with no impact on connection's performances)
MTS may be lower for anisotropic CRA materials (referenced as Type 2, 3 & 4 as per API 5CRA / ISO 13680): please check out the Connection Datasheet on VAM® Services website or contact Mr. Help.
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VAM® 21 HT

FIELD-END MAKE-UP TORQUE VALUES

OD 7-5/8'' - 9-5/8''

Size (OD)	Nominal Weight	Wall Thickness	Design	MAKE-UP TORQUE 80 ksi ft.lb			MAKE-UP TORQUE 95 ksi ft.lb			MAKE-UP TORQUE 110 ksi ft.lb			MAKE-UP TORQUE 125 ksi ft.lb			MTS 80 ksi	MTS 95 ksi	MTS 110 ksi	MTS 125 ksi	Min. Dope Volume	Max. Dope Volume
in *mm*	lb/ft	in		Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	ft.lb	ft.lb	ft.lb	ft.lb	in³	in³
7-5/8 *193,67*	39.00	0.500	Regular	23,850	23,850	25,550	23,850	23,850	25,550	23,850	23,850	25,550	23,850	23,850	25,550	29,250	32,600	37,450	42,450	1.40	2.20
9-5/8 *244,47*	40.00	0.395	Regular	23,350		25,650	23,350		25,650	23,350	23,350	25,650	23,350	23,350	25,650	39,000	45,950	53,000	60,150	2.01	3.30
	43.50	0.435	Regular	27,350		29,850	27,350		29,850	27,350	27,350	29,850	27,350	27,350	29,850	45,250	53,300	61,500	69,800	2.01	3.30
	47.00	0.472	Regular	25,800		28,350	31,550		34,650	31,550	31,550	34,650	31,550	31,550	34,650	52,800	62,150	71,650	81,400	2.01	3.30
	53.50	0.545	Regular	42,550	42,550	46,800	42,550	42,550	46,800	42,550	42,550	46,800	42,550	42,550	46,800	56,450	66,300	76,250	86,400	2.01	3.30
	58.40	0.595	Regular	43,700	43,700	48,050	43,700	43,700	48,050	43,700	43,700	48,050	43,700	43,700	48,050	64,950	76,850	88,850	101,150	2.01	3.30

MTS = Maximum Torque with Sealability (maximum Torque up to which the string can be rotated downhole, with no impact on connection's performances)
MTS may be lower for anisotropic CRA materials (referenced as Type 2, 3 & 4 as per API 5CRA / ISO 13680): please check out the Connection Datasheet on VAM® Services website or contact Mr. Help.
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VAM® HTTC

TECHNICAL TABLE

OD 3-1/2" - 5-1/2"

PIPE					CONNECTION PROPERTIES					CONNECTION PERFORMANCES						
Size (OD)	Nominal Weight	Wall Thickness		Drift	Design	Inside Diameter	Outside Diameter	Coupling Length	Make-up Loss	Tensile Efficiency With Sealability	Structural Compression Efficiency	Compression Efficiency With Sealability	Joint Yield Strength x1000 lb			
in *mm*	lb/ft	in	*mm*	in		in	in	in	in	% Pipe Body	% Pipe Body	% Pipe Body	80 ksi	95 ksi	110 ksi	125 ksi
3-1/2 *88,90*	9.20	0.254	*6,45*	2.867	Regular	2.926	3.971	8.058	3.450	100	100	80	207	246	285	324
	10.20	0.289	*7,34*	2.797	Regular	2.880	3.971	8.058	3.450	100	100	80	233	277	321	364
4-1/2 *114,30*	12.60	0.271	*6,88*	3.833	Regular	3.873	4.906	9.719	4.281	100	100	80	288	342	396	450
	13.50	0.290	*7,37*	3.795	Regular	3.849	4.930	9.917	4.380	100	100	80	307	364	422	480
	15.10	0.337	*8,56*	3.701	Regular	3.741	4.967	11.374	5.108	100	100	80	353	419	485	551
5 *127,00*	18.00	0.362	*9,19*	4.151	Regular	4.204	5.510	11.458	5.151	100	100	80	422	501	580	659
	21.40	0.437	*11,10*	4.001	Regular	4.042	5.605	11.698	5.270	100	100	80	501	595	689	783
	23.20	0.478	*12,14*	3.919	Regular	3.966	5.666	11.698	5.270	100	100	80	543	645	747	849
5-1/2 *139,70*	17.00	0.304	*7,72*	4.767	Regular	4.814	5.971	10.186	4.514	100	100	80	397	471	546	620
	20.00	0.361	*9,17*	4.653	Regular	4.697	6.006	11.653	5.248	100	100	80	466	554	641	729

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

TECHNICAL TABLE

OD 5-1/2'' - 9-5/8''

PIPE					CONNECTION PROPERTIES					CONNECTION PERFORMANCES						
Size (OD)	Nominal Weight	Wall Thickness		Drift	Design	Inside Diameter	Outside Diameter	Coupling Length	Make-up Loss	Tensile Efficiency With Sealability	Structural Compression Efficiency	Compression Efficiency With Sealability	Joint Yield Strength x1000 lb			
in *mm*	lb/ft	in	*mm*	in		in	in	in	in	% Pipe Body	% Pipe Body	% Pipe Body	80 ksi	95 ksi	110 ksi	125 ksi
5-1/2 *139,70*	23.00	0.415	*10,54*	4.545	Regular	4.602	6.093	11.653	5.248	100	100	80	530	630	729	829
6-5/8 *168,27*	24.00	0.352	*8,94*	5.796	Regular	5.841	7.158	11.376	5.109	100	100	80	555	659	763	867
	28.00	0.417	*10,59*	5.666	Regular	5.766	7.266	11.376	5.109	100	100	80	651	773	895	1,017
	32.00	0.475	*12,06*	5.550	Regular	5.663	7.359	11.376	5.109	100	100	80	734	872	1,009	1,147
7 *177,80*	23.00	0.317	*8,05*	6.250 A	Regular	6.293	7.475	10.282	4.562	100	100	80	532	632	732	832
	26.00	0.362	*9,19*	6.151	Regular	6.212	7.552	10.282	4.562	100	100	80	604	717	830	944
	29.00	0.408	*10,36*	6.125 S	Regular	6.168	7.628	10.282	4.562	100	100	80	676	803	929	1,056
	32.00	0.453	*11,51*	6.000 A	Regular	6.070	7.703	10.282	4.562	100	100	80	745	885	1,025	1,165
	35.00	0.498	*12,65*	5.879	Regular	5.922	7.719	11.975	5.409	100	100	80	814	966	1,119	1,272
9-5/8 *244,47*	43.50	0.435	*11,05*	8.599	Regular	8.689	10.313	11.245	5.044	100	100	80	1,005	1,193	1,381	1,570

Drift values: A = Alternate Drift, S = Special Drift

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

VAM® HTTC

TECHNICAL TABLE

OD 9-5/8''

PIPE					CONNECTION PROPERTIES					CONNECTION PERFORMANCES						
Size (OD)	Nominal Weight	Wall Thickness		Drift	Design	Inside Diameter	Outside Diameter	Coupling Length	Make-up Loss	Tensile Efficiency With Sealability	Structural Compression Efficiency	Compression Efficiency With Sealability	Joint Yield Strength x1000 lb			
in *mm*	lb/ft	in	*mm*	in		in	in	in	in	% Pipe Body	% Pipe Body	% Pipe Body	80 ksi	95 ksi	110 ksi	125 ksi
9-5/8 *244,47*	47.00	0.472	*11,99*	8.525	Regular	8.639	10.376	11.245	5.044	100	100	80	1,086	1,289	1,493	1,697
	53.50	0.545	*13,84*	8.500 A	Regular	8.555	10.416	13.108	5.975	100	100	80	1,244	1,477	1,710	1,943

Drift values: A = Alternate Drift, S = Special Drift

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

FIELD-END MAKE-UP TORQUE VALUES

OD 3-1/2'' - 5-1/2''

Size (OD)	Nominal Weight	Wall Thickness	Design	MAKE-UP TORQUE 80 ksi ft.lb			MAKE-UP TORQUE 95 ksi ft.lb			MAKE-UP TORQUE 110 ksi ft.lb			MAKE-UP TORQUE 125 ksi ft.lb			MTS 80 ksi	MTS 95 ksi	MTS 110 ksi	MTS 125 ksi	Min. Dope Volume	Max. Dope Volume
in *mm*	lb/ft	in		Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	ft.lb	ft.lb	ft.lb	ft.lb	in³	in³
3-1/2 *88,90*	9.20	0.254	Regular	3,650	3,825	4,000	3,650	3,825	4,000	3,650	3,825	4,000	3,650	3,825	4,000	6,300	7,350	8,400	9,400	0.34	0.46
	10.20	0.289	Regular	3,650	3,825	4,000	3,650	3,825	4,000	3,650	3,825	4,000	3,650	3,825	4,000	6,300	7,350	8,400	9,400	0.34	0.46
4-1/2 *114,30*	12.60	0.271	Regular	6,660	7,410	8,160	6,660	7,410	8,160	6,660	7,410	8,160	6,660	7,410	8,160	11,900	13,700	15,450	17,200	0.52	0.70
	13.50	0.290	Regular	6,910	7,710	8,510	6,910	7,710	8,510	6,910	7,710	8,510	6,910	7,710	8,510	12,350	14,200	16,050	17,850	0.52	0.70
	15.10	0.337	Regular	8,650	9,650	10,650	8,650	9,650	10,650	8,650	9,650	10,650	8,650	9,650	10,650	17,550	20,400	23,200	26,050	0.61	0.85
5 *127,00*	18.00	0.362	Regular	11,050	11,580	12,110	11,050	11,580	12,110	11,050	11,580	12,110	11,050	11,580	12,110	19,150	22,200	25,200	28,250	0.70	1.01
	21.40	0.437	Regular	11,450	12,195	12,940	11,450	12,195	12,940	11,450	12,195	12,940	11,450	12,195	12,940	20,450	23,700	27,000	30,250	0.70	1.01
	23.20	0.478	Regular	11,450	12,195	12,940	11,450	12,195	12,940	11,450	12,195	12,940	11,450	12,195	12,940	20,450	23,700	27,000	30,250	0.70	1.01
5-1/2 *139,70*	17.00	0.304	Regular	14,000	14,500	15,000	14,000	14,500	15,000	14,000	14,500	15,000	14,000	14,500	15,000	20,400	23,500	26,600	29,750	0.64	0.88
	20.00	0.361	Regular	15,320	15,820	16,320	15,320	15,820	16,320	15,320	15,820	16,320	15,320	15,820	16,320	23,750	27,500	31,250	35,000	0.73	1.04

MTS = Maximum Torque with Sealability (maximum Torque up to which the string can be rotated downhole, with no impact on connection's performances)
MTS may be lower for anisotropic CRA materials (referenced as Type 2, 3 & 4 as per API 5CRA / ISO 13680): please check out the Connection Datasheet on VAM® Services website or contact Mr. Help.
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VAM® HTTC

FIELD-END MAKE-UP TORQUE VALUES

OD 5-1/2'' - 9-5/8''

Size (OD)	Nominal Weight	Wall Thickness	Design	MAKE-UP TORQUE 80 ksi ft.lb			MAKE-UP TORQUE 95 ksi ft.lb			MAKE-UP TORQUE 110 ksi ft.lb			MAKE-UP TORQUE 125 ksi ft.lb			MTS 80 ksi	MTS 95 ksi	MTS 110 ksi	MTS 125 ksi	Min. Dope Volume	Max. Dope Volume
in *mm*	lb/ft	in		Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	ft.lb	ft.lb	ft.lb	ft.lb	in³	in³
5-1/2 *139,70*	23.00	0.415	Regular	15,320	15,820	16,320	15,320	15,820	16,320	15,320	15,820	16,320	15,320	15,820	16,320	23,750	27,500	31,250	35,000	0.73	1.04
6-5/8 *168,27*	24.00	0.352	Regular	21,200	22,200	23,200	21,200	22,200	23,200	21,200	22,200	23,200	21,200	22,200	23,200	32,500	37,750	42,750	48,000	0.92	1.28
	28.00	0.417	Regular	21,200	22,200	23,200	21,200	22,200	23,200	21,200	22,200	23,200	21,200	22,200	23,200	32,500	37,750	42,750	48,000	0.92	1.28
	32.00	0.475	Regular	21,200	22,200	23,200	21,200	22,200	23,200	21,200	22,200	23,200	21,200	22,200	23,200	32,500	37,750	42,750	48,000	0.92	1.28
7 *177,80*	23.00	0.317	Regular	22,950	23,700	24,450	22,950	23,700	24,450	22,950	23,700	24,450	22,950	23,700	24,450	35,000	40,500	46,000	51,500	0.88	1.25
	26.00	0.362	Regular	22,950	23,700	24,450	22,950	23,700	24,450	22,950	23,700	24,450	22,950	23,700	24,450	35,000	40,500	46,000	51,500	0.88	1.25
	29.00	0.408	Regular	22,950	23,700	24,450	22,950	23,700	24,450	22,950	23,700	24,450	22,950	23,700	24,450	35,000	40,500	46,000	51,500	0.88	1.25
	32.00	0.453	Regular	22,950	23,700	24,450	22,950	23,700	24,450	22,950	23,700	24,450	22,950	23,700	24,450	35,000	40,500	46,000	51,500	0.88	1.25
	35.00	0.498	Regular	27,050	28,050	29,050	27,050	28,050	29,050	27,050	28,050	29,050	27,050	28,050	29,050	48,000	56,000	63,750	71,750	1.01	1.43
9-5/8 *244,47*	43.50	0.435	Regular	36,400	37,400	38,400	36,400	37,400	38,400	36,400	37,400	38,400	36,400	37,400	38,400	67,750	78,750	89,750	100,750	1.28	1.77

MTS = Maximum Torque with Sealability (maximum Torque up to which the string can be rotated downhole, with no impact on connection's performances)
MTS may be lower for anisotropic CRA materials (referenced as Type 2, 3 & 4 as per API 5CRA / ISO 13680): please check out the Connection Datasheet on VAM® Services website or contact Mr. Help.
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VAM® HTTC

FIELD-END MAKE-UP TORQUE VALUES

OD 9-5/8''

Size (OD)	Nominal Weight	Wall Thickness	Design	MAKE-UP TORQUE 80 ksi ft.lb			MAKE-UP TORQUE 95 ksi ft.lb			MAKE-UP TORQUE 110 ksi ft.lb			MAKE-UP TORQUE 125 ksi ft.lb			MTS 80 ksi	MTS 95 ksi	MTS 110 ksi	MTS 125 ksi	Min. Dope Volume	Max. Dope Volume
in *mm*	lb/ft	in		Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	ft.lb	ft.lb	ft.lb	ft.lb	in³	in³
9-5/8 *244,47*	47.00	0.472	Regular	36,400	37,400	38,400	36,400	37,400	38,400	36,400	37,400	38,400	36,400	37,400	38,400	67,750	78,750	89,750	100,750	1.28	1.77
	53.50	0.545	Regular	36,400	37,400	38,400	36,400	37,400	38,400	36,400	37,400	38,400	36,400	37,400	38,400	66,950	78,350	89,750	101,150	1.28	1.77

MTS = Maximum Torque with Sealability (maximum Torque up to which the string can be rotated downhole, with no impact on connection's performances)
MTS may be lower for anisotropic CRA materials (referenced as Type 2, 3 & 4 as per API 5CRA / ISO 13680): please check out the Connection Datasheet on VAM® Services website or contact Mr. Help.
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VAM® HP

TECHNICAL TABLE

OD 7-5/8'' - 10-3/4"

PIPE					CONNECTION PROPERTIES					CONNECTION PERFORMANCES					
Size (OD)	Nominal Weight	Wall Thickness		Drift	Option SC	Inside Diameter	Outside Diameter	Coupling Length	Make-up Loss	Tensile Efficiency With Sealability	Compression Efficiency With Sealability	Joint Yield Strength x1000 lb			
in *mm*	lb/ft	in	*mm*	in		in	in	in	in	% Pipe Body	% Pipe Body	80 ksi	95 ksi	110 ksi	125 ksi
7-5/8 *193,67*	51.20	0.687	*17,45*	6.126	SC78	6.309	8.095	15.910	6.957	78.0	60	934	1,109	1,284	1,459
	55.30	0.750	*19,05*	6.000	SC77	6.124	8.121	16.610	7.311	76.8	60	995	1,181	1,368	1,554
	59.20	0.812	*20,62*	5.876	SC76	5.994	8.141	17.480	7.737	76.0	60	1,057	1,255	1,453	1,651
7-5/8* *193,67**	61.50	0.850	*21,59*	5.875 S	SC75	5.939	8.150	18.190	8.100	74.8	60	1,085	1,289	1,492	1,696
10-1/2* *266,70**	96.00	0.940	*23,88*	8.500 S	SC80	8.659	11.191	17.720	7.855	80.0	60	1,812	2,151	2,491	2,831
10-3/4 *273,05*	71.10	0.650	*16,51*	9.294	SC90	9.631	11.437	17.050	7.535	90.0	60	1,484	1,763	2,041	2,319
	73.20	0.672	*17,07*	9.330 S	SC90	9.616	11.471	17.050	7.535	90.0	60	1,533	1,820	2,107	2,395
	79.20	0.734	*18,64*	9.126	SC84	9.337	11.345	17.870	7.937	83.6	60	1,545	1,834	2,124	2,413
	85.30	0.797	*20,24*	9.000	SC73	9.352	11.270	18.010	8.006	72.6	60	1,448	2,059	2,384	2,709
	100.40	0.960	*24,38*	8.674	SC80	9.085	11.471	18.430	8.226	79.6	60	1,881	2,233	2,586	2,939

(*) This product is regular design threaded on a slightly oversized pipe (above 1%) to accommodate a special drift.
Drift values: A = Alternate Drift, S = Special Drift
There is no compatibility between weights for VAM HP
For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

TECHNICAL TABLE

OD 10-3/4" - 12-1/4"

PIPE					CONNECTION PROPERTIES					CONNECTION PERFORMANCES					
Size (OD)	Nominal Weight	Wall Thickness		Drift	Option SC	Inside Diameter	Outside Diameter	Coupling Length	Make-up Loss	Tensile Efficiency With Sealability	Compression Efficiency With Sealability	Joint Yield Strength x1000 lb			
in *mm*	lb/ft	in	*mm*	in		in	in	in	in	% Pipe Body	% Pipe Body	80 ksi	95 ksi	110 ksi	125 ksi
10-3/4 *273,05*	104.30	1.000	*25,40*	8.594	SC70	8.726	11.221	19.530	8.756	70.0	60		2,037	2,359	2,680
	110.20	1.050	*26,67*	8.494	SC80	8.871	11.491	18.820	8.409	80.0	60	2,048	2,432	2,816	3,200
10-7/8 *276,22*	72.00	0.656	*16,66*	9.407	Regular	9.669	11.621	16.340	7.178	100	60		1,801	2,085	2,369
12-1/4 *311,15*	134.25	1.125	*28,57*	9.844	SC90	10.085	13.230	19.920	8.964	89.9	60			3,888	4,418

There is no compatibility between weights for VAM HP

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

VAM® HP

FIELD-END MAKE-UP TORQUE VALUES

OD 7-5/8'' - 10-3/4"

Size (OD)	Nominal Weight	Wall Thickness	Option SC	MAKE-UP TORQUE 80 ksi ft.lb			MAKE-UP TORQUE 95 ksi ft.lb			MAKE-UP TORQUE 110 ksi ft.lb			MAKE-UP TORQUE 125 ksi ft.lb			Min. Dope Volume
in *mm*	lb/ft	in		Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	in³
7-5/8 *193,67*	51.20	0.687	SC78	27,000	30,000	33,000	27,000	30,000	33,000	27,000	30,000	33,000	27,000	30,000	33,000	1.30
	55.30	0.750	SC77	27,000	30,000	33,000	27,000	30,000	33,000	27,000	30,000	33,000	27,000	30,000	33,000	1.50
	59.20	0.812	SC76	29,700	33,000	36,300	29,700	33,000	36,300	29,700	33,000	36,300	29,700	33,000	36,300	1.50
7-5/8* *193,67**	61.50	0.850	SC75	29,700	33,000	36,300	29,700	33,000	36,300	29,700	33,000	36,300	29,700	33,000	36,300	1.70
10-1/2* *266,70**	96.00	0.940	SC80	48,600	54,000	59,400	48,600	54,000	59,400	48,600	54,000	59,400	48,600	54,000	59,400	2.10
10-3/4 *273,05*	71.10	0.650	SC90	38,700	43,000	47,300	38,700	43,000	47,300	38,700	43,000	47,300	38,700	43,000	47,300	1.30
	73.20	0.672	SC90	38,700	43,000	47,300	38,700	43,000	47,300	38,700	43,000	47,300	38,700	43,000	47,300	1.30
	79.20	0.734	SC84	40,600	45,000	49,400	40,600	45,000	49,400	40,600	45,000	49,400	40,600	45,000	49,400	1.30
	85.30	0.797	SC73	41,400	46,000	50,600	41,400	46,000	50,600	41,400	46,000	50,600	41,400	46,000	50,600	1.30
	100.40	0.960	SC80	45,000	50,000	55,000	45,000	50,000	55,000	45,000	50,000	55,000	45,000	50,000	55,000	1.90

(*) This product is regular design threaded on a slightly oversized pipe (above 1%) to accommodate a special drift.
There is no compatibility between weights for VAM HP
For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

VAM® HP

FIELD-END MAKE-UP TORQUE VALUES

OD 10-3/4" - 12-1/4"

Size (OD)	Nominal Weight	Wall Thickness	Option SC	MAKE-UP TORQUE 80 ksi ft.lb			MAKE-UP TORQUE 95 ksi ft.lb			MAKE-UP TORQUE 110 ksi ft.lb			MAKE-UP TORQUE 125 ksi ft.lb			Min. Dope Volume
in *mm*	lb/ft	in		Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	in³
10-3/4 *273,05*	104.30	1.000	SC70				48,600	54,000	59,400	48,600	54,000	59,400	48,600	54,000	59,400	2.10
	110.20	1.050	SC80	48,600	54,000	59,400	48,600	54,000	59,400	48,600	54,000	59,400	48,600	54,000	59,400	2.10
10-7/8 *276,22*	72.00	0.656	Regular				41,400	46,000	50,600	41,400	46,000	50,600	41,400	46,000	50,600	1.30
12-1/4 *311,15*	134.25	1.125	SC90							67,500	75,000	82,500	67,500	75,000	82,500	2.60

There is no compatibility between weights for VAM HP

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

VAM TOP ®

TECHNICAL TABLE

OD 2-3/8'' - 2-7/8''

PIPE					CONNECTION PROPERTIES					CONNECTION PERFORMANCES					
Size (OD)	Nominal Weight	Wall Thickness		Drift	Design	Inside Diameter	Outside Diameter	Coupling Length	Make-up Loss	Tensile Efficiency With Sealability	Compression Efficiency With Sealability	Joint Yield Strength x1000 lb			
in *mm*	lb/ft	in	*mm*	in		in	in	in	in	% Pipe Body	% Pipe Body	80 ksi	95 ksi	110 ksi	125 ksi
2-3/8 60,32	4.60	0.190	*4,83*	1.910 S	Regular	1.957	2.677	5.910	2.444	100	100	104	124	143	163
	5.10	0.218	*5,54*	1.845	Regular	1.913	2.719	5.910	2.444	100	100	118	140	162	185
	5.80	0.254	*6,45*	1.773	Regular	1.827	2.747	6.770	2.891	100	100	135	161	186	212
	6.30	0.280	*7,11*	1.721	Regular	1.783	2.782	6.770	2.891	100	100	147	175	203	230
	6.60	0.295	*7,49*	1.691	Regular	1.760	2.802	6.770	2.891	100	100	154	183	212	241
	7.35	0.336	*8,53*	1.609	Regular	1.693	2.853	6.770	2.891	100	100	172	204	237	269
2-7/8 73,02	6.40	0.217	*5,51*	2.347	Regular	2.409	3.223	6.020	2.518	100	100	145	172	199	227
	7.80	0.276	*7,01*	2.229	Regular	2.271	3.275	7.360	3.179	100	100	180	214	248	282
	8.60	0.308	*7,82*	2.165	Regular	2.220	3.321	7.360	3.179	100	100	199	236	273	311
	9.35	0.340	*8,64*	2.101	Regular	2.169	3.364	7.360	3.179	100	100	217	257	298	339

Drift values: A = Alternate Drift, S = Special Drift

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

TECHNICAL TABLE

OD 2-7/8'' - 3-1/2''

PIPE					CONNECTION PROPERTIES					CONNECTION PERFORMANCES					
Size (OD)	Nominal Weight	Wall Thickness		Drift	Design	Inside Diameter	Outside Diameter	Coupling Length	Make-up Loss	Tensile Efficiency With Sealability	Compression Efficiency With Sealability	Joint Yield Strength x1000 lb			
in *mm*	lb/ft	in	*mm*	in		in	in	in	in	% Pipe Body	% Pipe Body	80 ksi	95 ksi	110 ksi	125 ksi
2-7/8 *73,02*	9.80	0.362	*9,19*	2.057	Regular	2.133	3.393	7.360	3.179	100	100	229	272	314	357
	10.50	0.392	*9,96*	1.997	Regular	2.086	3.431	7.360	3.179	100	100	245	291	336	382
	10.70	0.405	*10,29*	1.971	Regular	2.066	3.447	7.360	3.179	100	100	251	299	346	393
	11.50	0.440	*11,18*	1.901	Regular	1.987	3.470	8.110	3.557	100	100	269	320	370	421
3-1/2 *88,90*	6.50	0.170	*4,32*	3.035	Regular	3.104	3.771	7.050	3.032	100	100	142	169	196	222
	7.70	0.216	*5,49*	2.943	Regular	3.022	3.847	7.050	3.032	100	100	178	212	245	279
	9.20	0.254	*6,45*	2.900 S	Regular	2.959	3.908	7.050	3.032	100	100	207	246	285	324
	10.20	0.289	*7,34*	2.797	Regular	2.894	3.962	7.050	3.032	100	100	233	277	321	364
	12.70	0.375	*9,52*	2.625	Regular	2.707	4.044	8.620	3.819	100	100	295	350	405	460
	13.70	0.413	*10,49*	2.549	Regular	2.648	4.095	8.620	3.819	100	100	320	380	441	501

Drift values: A = Alternate Drift, S = Special Drift

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

VAM TOP ®

TECHNICAL TABLE

OD 3-1/2'' - 4''

PIPE					CONNECTION PROPERTIES					CONNECTION PERFORMANCES					
Size (OD)	Nominal Weight	Wall Thickness		Drift	Design	Inside Diameter	Outside Diameter	Coupling Length	Make-up Loss	Tensile Efficiency With Sealability	Compression Efficiency With Sealability	Joint Yield Strength x1000 lb			
in *mm*	lb/ft	in	*mm*	in		in	in	in	in	% Pipe Body	% Pipe Body	80 ksi	95 ksi	110 ksi	125 ksi
3-1/2 *88,90*	14.30	0.430	*10,92*	2.515	Regular	2.620	4.118	8.620	3.819	100	100	332	394	456	518
	14.70	0.449	*11,40*	2.477	Regular	2.589	4.143	8.620	3.819	100	100	344	409	473	538
	15.50	0.476	*12,09*	2.423	Regular	2.518	4.154	9.530	4.260	100	100	362	430	497	565
	16.70	0.510	*12,95*	2.355	Regular	2.467	4.196	9.530	4.260	100	100	383	455	527	599
	18.35	0.575	*14,60*	2.225	Regular	2.368	4.272	9.530	4.260	100	100	423	502	581	661
4 *101,60*	8.20	0.190	*4,83*	3.495	Regular	3.567	4.300	7.320	3.159	100	100	182	216	250	284
	9.50	0.226	*5,74*	3.423	Regular	3.500	4.362	7.320	3.159	100	100	214	255	295	335
	10.90	0.262	*6,65*	3.351	Regular	3.437	4.420	7.320	3.159	100	100	246	292	338	385
	11.60	0.286	*7,26*	3.303	Regular	3.398	4.458	7.320	3.159	100	100	267	317	367	417
	13.20	0.330	*8,38*	3.215	Regular	3.327	4.526	7.320	3.159	100	100	304	361	419	476

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

TECHNICAL TABLE

OD 4'' - 4-1/2"

PIPE					CONNECTION PROPERTIES					CONNECTION PERFORMANCES					
Size (OD)	Nominal Weight	Wall Thickness		Drift	Design	Inside Diameter	Outside Diameter	Coupling Length	Make-up Loss	Tensile Efficiency With Sealability	Compression Efficiency With Sealability	Joint Yield Strength x1000 lb			
in *mm*	lb/ft	in	*mm*	in		in	in	in	in	% Pipe Body	% Pipe Body	80 ksi	95 ksi	110 ksi	125 ksi
4 *101,60*	14.80	0.380	*9,65*	3.115	Regular	3.189	4.552	9.090	4.041	100	100	346	411	475	540
	16.10	0.415	*10,54*	3.045	Regular	3.130	4.602	9.090	4.041	100	100	374	444	514	584
	16.50	0.430	*10,92*	3.015	Regular	3.106	4.623	9.090	4.041	100	100	386	458	531	603
	18.90	0.500	*12,70*	2.875	Regular	2.969	4.691	10.080	4.545	100	100	440	522	605	687
	22.20	0.610	*15,49*	2.655	Regular	2.799	4.827	10.080	4.545	100	100	520	617	715	812
4-1/2 *114,30*	10.50	0.224	*5,69*	3.950 S	Regular	3.999	4.859	7.440	3.221	100	100	241	286	331	376
	11.60	0.250	*6,35*	3.880 S	Regular	3.952	4.903	7.440	3.221	100	100	267	317	367	417
	12.60	0.271	*6,88*	3.880 S	Regular	3.913	4.937	7.440	3.221	100	100	288	342	396	450
	13.50	0.290	*7,37*	3.845 S	Regular	3.877	4.968	7.440	3.221	100	100	307	364	422	480
	15.10	0.337	*8,56*	3.750 S	Regular	3.798	5.042	7.440	3.221	100	100	353	419	485	551

Drift values: A = Alternate Drift, S = Special Drift
Warning: 4-1/2"; VAM TOP ® HC and VAM TOP ® HT are not compatible with VAM TOP ® regular design (Tubing)
For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

VAM TOP ®

TECHNICAL TABLE

OD 4-1/2''

PIPE					CONNECTION PROPERTIES					CONNECTION PERFORMANCES					
Size (OD)	Nominal Weight	Wall Thickness		Drift	Design	Inside Diameter	Outside Diameter	Coupling Length	Make-up Loss	Tensile Efficiency With Sealability	Compression Efficiency With Sealability	Joint Yield Strength x1000 lb			
in *mm*	lb/ft	in	*mm*	in		in	in	in	in	% Pipe Body	% Pipe Body	80 ksi	95 ksi	110 ksi	125 ksi
4-1/2 *114,30*	17.00	0.380	*9,65*	3.615	Regular	3.680	5.063	9.090	4.041	100	100	393	467	541	615
	17.70	0.402	*10,21*	3.571	Regular	3.641	5.096	9.090	4.041	100	100	414	492	569	647
	18.90	0.430	*10,92*	3.540 S	Regular	3.586	5.137	9.090	4.041	100	100	440	522	605	687
	21.50	0.500	*12,70*	3.375	Regular	3.444	5.209	10.080	4.545	100	100	503	597	691	785
	23.70	0.560	*14,22*	3.255	Regular	3.350	5.289	10.080	4.545	100	100	555	659	763	867

Drift values: A = Alternate Drift, S = Special Drift
Warning: 4-1/2"; VAM TOP ® HC and VAM TOP ® HT are not compatible with VAM TOP ® regular design (Tubing)
For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

TECHNICAL TABLE

OD 5'' - 5-1/2''

PIPE					CONNECTION PROPERTIES					CONNECTION PERFORMANCES					
Size (OD)	Nominal Weight	Wall Thickness		Drift	Design	Inside Diameter	Outside Diameter	Coupling Length	Make-up Loss	Tensile Efficiency	Compression Efficiency	Joint Yield Strength x1000 lb			
in *mm*	lb/ft	in	*mm*	in		in	in	in	in	% Pipe Body	% Pipe Body	80 ksi	95 ksi	110 ksi	125 ksi
5 *127,00*	13.00	0.253	*6,43*	4.369	Regular	4.438	5.400	10.390	4.190	100	60	302	358	415	472
	15.00	0.296	*7,52*	4.283	Regular	4.391	5.471	10.390	4.190	100	60	350	416	481	547
	18.00	0.362	*9,19*	4.151	Regular	4.391	5.577	10.390	4.190	100	60	422	501	580	659
	20.30	0.408	*10,36*	4.059	Regular	4.307	5.648	10.390	4.190	100	60	471	559	647	736
	20.80	0.422	*10,72*	4.031	Regular	4.283	5.670	10.390	4.190	100	60	486	577	668	759
	21.40	0.437	*11,10*	4.001	Regular	4.255	5.691	10.390	4.190	100	60	501	595	689	783
	23.20	0.478	*12,14*	3.919	Regular	4.181	5.751	10.390	4.190	100	60	543	645	747	849
	24.10	0.500	*12,70*	3.875	Regular	4.141	5.782	10.390	4.190	100	60	566	672	778	884
5-1/2 *139,70*	14.00	0.244	*6,20*	4.887	Regular	4.931	5.876	10.750	4.382	100	60	322	383	443	504
	15.50	0.275	*6,99*	4.825	Regular	4.895	5.930	10.750	4.382	100	60	361	429	497	564

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

VAM TOP ®

TECHNICAL TABLE

OD 5-1/2'' - 5-3/4''

PIPE					CONNECTION PROPERTIES					CONNECTION PERFORMANCES					
Size (OD)	Nominal Weight	Wall Thickness		Drift	Design	Inside Diameter	Outside Diameter	Coupling Length	Make-up Loss	Tensile Efficiency	Compression Efficiency	Joint Yield Strength x1000 lb			
in *mm*	lb/ft	in	*mm*	in		in	in	in	in	% Pipe Body	% Pipe Body	80 ksi	95 ksi	110 ksi	125 ksi
5-1/2 *139,70*	17.00	0.304	*7,72*	4.767	Regular	4.895	5.979	10.750	4.382	100	60	397	471	546	620
	20.00	0.361	*9,17*	4.653	Regular	4.895	6.071	10.750	4.382	100	60	466	554	641	729
	23.00	0.415	*10,54*	4.545	Regular	4.801	6.156	10.750	4.382	100	60	530	630	729	829
	26.00	0.476	*12,09*	4.423	Regular	4.690	6.249	10.750	4.382	100	60	601	714	826	939
	26.80	0.500	*12,70*	4.375	Regular	4.647	6.284	10.750	4.382	100	60	628	746	864	982
	28.40	0.530	*13,46*	4.315	Regular	4.594	6.327	10.750	4.382	100	60	662	786	910	1,034
	29.70	0.562	*14,27*	4.251	Regular	4.535	6.373	10.750	4.382	100	60	697	828	959	1,090
5-3/4 *146,05*	18.10	0.304	*7,72*	5.017	Regular	5.173	6.264	9.530	3.772	100	60	416	494	572	650
	19.70	0.335	*8,51*	4.955	Regular	5.137	6.317	9.530	3.772	100	60	456	541	627	712
	21.80	0.375	*9,52*	4.875	Regular	5.090	6.382	9.530	3.772	100	60	507	602	697	792

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

TECHNICAL TABLE

OD 6-5/8'' - 7''

PIPE					CONNECTION PROPERTIES					CONNECTION PERFORMANCES					
Size (OD)	Nominal Weight	Wall Thickness		Drift	Design	Inside Diameter	Outside Diameter	Coupling Length	Make-up Loss	Tensile Efficiency	Compression Efficiency	Joint Yield Strength x1000 lb			
in *mm*	lb/ft	in	*mm*	in		in	in	in	in	% Pipe Body	% Pipe Body	80 ksi	95 ksi	110 ksi	125 ksi
6-5/8 *168,27*	20.00	0.288	*7,32*	5.924	Regular	6.049	7.081	10.870	4.427	100	60	459	545	631	717
	23.20	0.330	*8,38*	5.840	Regular	6.049	7.154	10.870	4.427	100	60	522	620	718	816
	24.00	0.352	*8,94*	5.796	Regular	6.049	7.191	10.870	4.427	100	60	555	659	763	867
	28.00	0.417	*10,59*	5.666	Regular	5.931	7.298	10.870	4.427	100	60	651	773	895	1,017
	32.00	0.475	*12,06*	5.550	Regular	5.824	7.390	10.870	4.427	100	60	734	872	1,009	1,147
	36.70	0.562	*14,27*	5.376	Regular	5.669	7.524	10.870	4.427	100	60	856	1,017	1,178	1,338
7 *177,80*	23.00	0.317	*8,05*	6.250 A	Regular	6.324	7.489	11.540	4.775	100	60	532	632	732	832
	26.00	0.362	*9,19*	6.151	Regular	6.324	7.565	11.540	4.775	100	60	604	717	830	944
	29.00	0.408	*10,36*	6.059	Regular	6.324	7.644	11.540	4.775	100	60	676	803	929	1,056
	32.00	0.453	*11,51*	6.000 A	Regular	6.242	7.717	11.540	4.775	100	60	745	885	1,025	1,165

Drift values: A = Alternate Drift, S = Special Drift

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

VAM TOP ®

TECHNICAL TABLE

OD 7'' - 7-5/8''

PIPE					CONNECTION PROPERTIES					CONNECTION PERFORMANCES					
Size (OD)	Nominal Weight	Wall Thickness		Drift	Design	Inside Diameter	Outside Diameter	Coupling Length	Make-up Loss	Tensile Efficiency	Compression Efficiency	Joint Yield Strength x1000 lb			
in *mm*	lb/ft	in	*mm*	in		in	in	in	in	% Pipe Body	% Pipe Body	80 ksi	95 ksi	110 ksi	125 ksi
7 *177,80*	35.00	0.498	*12,65*	5.879	Regular	6.161	7.788	11.540	4.775	100	60	814	966	1,119	1,272
	38.00	0.540	*13,72*	5.795	Regular	6.086	7.853	11.540	4.775	100	60	877	1,041	1,205	1,370
	41.00	0.590	*14,99*	5.695	Regular	5.996	7.930	11.540	4.775	100	60	950	1,129	1,307	1,485
	42.70	0.625	*15,88*	5.625	Regular	5.933	7.981	11.540	4.775	100	60	1,001	1,189	1,377	1,565
7-5/8 *193,67*	26.40	0.328	*8,33*	6.844	Regular	6.919	8.132	11.730	4.868	100	60	602	714	827	940
	29.70	0.375	*9,52*	6.750	Regular	6.919	8.213	11.730	4.868	100	60	683	811	940	1,068
	33.70	0.430	*10,92*	6.640	Regular	6.919	8.306	11.730	4.868	100	60	778	923	1,069	1,215
	35.80	0.465	*11,81*	6.570	Regular	6.856	8.363	11.730	4.868	100	60	837	994	1,151	1,308
	39.00	0.500	*12,70*	6.500	Regular	6.793	8.420	11.730	4.868	100	60	895	1,063	1,231	1,399
	42.80	0.562	*14,27*	6.376	Regular	6.683	8.518	11.730	4.868	100	60	998	1,185	1,372	1,559

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

TECHNICAL TABLE

OD 7-5/8'' - 9-5/8''

PIPE					CONNECTION PROPERTIES					CONNECTION PERFORMANCES					
Size (OD)	Nominal Weight	Wall Thickness		Drift	Design	Inside Diameter	Outside Diameter	Coupling Length	Make-up Loss	Tensile Efficiency	Compression Efficiency	Joint Yield Strength x1000 lb			
in *mm*	lb/ft	in	*mm*	in		in	in	in	in	% Pipe Body	% Pipe Body	80 ksi	95 ksi	110 ksi	125 ksi
7-5/8 *193,67*	45.30	0.595	*15,11*	6.310	Regular	6.622	8.569	11.730	4.868	100	60	1,051	1,248	1,446	1,643
	47.10	0.625	*15,88*	6.250	Regular	6.566	8.615	11.730	4.868	100	60	1,100	1,306	1,512	1,718
7-3/4 *196,85*	46.10	0.595	*15,11*	6.500 A	Regular	6.750	8.693	11.850	4.915	100	60	1,070	1,271	1,471	1,672
8-5/8 *219,07*	36.00	0.400	*10,16*	7.700	Regular	7.980	9.266	13.190	5.603	100	60	827	982	1,137	1,292
	40.00	0.450	*11,43*	7.625 A	Regular	7.889	9.351	13.190	5.603	100	60	925	1,098	1,271	1,445
	44.00	0.500	*12,70*	7.500	Regular	7.799	9.434	13.190	5.603	100	60	1,021	1,212	1,404	1,595
	49.00	0.557	*14,15*	7.386	Regular	7.696	9.526	13.190	5.603	100	60	1,129	1,341	1,553	1,765
	52.00	0.595	*15,11*	7.310	Regular	7.629	9.587	13.190	5.603	100	60	1,201	1,426	1,651	1,876
9-5/8 *244,47*	36.00	0.352	*8,94*	8.765	Regular	8.998	10.188	13.190	5.589	100	60	820	974	1,128	1,282
	40.00	0.395	*10,03*	8.750 A	Regular	8.998	10.264	13.190	5.589	100	60	916	1,088	1,260	1,432

Drift values: A = Alternate Drift, S = Special Drift

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

VAM TOP ®

TECHNICAL TABLE

OD 9-5/8'' - 9-7/8''

PIPE					CONNECTION PROPERTIES					CONNECTION PERFORMANCES					
Size (OD)	Nominal Weight	Wall Thickness		Drift	Design	Inside Diameter	Outside Diameter	Coupling Length	Make-up Loss	Tensile Efficiency	Compression Efficiency	Joint Yield Strength x1000 lb			
in *mm*	lb/ft	in	*mm*	in		in	in	in	in	% Pipe Body	% Pipe Body	80 ksi	95 ksi	110 ksi	125 ksi
9-5/8 *244,47*	43.50	0.435	*11,05*	8.599	KS	8.765	10.333	13.190	5.589	100	80	1,005	1,193	1,381	1,570
	43.50	0.435	*11,05*	8.599	Regular	8.925	10.333	13.190	5.589	100	60	1,005	1,193	1,381	1,570
	47.00	0.472	*11,99*	8.525	KS	8.690	10.396	13.190	5.589	100	80	1,086	1,289	1,493	1,697
	47.00	0.472	*11,99*	8.525	Regular	8.858	10.396	13.190	5.589	100	60	1,086	1,289	1,493	1,697
	53.50	0.545	*13,84*	8.500 A	KS	8.545	10.520	13.190	5.589	100	80	1,244	1,477	1,710	1,943
	53.50	0.545	*13,84*	8.500 A	Regular	8.726	10.520	13.190	5.589	100	60	1,244	1,477	1,710	1,943
	58.40	0.595	*15,11*	8.375 A	Regular	8.637	10.601	13.190	5.589	100	60	1,350	1,604	1,857	2,110
9-7/8 *250,82*	62.80	0.625	*15,88*	8.500 S	Regular	8.834	10.908	12.950	5.484	100	60			1,998	2,270
	68.90	0.700	*17,78*	8.319	Regular	8.700	11.028	12.950	5.484	100	60	1,614	1,917	2,219	2,522
	70.50	0.720	*18,29*	8.279	Regular	8.663	11.060	12.950	5.484	100	60	1,657	1,967	2,278	2,589

Drift values: A = Alternate Drift, S = Special Drift

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

TECHNICAL TABLE

OD 9-7/8'' - 10-3/4"

PIPE					CONNECTION PROPERTIES					CONNECTION PERFORMANCES					
Size (OD)	Nominal Weight	Wall Thickness		Drift	Design	Inside Diameter	Outside Diameter	Coupling Length	Make-up Loss	Tensile Efficiency	Compression Efficiency	Joint Yield Strength x1000 lb			
in *mm*	lb/ft	in	*mm*	in		in	in	in	in	% Pipe Body	% Pipe Body	80 ksi	95 ksi	110 ksi	125 ksi
9-7/8 *250,82*	72.00	0.725	*18,41*	8.269	Regular	8.655	11.067	12.950	5.484	100	60	1,667	1,980	2,293	2,605
10 *254,00*	67.20	0.672	*17,07*	8.500	Regular	8.866	11.117	12.950	5.484	100	60	1,575	1,871	2,166	2,462
	71.80	0.722	*18,34*	8.400	Regular	8.777	11.195	12.950	5.484	100	60	1,684	1,999	2,315	2,631
10-3/4 *273,05*	45.50	0.400	*10,16*	9.875 A	Regular	10.122	11.400	13.270	5.634	100	60	1,040	1,236	1,431	1,626
	51.00	0.450	*11,43*	9.694	Regular	10.031	11.489	13.270	5.634	100	60	1,165	1,383	1,602	1,820
	55.50	0.495	*12,57*	9.625 A	KS	9.771	11.565	13.270	5.634	100	80	1,276	1,515	1,754	1,993
	55.50	0.495	*12,57*	9.625 A	Regular	9.950	11.565	13.270	5.634	100	60	1,276	1,515	1,754	1,993
	60.70	0.545	*13,84*	9.504	KS	9.669	11.652	13.270	5.634	100	80	1,398	1,660	1,922	2,184
	60.70	0.545	*13,84*	9.504	Regular	9.862	11.652	13.270	5.634	100	60	1,398	1,660	1,922	2,184
	65.70	0.595	*15,11*	9.500 S	KS	9.570	11.735	13.270	5.634	100	80	1,519	1,803	2,088	2,373

Drift values: A = Alternate Drift, S = Special Drift

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

VAM TOP ®

TECHNICAL TABLE

OD 10-3/4'' - 13-3/8''

PIPE					CONNECTION PROPERTIES					CONNECTION PERFORMANCES					
Size (OD)	Nominal Weight	Wall Thickness		Drift	Design	Inside Diameter	Outside Diameter	Coupling Length	Make-up Loss	Tensile Efficiency	Compression Efficiency	Joint Yield Strength x1000 lb			
in *mm*	lb/ft	in	*mm*	in		in	in	in	in	% Pipe Body	% Pipe Body	80 ksi	95 ksi	110 ksi	125 ksi
10-3/4 *273,05*	65.70	0.595	*15,11*	9.404	Regular	9.771	11.735	13.270	5.634	100	60	1,519	1,803	2,088	2,373
	71.10	0.650	*16,51*	9.375 S	KS	9.476	11.825	13.270	5.634	100	80	1,650	1,959	2,269	2,578
	71.10	0.650	*16,51*	9.294	Regular	9.671	11.825	13.270	5.634	100	60	1,650	1,959	2,269	2,578
	73.20	0.672	*17,07*	9.250	Regular	9.631	11.863	13.270	5.634	100	60	1,702	2,021	2,340	2,660
11-3/4 *298,45*	54.00	0.435	*11,05*	10.724	Regular	11.066	12.463	13.430	5.712	100	60	1,237	1,469	1,701	1,933
	60.00	0.489	*12,42*	10.625 A	Regular	10.970	12.558	13.430	5.712	100	60	1,384	1,644	1,903	2,163
	65.00	0.534	*13,56*	10.625 A	Regular	10.889	12.636	13.430	5.712	100	60	1,505	1,788	2,070	2,352
	71.00	0.582	*14,78*	10.430	Regular	10.803	12.719	13.430	5.712	100	60	1,634	1,940	2,246	2,553
11-7/8 *301,63*	67.80	0.550	*13,97*	10.619	Regular	10.986	12.788	13.430	5.712	100	60	1,565	1,859	2,152	2,446
13-3/8 *339,72*	54.50	0.380	*9,65*	12.459	Regular	12.561	13.995	13.390	5.698	100	60	1,241	1,474	1,706	1,939

Drift values: A = Alternate Drift, S = Special Drift

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

TECHNICAL TABLE

OD 13-3/8" - 14''

PIPE					CONNECTION PROPERTIES					CONNECTION PERFORMANCES					
Size (OD)	Nominal Weight	Wall Thickness		Drift	Design	Inside Diameter	Outside Diameter	Coupling Length	Make-up Loss	Tensile Efficiency	Compression Efficiency	Joint Yield Strength x1000 lb			
in *mm*	lb/ft	in	*mm*	in		in	in	in	in	% Pipe Body	% Pipe Body	80 ksi	95 ksi	110 ksi	125 ksi
13-3/8 *339,72*	61.00	0.430	*10,92*	12.359	Regular	12.714	14.085	13.390	5.698	100	60	1,399	1,661	1,924	2,186
	68.00	0.480	*12,19*	12.259	Regular	12.624	14.176	13.390	5.698	100	60	1,556	1,847	2,139	2,431
	72.00	0.514	*13,06*	12.250 A	Regular	12.562	14.237	13.390	5.698	100	60	1,661	1,973	2,284	2,596
	77.00	0.550	*13,97*	12.119	Regular	12.498	14.300	13.390	5.698	100	60	1,773	2,105	2,438	2,770
	80.70	0.580	*14,73*	12.059	Regular	12.442	14.351	13.390	5.698	100	60	1,865	2,215	2,565	2,914
	85.00	0.608	*15,44*	12.003	Regular	12.393	14.400	13.390	5.698	100	60	1,951	2,317	2,682	3,048
13-5/8 *346,07*	88.20	0.625	*15,88*	12.250 S	Regular	12.614	14.682	13.390	5.698	100	60	2,042	2,425	2,808	3,191
14 *355,60*	82.50	0.562	*14,27*	12.689	KB	13.096	14.882	15.910	6.945	100	60	1,898	2,254	2,610	2,966
	86.00	0.600	*15,24*	12.613	KB	13.027	14.947	15.910	6.945	100	60	2,021	2,400	2,778	3,157
	93.00	0.650	*16,51*	12.513	KB	12.937	15.034	15.910	6.945	100	60	2,181	2,590	2,999	3,408

Drift values: A = Alternate Drift, S = Special Drift

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

VAM TOP ®

TECHNICAL TABLE

OD 14" - 16''

PIPE					CONNECTION PROPERTIES					CONNECTION PERFORMANCES					
Size (OD)	Nominal Weight	Wall Thickness		Drift	Design	Inside Diameter	Outside Diameter	Coupling Length	Make-up Loss	Tensile Efficiency	Compression Efficiency	Joint Yield Strength x1000 lb			
in *mm*	lb/ft	in	*mm*	in		in	in	in	in	% Pipe Body	% Pipe Body	80 ksi	95 ksi	110 ksi	125 ksi
14 *355,60*	96.90	0.670	*17,02*	12.473	KB	12.899	15.069	15.910	6.945	100	60	2,245	2,666	3,086	3,507
	100.00	0.700	*17,78*	12.413	KB	12.846	15.121	15.910	6.945	100	60	2,340	2,779	3,217	3,656
	106.00	0.750	*19,05*	12.313	KB	12.757	15.205	15.910	6.945	100	60	2,498	2,966	3,434	3,903
	114.00	0.800	*20,32*	12.250 S	KB	12.667	15.282	15.910	6.945	100	60	2,654	3,152	3,649	4,147
15 *381,00*	92.50	0.580	*14,73*	13.653	KA	14.076	15.995	13.070	5.528	100	60	2,102	2,496	2,890	3,284
16 *406,40*	84.00	0.495	*12,57*	14.823	ND	15.233	16.863	12.520	5.252	100	60	1,929	2,291	2,652	3,014
	95.00	0.566	*14,38*	14.681	ND	15.107	16.993	12.520	5.252	100	60	2,196	2,607	3,019	3,431
	109.00	0.656	*16,66*	14.501	NE	14.946	17.109	14.090	6.040	100	60	2,530	3,004		

Drift values: A = Alternate Drift, S = Special Drift

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

VAM TOP ®

FIELD-END MAKE-UP TORQUE VALUES

OD 2-3/8'' - 2-7/8''

Size (OD)	Nominal Weight	Wall Thickness	Design	MAKE-UP TORQUE 80 ksi ft.lb			MAKE-UP TORQUE 95 ksi ft.lb			MAKE-UP TORQUE 110 ksi ft.lb			MAKE-UP TORQUE 125 ksi ft.lb			Min. Dope Volume
in *mm*	lb/ft	in		Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	in³
2-3/8 *60,32*	4.60	0.190	Regular	1,110	1,160	1,210	1,170	1,290	1,410	1,240	1,370	1,500	1,310	1,450	1,590	0.10
	5.10	0.218	Regular	1,360	1,430	1,500	1,430	1,580	1,730	1,520	1,680	1,840	1,560	1,730	1,900	0.10
	5.80	0.254	Regular	1,680	1,760	1,840	1,800	1,990	2,180	1,950	2,160	2,370	2,050	2,270	2,490	0.20
	6.30	0.280	Regular	1,940	2,040	2,140	2,070	2,290	2,510	2,230	2,470	2,710	2,340	2,600	2,860	0.20
	6.60	0.295	Regular	2,090	2,190	2,290	2,210	2,450	2,690	2,390	2,650	2,910	2,520	2,790	3,060	0.20
	7.35	0.336	Regular	2,490	2,620	2,750	2,640	2,930	3,220	2,840	3,150	3,460	2,980	3,310	3,640	0.20
2-7/8 *73,02*	6.40	0.217	Regular	1,670	1,850	2,030	1,800	1,990	2,180	1,860	2,060	2,260	1,920	2,130	2,340	0.20
	7.80	0.276	Regular	2,360	2,620	2,880	2,670	2,960	3,250	2,830	3,140	3,450	3,000	3,330	3,660	0.20
	8.60	0.308	Regular	2,750	3,050	3,350	3,090	3,430	3,770	3,290	3,650	4,010	3,480	3,860	4,240	0.20
	9.35	0.340	Regular	3,150	3,490	3,830	3,520	3,910	4,300	3,740	4,150	4,560	3,960	4,390	4,820	0.20

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

VAM TOP ®

FIELD-END MAKE-UP TORQUE VALUES

OD 2-7/8'' - 3-1/2''

Size (OD)	Nominal Weight	Wall Thickness	Design	MAKE-UP TORQUE 80 ksi ft.lb			MAKE-UP TORQUE 95 ksi ft.lb			MAKE-UP TORQUE 110 ksi ft.lb			MAKE-UP TORQUE 125 ksi ft.lb			Min. Dope Volume
in *mm*	lb/ft	in		Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	in³
2-7/8 *73,02*	9.80	0.362	Regular	3,420	3,800	4,180	3,830	4,250	4,670	4,060	4,510	4,960	4,290	4,760	5,230	0.20
	10.50	0.392	Regular	3,780	4,190	4,600	4,240	4,710	5,180	4,500	4,990	5,480	4,750	5,270	5,790	0.20
	10.70	0.405	Regular	3,900	4,330	4,760	4,410	4,900	5,390	4,680	5,190	5,700	4,940	5,480	6,020	0.20
	11.50	0.440	Regular	4,200	4,660	5,120	4,790	5,320	5,850	5,290	5,870	6,450	5,580	6,190	6,800	0.30
3-1/2 *88,90*	6.50	0.170	Regular	1,380	1,530	1,680	1,440	1,590	1,740	1,500	1,660	1,820	1,540	1,710	1,880	0.20
	7.70	0.216	Regular	2,040	2,260	2,480	2,130	2,360	2,590	2,220	2,460	2,700	2,350	2,610	2,870	0.20
	9.20	0.254	Regular	2,610	2,900	3,190	2,720	3,020	3,320	2,860	3,170	3,480	3,030	3,360	3,690	0.20
	10.20	0.289	Regular	3,200	3,550	3,900	3,330	3,700	4,070	3,500	3,880	4,260	3,710	4,120	4,530	0.20
	12.70	0.375	Regular	4,950	5,500	6,050	5,310	5,890	6,470	5,510	6,120	6,730	5,680	6,310	6,940	0.40
	13.70	0.413	Regular	5,610	6,230	6,850	6,020	6,680	7,340	6,230	6,920	7,610	6,440	7,150	7,860	0.40

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

VAM TOP ®

FIELD-END MAKE-UP TORQUE VALUES

OD 3-1/2'' - 4''

Size (OD)	Nominal Weight	Wall Thickness	Design	MAKE-UP TORQUE 80 ksi ft.lb			MAKE-UP TORQUE 95 ksi ft.lb			MAKE-UP TORQUE 110 ksi ft.lb			MAKE-UP TORQUE 125 ksi ft.lb			Min. Dope Volume
in *mm*	lb/ft	in		Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	in³
3-1/2 *88,90*	14.30	0.430	Regular	5,900	6,550	7,200	6,340	7,040	7,740	6,570	7,300	8,030	6,790	7,540	8,290	0.40
	14.70	0.449	Regular	6,210	6,890	7,570	6,690	7,430	8,170	6,930	7,700	8,470	7,170	7,960	8,750	0.40
	15.50	0.476	Regular	6,670	7,410	8,150	7,310	8,120	8,930	7,790	8,650	9,510	8,060	8,950	9,840	0.40
	16.70	0.510	Regular	7,160	7,950	8,740	7,880	8,750	9,620	8,420	9,350	10,280	8,690	9,650	10,610	0.40
	18.35	0.575	Regular	8,040	8,930	9,820	9,040	10,040	11,040	9,610	10,680	11,750	9,930	11,030	12,130	0.40
4 *101,60*	8.20	0.190	Regular	2,020	2,240	2,460	2,110	2,340	2,570	2,190	2,430	2,670	2,260	2,510	2,760	0.30
	9.50	0.226	Regular	2,660	2,950	3,240	2,780	3,080	3,380	2,950	3,270	3,590	3,140	3,480	3,820	0.30
	10.90	0.262	Regular	3,380	3,750	4,120	3,520	3,910	4,300	3,740	4,150	4,560	3,980	4,420	4,860	0.30
	11.60	0.286	Regular	3,850	4,280	4,710	4,010	4,460	4,910	4,260	4,730	5,200	4,530	5,030	5,530	0.30
	13.20	0.330	Regular	4,730	5,250	5,770	4,940	5,480	6,020	5,220	5,790	6,360	5,550	6,160	6,770	0.30

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

VAM TOP ®

FIELD-END MAKE-UP TORQUE VALUES

OD 4'' - 4-1/2''

Size (OD)	Nominal Weight	Wall Thickness	Design	MAKE-UP TORQUE 80 ksi ft.lb			MAKE-UP TORQUE 95 ksi ft.lb			MAKE-UP TORQUE 110 ksi ft.lb			MAKE-UP TORQUE 125 ksi ft.lb			Min. Dope Volume
in *mm*	lb/ft	in		Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	in³
4 *101,60*	14.80	0.380	Regular	6,250	6,940	7,630	6,530	7,250	7,970	6,770	7,520	8,270	7,000	7,770	8,540	0.40
	16.10	0.415	Regular	7,070	7,850	8,630	7,380	8,190	9,000	7,650	8,500	9,350	7,880	8,750	9,620	0.40
	16.50	0.430	Regular	7,400	8,220	9,040	7,740	8,600	9,460	8,010	8,900	9,790	8,280	9,200	10,120	0.40
	18.90	0.500	Regular	9,000	9,900	10,800	9,800	10,800	11,800	10,150	11,250	12,350	10,500	11,600	12,700	0.50
	22.20	0.610	Regular	11,000	12,200	13,400	12,300	13,600	14,900	13,100	14,500	15,900	13,550	14,950	16,350	0.50
4-1/2 *114,30*	10.50	0.224	Regular	2,890	3,210	3,530	3,150	3,490	3,830	3,390	3,760	4,130	3,620	4,020	4,420	0.40
	11.60	0.250	Regular	3,500	3,880	4,260	3,800	4,220	4,640	4,090	4,540	4,990	4,380	4,860	5,340	0.40
	12.60	0.271	Regular	4,000	4,440	4,880	4,340	4,820	5,300	4,680	5,200	5,720	5,010	5,560	6,110	0.40
	13.50	0.290	Regular	4,450	4,940	5,430	4,830	5,360	5,890	5,200	5,770	6,340	5,560	6,170	6,780	0.40
	15.10	0.337	Regular	5,550	6,160	6,770	6,010	6,670	7,330	6,460	7,170	7,880	6,890	7,650	8,410	0.40

Warning: 4-1/2"; VAM TOP ® HC and VAM TOP ® HT are not compatible with VAM TOP ® regular design (Tubing)
For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

FIELD-END MAKE-UP TORQUE VALUES

OD 4-1/2''

Size (OD)	Nominal Weight	Wall Thickness	Design	MAKE-UP TORQUE 80 ksi ft.lb			MAKE-UP TORQUE 95 ksi ft.lb			MAKE-UP TORQUE 110 ksi ft.lb			MAKE-UP TORQUE 125 ksi ft.lb			Min. Dope Volume
in *mm*	lb/ft	in		Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	in³
4-1/2 *114,30*	17.00	0.380	Regular	6,620	7,350	8,080	7,140	7,930	8,720	7,650	8,500	9,350	8,150	9,050	9,950	0.50
	17.70	0.402	Regular	7,190	7,980	8,770	7,740	8,600	9,460	8,280	9,200	10,120	8,900	9,800	10,700	0.50
	18.90	0.430	Regular	7,920	8,800	9,680	8,550	9,500	10,450	9,200	10,200	11,200	9,850	10,850	11,850	0.50
	21.50	0.500	Regular	9,950	11,050	12,150	10,400	11,500	12,600	11,150	12,350	13,550	11,800	13,100	14,400	0.50
	23.70	0.560	Regular	11,450	12,650	13,850	11,750	13,050	14,350	12,600	14,000	15,400	13,450	14,850	16,250	0.50

Warning: 4-1/2"; VAM TOP ® HC and VAM TOP ® HT are not compatible with VAM TOP ® regular design (Tubing)
For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

VAM TOP ®

FIELD-END MAKE-UP TORQUE VALUES

OD 5'' - 5-1/2''

Size (OD)	Nominal Weight	Wall Thickness	Design	MAKE-UP TORQUE 80 ksi ft.lb			MAKE-UP TORQUE 95 ksi ft.lb			MAKE-UP TORQUE 110 ksi ft.lb			MAKE-UP TORQUE 125 ksi ft.lb			Min. Dope Volume
in *mm*	lb/ft	in		Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	in³
5 *127,00*	13.00	0.253	Regular	3,710	4,120	4,530	4,230	4,700	5,170	4,560	5,060	5,560	5,220	5,790	6,360	0.90
	15.00	0.296	Regular	4,560	5,060	5,560	5,220	5,790	6,360	5,860	6,510	7,160	6,510	7,230	7,950	0.90
	18.00	0.362	Regular	5,220	5,790	6,360	5,540	6,150	6,760	6,190	6,870	7,550	6,840	7,590	8,340	0.90
	20.30	0.408	Regular	6,510	7,230	7,950	7,170	7,960	8,750	8,150	9,050	9,950	8,780	9,750	10,720	0.90
	20.80	0.422	Regular	7,170	7,960	8,750	7,830	8,700	9,570	8,780	9,750	10,720	9,500	10,500	11,500	0.90
	21.40	0.437	Regular	7,470	8,300	9,130	8,460	9,400	10,340	9,150	10,150	11,150	9,850	10,850	11,850	0.90
	23.20	0.478	Regular	8,780	9,750	10,720	9,500	10,500	11,500	10,850	11,950	13,050	12,100	13,400	14,700	0.90
	24.10	0.500	Regular	9,900	11,000	12,100	11,050	12,250	13,450	12,300	13,600	14,900	13,500	14,900	16,300	0.90
5-1/2 *139,70*	14.00	0.244	Regular	4,040	4,480	4,920	4,560	5,060	5,560	5,080	5,640	6,200	5,670	6,290	6,910	1.00
	15.50	0.275	Regular	4,560	5,060	5,560	5,220	5,790	6,360	5,860	6,510	7,160	6,510	7,230	7,950	1.00

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

VAM TOP ®

FIELD-END MAKE-UP TORQUE VALUES

OD 5-1/2'' - 5-3/4''

Size (OD)	Nominal Weight	Wall Thickness	Design	MAKE-UP TORQUE 80 ksi ft.lb			MAKE-UP TORQUE 95 ksi ft.lb			MAKE-UP TORQUE 110 ksi ft.lb			MAKE-UP TORQUE 125 ksi ft.lb			Min. Dope Volume
in *mm*	lb/ft	in		Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	in³
5-1/2 *139,70*	17.00	0.304	Regular	4,880	5,420	5,960	5,540	6,150	6,760	6,190	6,870	7,550	6,840	7,590	8,340	1.00
	20.00	0.361	Regular	5,860	6,510	7,160	6,510	7,230	7,950	6,840	7,590	8,340	7,470	8,300	9,130	1.00
	23.00	0.415	Regular	7,470	8,300	9,130	8,150	9,050	9,950	9,500	10,500	11,500	10,100	11,200	12,300	1.00
	26.00	0.476	Regular	9,850	10,850	11,850	10,850	11,950	13,050	12,450	13,750	15,050	13,700	15,200	16,700	1.00
	26.80	0.500	Regular	11,000	12,200	13,400	12,400	13,700	15,000	13,700	15,200	16,700	15,200	16,800	18,400	1.00
	28.40	0.530	Regular	12,200	13,500	14,800	13,650	15,150	16,650	15,250	16,850	18,450	16,800	18,600	20,400	1.00
	29.70	0.562	Regular	13,500	14,900	16,300	15,200	16,800	18,400	16,850	18,650	20,450	18,600	20,600	22,600	1.00
5-3/4 *146,05*	18.10	0.304	Regular	6,250	6,940	7,630	7,170	7,960	8,750	7,830	8,700	9,570	8,460	9,400	10,340	1.10
	19.70	0.335	Regular	6,430	7,150	7,860	7,290	8,100	8,910	8,170	9,080	9,980	9,040	10,050	11,050	1.10
	21.80	0.375	Regular	7,630	8,480	9,320	8,640	9,610	10,570	9,670	10,750	11,820	10,750	11,950	13,140	1.10

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

VAM TOP ®

FIELD-END MAKE-UP TORQUE VALUES

OD 6-5/8'' - 7''

Size (OD)	Nominal Weight	Wall Thickness	Design	MAKE-UP TORQUE 80 ksi ft.lb			MAKE-UP TORQUE 95 ksi ft.lb			MAKE-UP TORQUE 110 ksi ft.lb			MAKE-UP TORQUE 125 ksi ft.lb			Min. Dope Volume
in *mm*	lb/ft	in		Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	in³
6-5/8 *168,27*	20.00	0.288	Regular	5,540	6,150	6,760	6,190	6,870	7,550	7,170	7,960	8,750	7,830	8,700	9,570	1.20
	23.20	0.330	Regular	5,860	6,510	7,160	6,510	7,230	7,950	7,470	8,300	9,130	8,150	9,050	9,950	1.20
	24.00	0.352	Regular	6,190	6,870	7,550	6,840	7,590	8,340	7,830	8,700	9,570	8,460	9,400	10,340	1.20
	28.00	0.417	Regular	8,460	9,400	10,340	9,150	10,150	11,150	10,100	11,200	12,300	11,100	12,300	13,500	1.20
	32.00	0.475	Regular	10,850	11,950	13,050	11,700	13,000	14,300	13,050	14,450	15,850	14,400	15,900	17,400	1.20
	36.70	0.562	Regular	14,400	15,900	17,400	16,000	17,700	19,400	17,650	19,550	21,450	19,600	21,700	23,800	1.20
7 *177,80*	23.00	0.317	Regular	6,840	7,590	8,340	7,470	8,300	9,130	8,460	9,400	10,340	9,150	10,150	11,150	1.50
	26.00	0.362	Regular	7,470	8,300	9,130	8,150	9,050	9,950	9,150	10,150	11,150	9,850	10,850	11,850	1.50
	29.00	0.408	Regular	8,460	9,400	10,340	9,150	10,150	11,150	10,450	11,550	12,650	11,100	12,300	13,500	1.50
	32.00	0.453	Regular	10,100	11,200	12,300	11,100	12,300	13,500	12,450	13,750	15,050	13,400	14,800	16,200	1.50

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

VAM TOP ®

FIELD-END MAKE-UP TORQUE VALUES

OD 7'' - 7-5/8''

Size (OD)	Nominal Weight	Wall Thickness	Design	MAKE-UP TORQUE 80 ksi ft.lb			MAKE-UP TORQUE 95 ksi ft.lb			MAKE-UP TORQUE 110 ksi ft.lb			MAKE-UP TORQUE 125 ksi ft.lb			Min. Dope Volume
in *mm*	lb/ft	in		Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	in³
7 *177,80*	35.00	0.498	Regular	12,100	13,400	14,700	13,700	15,200	16,700	15,050	16,650	18,250	16,300	18,100	19,900	1.50
	38.00	0.540	Regular	14,050	15,550	17,050	15,650	17,350	19,050	17,000	18,800	20,600	18,900	21,000	23,100	1.50
	41.00	0.590	Regular	16,300	18,100	19,900	18,250	20,250	22,250	19,600	21,700	23,800	20,850	23,150	25,450	1.50
	42.70	0.625	Regular	18,250	20,250	22,250	20,850	23,150	25,450	20,850	23,150	25,450	20,850	23,150	25,450	1.50
7-5/8 *193,67*	26.40	0.328	Regular	8,150	9,050	9,950	9,150	10,150	11,150	10,450	11,550	12,650	11,450	12,650	13,850	1.70
	29.70	0.375	Regular	8,460	9,400	10,340	9,850	10,850	11,850	11,100	12,300	13,500	11,700	13,000	14,300	1.70
	33.70	0.430	Regular	9,150	10,150	11,150	10,450	11,550	12,650	11,700	13,000	14,300	12,450	13,750	15,050	1.70
	35.80	0.465	Regular	11,100	12,300	13,500	12,450	13,750	15,050	13,700	15,200	16,700	15,050	16,650	18,250	1.70
	39.00	0.500	Regular	13,050	14,450	15,850	14,400	15,900	17,400	16,300	18,100	19,900	18,250	20,250	22,250	1.70
	42.80	0.562	Regular	17,000	18,800	20,600	18,900	21,000	23,100	20,850	23,150	25,450	20,850	23,150	25,450	1.70

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

VAM TOP ®

FIELD-END MAKE-UP TORQUE VALUES

OD 7-5/8'' - 9-5/8''

Size (OD)	Nominal Weight	Wall Thickness	Design	MAKE-UP TORQUE 80 ksi ft.lb			MAKE-UP TORQUE 95 ksi ft.lb			MAKE-UP TORQUE 110 ksi ft.lb			MAKE-UP TORQUE 125 ksi ft.lb			Min. Dope Volume
in *mm*	lb/ft	in		Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	in³
7-5/8 *193,67*	45.30	0.595	Regular	18,900	21,000	23,100	20,850	23,150	25,450	20,850	23,150	25,450	20,850	23,150	25,450	1.70
	47.10	0.625	Regular	20,200	22,400	24,600	20,850	23,150	25,450	20,850	23,150	25,450	20,850	23,150	25,450	1.70
7-3/4 *196,85*	46.10	0.595	Regular	18,250	20,250	22,250	20,850	23,150	25,450	20,850	23,150	25,450	20,850	23,150	25,450	1.70
8-5/8 *219,07*	36.00	0.400	Regular	8,150	9,050	9,950	9,150	10,150	11,150	9,850	10,850	11,850	10,450	11,550	12,650	2.30
	40.00	0.450	Regular	11,100	12,300	13,500	12,450	13,750	15,050	13,700	15,200	16,700	15,050	16,650	18,250	2.30
	44.00	0.500	Regular	15,050	16,650	18,250	16,300	18,100	19,900	18,250	20,250	22,250	19,600	21,700	23,800	2.30
	49.00	0.557	Regular	18,900	21,000	23,100	20,200	22,400	24,600	20,850	23,150	25,450	20,850	23,150	25,450	2.30
	52.00	0.595	Regular	20,850	23,150	25,450	20,850	23,150	25,450	20,850	23,150	25,450	20,850	23,150	25,450	2.30
9-5/8 *244,47*	36.00	0.352	Regular	8,460	9,400	10,340	9,150	10,150	11,150	10,450	11,550	12,650	11,100	12,300	13,500	2.50
	40.00	0.395	Regular	8,460	9,400	10,340	9,150	10,150	11,150	10,450	11,550	12,650	11,100	12,300	13,500	2.50

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

VAM TOP ®

FIELD-END MAKE-UP TORQUE VALUES

OD 9-5/8'' - 9-7/8''

Size (OD)	Nominal Weight	Wall Thickness	Design	MAKE-UP TORQUE 80 ksi ft.lb			MAKE-UP TORQUE 95 ksi ft.lb			MAKE-UP TORQUE 110 ksi ft.lb			MAKE-UP TORQUE 125 ksi ft.lb			Min. Dope Volume
in *mm*	lb/ft	in		Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	in³
9-5/8 *244,47*	43.50	0.435	KS	17,600	19,600	21,600	18,700	20,800	22,900	19,600	21,800	24,000	20,400	22,700	25,000	2.50
	43.50	0.435	Regular	11,700	13,000	14,300	13,050	14,450	15,850	14,400	15,900	17,400	15,650	17,350	19,050	2.50
	47.00	0.472	KS	20,600	22,900	25,200	21,900	24,300	26,700	23,000	25,500	28,100	23,900	26,600	29,300	2.50
	47.00	0.472	Regular	14,400	15,900	17,400	15,650	17,350	19,050	18,250	20,250	22,250	19,600	21,700	23,800	2.50
	53.50	0.545	KS	27,000	30,000	33,000	28,600	31,750	34,900	30,000	33,300	36,600	31,300	34,800	38,300	2.50
	53.50	0.545	Regular	20,850	23,150	25,450	20,850	23,150	25,450	20,850	23,150	25,450	20,850	23,150	25,450	2.50
	58.40	0.595	Regular	20,850	23,150	25,450	20,850	23,150	25,450	20,850	23,150	25,450	20,850	23,150	25,450	2.50
9-7/8 *250,82*	62.80	0.625	Regular							20,850	23,150	25,450	20,850	23,150	25,450	2.60
	68.90	0.700	Regular	24,800	27,500	30,200	24,800	27,500	30,200	24,800	27,500	30,200	24,800	27,500	30,200	2.60
	70.50	0.720	Regular	27,000	30,000	33,000	27,000	30,000	33,000	27,000	30,000	33,000	27,000	30,000	33,000	2.60

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

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FIELD-END MAKE-UP TORQUE VALUES

OD 9-7/8'' - 10-3/4"

Size (OD)	Nominal Weight	Wall Thickness	Design	MAKE-UP TORQUE 80 ksi ft.lb			MAKE-UP TORQUE 95 ksi ft.lb			MAKE-UP TORQUE 110 ksi ft.lb			MAKE-UP TORQUE 125 ksi ft.lb			Min. Dope Volume
in *mm*	lb/ft	in		Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	in³
9-7/8 *250,82*	72.00	0.725	Regular	27,000	30,000	33,000	27,000	30,000	33,000	27,000	30,000	33,000	27,000	30,000	33,000	2.60
10 *254,00*	67.20	0.672	Regular	27,000	30,000	33,000	27,000	30,000	33,000	27,000	30,000	33,000	27,000	30,000	33,000	2.70
	71.80	0.722	Regular	27,000	30,000	33,000	27,000	30,000	33,000	27,000	30,000	33,000	27,000	30,000	33,000	2.70
10-3/4 *273,05*	45.50	0.400	Regular	9,850	10,850	11,850	10,450	11,550	12,650	11,700	13,000	14,300	13,050	14,450	15,850	2.80
	51.00	0.450	Regular	14,400	15,900	17,400	15,650	17,350	19,050	17,600	19,500	21,400	19,600	21,700	23,800	2.80
	55.50	0.495	KS	23,900	26,600	29,300	25,400	28,200	31,000	26,600	29,600	32,600	27,800	30,900	34,000	2.80
	55.50	0.495	Regular	18,250	20,250	22,250	20,850	23,150	25,450	20,850	23,150	25,450	20,850	23,150	25,450	2.80
	60.70	0.545	KS	28,800	32,000	35,200	30,600	34,000	37,400	32,100	35,700	39,300	33,500	37,200	40,900	2.80
	60.70	0.545	Regular	20,850	23,150	25,450	20,850	23,150	25,450	20,850	23,150	25,450	20,850	23,150	25,450	2.80
	65.70	0.595	KS	34,000	37,800	41,600	36,000	40,000	44,000	37,800	42,000	46,200	39,400	43,800	48,200	2.80

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

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FIELD-END MAKE-UP TORQUE VALUES

OD 10-3/4" - 13-3/8"

Size (OD)	Nominal Weight	Wall Thickness	Design	MAKE-UP TORQUE 80 ksi ft.lb			MAKE-UP TORQUE 95 ksi ft.lb			MAKE-UP TORQUE 110 ksi ft.lb			MAKE-UP TORQUE 125 ksi ft.lb			Min. Dope Volume
in *mm*	lb/ft	in		Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	in³
10-3/4 *273,05*	65.70	0.595	Regular	20,850	23,150	25,450	20,850	23,150	25,450	20,850	23,150	25,450	20,850	23,150	25,450	2.80
	71.10	0.650	KS	39,400	43,800	48,200	41,800	46,400	51,000	43,800	48,700	53,600	45,000	50,000	55,000	2.80
	71.10	0.650	Regular	20,850	23,150	25,450	20,850	23,150	25,450	20,850	23,150	25,450	20,850	23,150	25,450	2.80
	73.20	0.672	Regular	27,000	30,000	33,000	27,000	30,000	33,000	27,000	30,000	33,000	27,000	30,000	33,000	2.80
11-3/4 *298,45*	54.00	0.435	Regular	13,700	15,200	16,700	15,050	16,650	18,250	17,000	18,800	20,600	18,900	21,000	23,100	3.60
	60.00	0.489	Regular	19,600	21,700	23,800	20,850	23,150	25,450	20,850	23,150	25,450	20,850	23,150	25,450	3.60
	65.00	0.534	Regular	20,850	23,150	25,450	20,850	23,150	25,450	20,850	23,150	25,450	20,850	23,150	25,450	3.60
	71.00	0.582	Regular	20,850	23,150	25,450	20,850	23,150	25,450	20,850	23,150	25,450	20,850	23,150	25,450	3.60
11-7/8 *301,63*	67.80	0.550	Regular	20,850	23,150	25,450	20,850	23,150	25,450	20,850	23,150	25,450	20,850	23,150	25,450	3.60
13-3/8 *339,72*	54.50	0.380	Regular	20,850	23,150	25,450	20,850	23,150	25,450	20,850	23,150	25,450	20,850	23,150	25,450	4.10

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

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FIELD-END MAKE-UP TORQUE VALUES

OD 13-3/8" - 14''

Size (OD)	Nominal Weight	Wall Thickness	Design	MAKE-UP TORQUE 80 ksi ft.lb			MAKE-UP TORQUE 95 ksi ft.lb			MAKE-UP TORQUE 110 ksi ft.lb			MAKE-UP TORQUE 125 ksi ft.lb			Min. Dope Volume
in *mm*	lb/ft	in		Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	in³
13-3/8 *339,72*	61.00	0.430	Regular	15,050	16,650	18,250	17,000	18,800	20,600	18,900	21,000	23,100	20,850	23,150	25,450	4.10
	68.00	0.480	Regular	20,850	23,150	25,450	20,850	23,150	25,450	20,850	23,150	25,450	20,850	23,150	25,450	4.10
	72.00	0.514	Regular	20,850	23,150	25,450	20,850	23,150	25,450	20,850	23,150	25,450	20,850	23,150	25,450	4.10
	77.00	0.550	Regular	20,850	23,150	25,450	20,850	23,150	25,450	20,850	23,150	25,450	20,850	23,150	25,450	4.10
	80.70	0.580	Regular	20,850	23,150	25,450	20,850	23,150	25,450	20,850	23,150	25,450	20,850	23,150	25,450	4.10
	85.00	0.608	Regular	20,850	23,150	25,450	20,850	23,150	25,450	20,850	23,150	25,450	20,850	23,150	25,450	4.10
13-5/8 *346,07*	88.20	0.625	Regular	27,000	30,000	33,000	27,000	30,000	33,000	27,000	30,000	33,000	27,000	30,000	33,000	4.20
14 *355,60*	82.50	0.562	KB	26,050	28,950	31,850	27,000	30,000	33,000	27,000	30,000	33,000	27,000	30,000	33,000	4.30
	86.00	0.600	KB	27,000	30,000	33,000	27,000	30,000	33,000	27,000	30,000	33,000	27,000	30,000	33,000	4.30
	93.00	0.650	KB	27,000	30,000	33,000	27,000	30,000	33,000	27,000	30,000	33,000	27,000	30,000	33,000	4.30

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

FIELD-END MAKE-UP TORQUE VALUES

OD 14" - 16"

Size (OD)	Nominal Weight	Wall Thickness	Design	MAKE-UP TORQUE 80 ksi ft.lb			MAKE-UP TORQUE 95 ksi ft.lb			MAKE-UP TORQUE 110 ksi ft.lb			MAKE-UP TORQUE 125 ksi ft.lb			Min. Dope Volume
in *mm*	lb/ft	in		Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	in³
14 *355,60*	96.90	0.670	KB	27,000	33,000	36,300	27,000	33,000	36,300	27,000	33,000	36,300	27,000	33,000	36,300	4.30
	100.00	0.700	KB	32,400	36,000	39,600	32,400	36,000	39,600	32,400	36,000	39,600	32,400	36,000	39,600	4.30
	106.00	0.750	KB	39,700	44,100	48,500	39,700	44,100	48,500	39,700	44,100	48,500	39,700	44,100	48,500	4.30
	114.00	0.800	KB	41,400	46,000	50,600	41,400	46,000	50,600	41,400	46,000	50,600	41,400	46,000	50,600	4.30
15 *381,00*	92.50	0.580	KA	30,000	33,300	36,600	30,000	33,300	36,600	30,000	33,300	36,600	30,000	33,300	36,600	4.80
16 *406,40*	84.00	0.495	ND	30,000	33,300	36,600	30,000	33,300	36,600	30,000	33,300	36,600	30,000	33,300	36,600	5.20
	95.00	0.566	ND	45,000	50,000	55,000	45,000	50,000	55,000	45,000	50,000	55,000	45,000	50,000	55,000	5.20
	109.00	0.656	NE	45,000	50,000	55,000	45,000	50,000	55,000							5.20

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

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TECHNICAL TABLE

OD 5'' - 5-1/2''

PIPE					CONNECTION PROPERTIES					CONNECTION PERFORMANCES					
Size (OD)	Nominal Weight	Wall Thickness		Drift	Design	Inside Diameter	Outside Diameter	Coupling Length	Make-up Loss	Tensile Efficiency With Sealability	Compression Efficiency With Sealability	Joint Yield Strength x1000 lb			
in *mm*	lb/ft	in	*mm*	in		in	in	in	in	% Pipe Body	% Pipe Body	80 ksi	95 ksi	110 ksi	125 ksi
5 *127,00*	15.00	0.296	*7,52*	4.283	Regular	4.345	5.471	10.390	4.190	100	100	350	416	481	547
	18.00	0.362	*9,19*	4.151	Regular	4.213	5.577	10.390	4.190	100	100	422	501	580	659
	20.30	0.408	*10,36*	4.059	Regular	4.121	5.648	10.390	4.190	100	100	471	559	647	736
	20.80	0.422	*10,72*	4.031	Regular	4.093	5.670	10.390	4.190	100	100	486	577	668	759
	21.40	0.437	*11,10*	4.001	Regular	4.063	5.691	10.390	4.190	100	100	501	595	689	783
	23.20	0.478	*12,14*	3.919	Regular	3.981	5.751	10.390	4.190	100	100	543	645	747	849
	24.10	0.500	*12,70*	3.875	Regular	3.937	5.782	10.390	4.190	100	100	566	672	778	884
5-1/2 *139,70*	15.50	0.275	*6,99*	4.825	Regular	4.868	5.930	10.750	4.382	100	100	361	429	497	564
	17.00	0.304	*7,72*	4.767	Regular	4.810	5.979	10.750	4.382	100	100	397	471	546	620
	20.00	0.361	*9,17*	4.653	Regular	4.715	6.071	10.750	4.382	100	100	466	554	641	729

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

TECHNICAL TABLE

OD 5-1/2'' - 7''

PIPE					CONNECTION PROPERTIES					CONNECTION PERFORMANCES					
Size (OD)	Nominal Weight	Wall Thickness		Drift	Design	Inside Diameter	Outside Diameter	Coupling Length	Make-up Loss	Tensile Efficiency With Sealability	Compression Efficiency With Sealability	Joint Yield Strength x1000 lb			
in *mm*	lb/ft	in	*mm*	in		in	in	in	in	% Pipe Body	% Pipe Body	80 ksi	95 ksi	110 ksi	125 ksi
5-1/2 *139,70*	23.00	0.415	*10,54*	4.545	Regular	4.607	6.156	10.750	4.382	100	100	530	630	729	829
	26.00	0.476	*12,09*	4.423	Regular	4.485	6.249	10.750	4.382	100	100	601	714	826	939
	26.80	0.500	*12,70*	4.375	Regular	4.437	6.284	10.750	4.382	100	100	628	746	864	982
	28.40	0.530	*13,46*	4.315	Regular	4.385	6.327	10.750	4.382	100	100	662	786	910	1,034
	29.70	0.562	*14,27*	4.251	Regular	4.334	6.373	10.750	4.382	100	100	697	828	959	1,090
6-5/8 *168,27*	23.20	0.330	*8,38*	5.840	Regular	5.883	7.154	10.870	4.427	100	100	522	620	718	816
	24.00	0.352	*8,94*	5.796	Regular	5.839	7.191	10.870	4.427	100	100	555	659	763	867
	28.00	0.417	*10,59*	5.666	Regular	5.725	7.298	10.870	4.427	100	100	651	773	895	1,017
	32.00	0.475	*12,06*	5.550	Regular	5.609	7.390	10.870	4.427	100	100	734	872	1,009	1,147
7 *177,80*	26.00	0.362	*9,19*	6.151	Regular	6.210	7.565	11.540	4.775	100	100	604	717	830	944

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

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TECHNICAL TABLE

OD 7'' - 7-5/8''

PIPE					CONNECTION PROPERTIES					CONNECTION PERFORMANCES					
Size (OD)	Nominal Weight	Wall Thickness		Drift	Design	Inside Diameter	Outside Diameter	Coupling Length	Make-up Loss	Tensile Efficiency With Sealability	Compression Efficiency With Sealability	Joint Yield Strength x1000 lb			
in *mm*	lb/ft	in	*mm*	in		in	in	in	in	% Pipe Body	% Pipe Body	80 ksi	95 ksi	110 ksi	125 ksi
7 *177,80*	29.00	0.408	*10,36*	6.059	Regular	6.118	7.644	11.540	4.775	100	100	676	803	929	1,056
	32.00	0.453	*11,51*	6.000 A	Regular	6.059	7.717	11.540	4.775	100	100	745	885	1,025	1,165
	35.00	0.498	*12,65*	5.879	Regular	5.941	7.788	11.540	4.775	100	100	814	966	1,119	1,272
	38.00	0.540	*13,72*	5.795	Regular	5.857	7.853	11.540	4.775	100	100	877	1,041	1,205	1,370
	41.00	0.590	*14,99*	5.695	Regular	5.757	7.930	11.540	4.775	100	100	950	1,129	1,307	1,485
7-5/8 *193,67*	29.70	0.375	*9,52*	6.750	Regular	6.809	8.213	11.730	4.868	100	100	683	811	940	1,068
	33.70	0.430	*10,92*	6.640	Regular	6.699	8.306	11.730	4.868	100	100	778	923	1,069	1,215
	35.80	0.465	*11,81*	6.570	Regular	6.644	8.363	11.730	4.868	100	100	837	994	1,151	1,308
	39.00	0.500	*12,70*	6.500	Regular	6.589	8.420	11.730	4.868	100	100	895	1,063	1,231	1,399
	42.80	0.562	*14,27*	6.376	Regular	6.479	8.518	11.730	4.868	100	100	998	1,185	1,372	1,559

Drift values: A = Alternate Drift, S = Special Drift

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

TECHNICAL TABLE

OD 7-5/8'' - 7-3/4''

PIPE					CONNECTION PROPERTIES					CONNECTION PERFORMANCES					
Size (OD)	Nominal Weight	Wall Thickness		Drift	Design	Inside Diameter	Outside Diameter	Coupling Length	Make-up Loss	Tensile Efficiency With Sealability	Compression Efficiency With Sealability	Joint Yield Strength x1000 lb			
in *mm*	lb/ft	in	*mm*	in		in	in	in	in	% Pipe Body	% Pipe Body	80 ksi	95 ksi	110 ksi	125 ksi
7-5/8 *193,67*	45.30	0.595	*15,11*	6.310	Regular	6.424	8.569	11.730	4.868	100	100	1,051	1,248	1,446	1,643
	47.10	0.625	*15,88*	6.250	Regular	6.372	8.615	11.730	4.868	100	100	1,100	1,306	1,512	1,718
7-3/4 *196,85*	46.10	0.595	*15,11*	6.500 A	Regular	6.558	8.693	11.850	4.915	100	100	1,070	1,271	1,471	1,672

Drift values: A = Alternate Drift, S = Special Drift

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

VAM TOP ® HC

FIELD-END MAKE-UP TORQUE VALUES

OD 5" - 5-1/2"

Size (OD)	Nominal Weight	Wall Thickness	Design	MAKE-UP TORQUE 80 ksi ft.lb			MAKE-UP TORQUE 95 ksi ft.lb			MAKE-UP TORQUE 110 ksi ft.lb			MAKE-UP TORQUE 125 ksi ft.lb			Min. Dope Volume
in *mm*	lb/ft	in		Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	in³
5 *127,00*	15.00	0.296	Regular	4,950	5,500	6,050	5,480	6,080	6,680	6,060	6,730	7,400	6,510	7,230	7,950	0.90
	18.00	0.362	Regular	7,170	7,960	8,750	7,830	8,700	9,570	8,780	9,750	10,720	9,500	10,500	11,500	0.90
	20.30	0.408	Regular	8,460	9,400	10,340	9,500	10,500	11,500	10,850	11,950	13,050	11,700	13,000	14,300	0.90
	20.80	0.422	Regular	9,150	10,150	11,150	10,100	11,200	12,300	11,100	12,300	13,500	12,450	13,750	15,050	0.90
	21.40	0.437	Regular	9,500	10,500	11,500	10,850	11,950	13,050	11,700	13,000	14,300	13,050	14,450	15,850	0.90
	23.20	0.478	Regular	10,850	11,950	13,050	12,100	13,400	14,700	13,450	14,850	16,250	14,400	15,900	17,400	0.90
	24.10	0.500	Regular	11,700	13,000	14,300	13,050	14,450	15,850	14,400	15,900	17,400	15,650	17,350	19,050	0.90
5-1/2 *139,70*	15.50	0.275	Regular	4,880	5,420	5,960	5,540	6,150	6,770	6,180	6,870	7,560	6,840	7,590	8,340	1.00
	17.00	0.304	Regular	5,930	6,580	7,230	6,510	7,230	7,950	7,470	8,300	9,130	8,150	9,050	9,950	1.00
	20.00	0.361	Regular	7,830	8,700	9,570	8,780	9,750	10,720	9,850	10,850	11,850	10,850	11,950	13,050	1.00

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

VAM TOP ® HC

FIELD-END MAKE-UP TORQUE VALUES

OD 5-1/2'' - 7''

Size (OD)	Nominal Weight	Wall Thickness	Design	MAKE-UP TORQUE 80 ksi ft.lb			MAKE-UP TORQUE 95 ksi ft.lb			MAKE-UP TORQUE 110 ksi ft.lb			MAKE-UP TORQUE 125 ksi ft.lb			Min. Dope Volume
in *mm*	lb/ft	in		Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	in³
5-1/2 *139,70*	23.00	0.415	Regular	9,850	10,850	11,850	11,100	12,300	13,500	12,450	13,750	15,050	13,700	15,200	16,700	1.00
	26.00	0.476	Regular	12,100	13,400	14,700	13,700	15,200	16,700	15,050	16,650	18,250	15,650	17,350	19,050	1.00
	26.80	0.500	Regular	13,050	14,450	15,850	14,650	16,250	17,850	16,300	18,100	19,900	18,250	20,250	22,250	1.00
	28.40	0.530	Regular	14,050	15,550	17,050	16,000	17,700	19,400	17,650	19,550	21,450	19,600	21,700	23,800	1.00
	29.70	0.562	Regular	15,050	16,650	18,250	17,000	18,800	20,600	18,900	21,000	23,100	20,850	23,150	25,450	1.00
6-5/8 *168,27*	23.20	0.330	Regular	9,150	10,150	11,150	10,100	11,200	12,300	11,450	12,650	13,850	12,700	14,100	15,500	1.20
	24.00	0.352	Regular	10,100	11,200	12,300	11,450	12,650	13,850	13,050	14,450	15,850	14,400	15,900	17,400	1.20
	28.00	0.417	Regular	13,050	14,450	15,850	13,700	15,200	16,700	14,650	16,250	17,850	16,000	17,700	19,400	1.20
	32.00	0.475	Regular	14,400	15,900	17,400	16,300	18,100	19,900	18,000	19,900	21,800	19,850	22,050	24,250	1.20
7 *177,80*	26.00	0.362	Regular	10,850	11,950	13,050	12,450	13,750	15,050	13,700	15,200	16,700	15,050	16,650	18,250	1.50

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

VAM TOP ® HC

FIELD-END MAKE-UP TORQUE VALUES

OD 7'' - 7-5/8''

Size (OD)	Nominal Weight	Wall Thickness	Design	MAKE-UP TORQUE 80 ksi ft.lb			MAKE-UP TORQUE 95 ksi ft.lb			MAKE-UP TORQUE 110 ksi ft.lb			MAKE-UP TORQUE 125 ksi ft.lb			Min. Dope Volume
in *mm*	lb/ft	in		Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	in³
7 *177,80*	29.00	0.408	Regular	13,450	14,850	16,250	15,300	17,000	18,700	16,000	17,700	19,400	16,300	18,100	19,900	1.50
	32.00	0.453	Regular	14,050	15,550	17,050	16,000	17,700	19,400	17,650	19,550	21,450	19,600	21,700	23,800	1.50
	35.00	0.498	Regular	16,300	18,100	19,900	18,600	20,600	22,600	20,600	22,800	25,000	20,850	23,150	25,450	1.50
	38.00	0.540	Regular	18,600	20,600	22,600	20,850	23,150	25,450	20,850	23,150	25,450	20,850	23,150	25,450	1.50
	41.00	0.590	Regular	20,850	23,150	25,450	20,850	23,150	25,450	20,850	23,150	25,450	20,850	23,150	25,450	1.50
7-5/8 *193,67*	29.70	0.375	Regular	13,050	14,450	15,850	15,050	16,650	18,250	16,650	18,450	20,250	18,600	20,600	22,600	1.70
	33.70	0.430	Regular	16,650	18,450	20,250	18,900	21,000	23,100	20,850	23,150	25,450	20,850	23,150	25,450	1.70
	35.80	0.465	Regular	18,600	20,600	22,600	20,850	23,150	25,450	20,850	23,150	25,450	20,850	23,150	25,450	1.70
	39.00	0.500	Regular	20,600	22,800	25,000	20,850	23,150	25,450	20,850	23,150	25,450	20,850	23,150	25,450	1.70
	42.80	0.562	Regular	20,850	23,150	25,450	20,850	23,150	25,450	20,850	23,150	25,450	20,850	23,150	25,450	1.70

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

VAM TOP ® HC

FIELD-END MAKE-UP TORQUE VALUES

OD 7-5/8'' - 7-3/4''

Size (OD)	Nominal Weight	Wall Thickness	Design	MAKE-UP TORQUE 80 ksi ft.lb			MAKE-UP TORQUE 95 ksi ft.lb			MAKE-UP TORQUE 110 ksi ft.lb			MAKE-UP TORQUE 125 ksi ft.lb			Min. Dope Volume
in *mm*	lb/ft	in		Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	in³
7-5/8 *193,67*	45.30	0.595	Regular	20,850	23,150	25,450	20,850	23,150	25,450	20,850	23,150	25,450	20,850	23,150	25,450	1.70
	47.10	0.625	Regular	20,850	23,150	25,450	20,850	23,150	25,450	20,850	23,150	25,450	20,850	23,150	25,450	1.70
7-3/4 *196,85*	46.10	0.595	Regular	20,850	23,150	25,450	20,850	23,150	25,450	20,850	23,150	25,450	20,850	23,150	25,450	1.70

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

VAM TOP ® HT

TECHNICAL TABLE

OD 5'' - 5-1/2''

PIPE					CONNECTION PROPERTIES					CONNECTION PERFORMANCES					
Size (OD)	Nominal Weight	Wall Thickness		Drift	Design	Inside Diameter	Outside Diameter	Coupling Length	Make-up Loss	Tensile Efficiency With Sealability	Compression Efficiency With Sealability	Joint Yield Strength x1000 lb			
in *mm*	lb/ft	in	*mm*	in		in	in	in	in	% Pipe Body	% Pipe Body	80 ksi	95 ksi	110 ksi	125 ksi
5 *127,00*	15.00	0.296	*7,52*	4.283	Regular	4.345	5.471	10.390	4.190	100	80	350	416	481	547
	18.00	0.362	*9,19*	4.151	Regular	4.213	5.577	10.390	4.190	100	80	422	501	580	659
	20.30	0.408	*10,36*	4.059	Regular	4.121	5.648	10.390	4.190	100	80	471	559	647	736
	20.80	0.422	*10,72*	4.031	Regular	4.093	5.670	10.390	4.190	100	80	486	577	668	759
	21.40	0.437	*11,10*	4.001	Regular	4.063	5.691	10.390	4.190	100	80	501	595	689	783
	23.20	0.478	*12,14*	3.919	Regular	3.981	5.751	10.390	4.190	100	80	543	645	747	849
5-1/2 *139,70*	17.00	0.304	*7,72*	4.767	Regular	4.810	5.979	10.750	4.382	100	80	397	471	546	620
	20.00	0.361	*9,17*	4.653	Regular	4.715	6.071	10.750	4.382	100	80	466	554	641	729
	23.00	0.415	*10,54*	4.545	Regular	4.607	6.156	10.750	4.382	100	80	530	630	729	829
	26.00	0.476	*12,09*	4.423	Regular	4.485	6.249	10.750	4.382	100	80	601	714	826	939

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

TECHNICAL TABLE

OD 5-1/2'' - 7''

PIPE					CONNECTION PROPERTIES					CONNECTION PERFORMANCES					
Size (OD)	Nominal Weight	Wall Thickness		Drift	Design	Inside Diameter	Outside Diameter	Coupling Length	Make-up Loss	Tensile Efficiency With Sealability	Compression Efficiency With Sealability	Joint Yield Strength x1000 lb			
in *mm*	lb/ft	in	*mm*	in		in	in	in	in	% Pipe Body	% Pipe Body	80 ksi	95 ksi	110 ksi	125 ksi
5-1/2 *139,70*	29.70	0.562	*14,27*	4.251	Regular	4.334	6.373	10.750	4.382	100	80	697	828	959	1,090
6 *152,40*	24.50	0.400	*10,16*	5.075	Regular	5.150	6.640	10.750	4.382	100	80	563	669	774	
6-5/8 *168,27*	23.20	0.330	*8,38*	5.840	Regular	5.883	7.154	10.870	4.427	100	80	522	620	718	816
	24.00	0.352	*8,94*	5.796	Regular	5.839	7.191	10.870	4.427	100	80	555	659	763	867
	28.00	0.417	*10,59*	5.666	Regular	5.725	7.298	10.870	4.427	100	80	651	773	895	1,017
	32.00	0.475	*12,06*	5.550	Regular	5.609	7.390	10.870	4.427	100	80	734	872	1,009	1,147
	36.70	0.562	*14,27*	5.376	Regular	5.453	7.524	10.870	4.427	100	80	856	1,017	1,178	1,338
7 *177,80*	26.00	0.362	*9,19*	6.151	Regular	6.210	7.565	11.540	4.775	100	80	604	717	830	944
	29.00	0.408	*10,36*	6.059	Regular	6.118	7.644	11.540	4.775	100	80	676	803	929	1,056
	32.00	0.453	*11,51*	6.000 A	Regular	6.059	7.717	11.540	4.775	100	80	745	885	1,025	1,165

Drift values: A = Alternate Drift, S = Special Drift

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

VAM TOP ® HT

TECHNICAL TABLE

OD 7'' - 7-5/8''

PIPE					CONNECTION PROPERTIES					CONNECTION PERFORMANCES					
Size (OD)	Nominal Weight	Wall Thickness		Drift	Design	Inside Diameter	Outside Diameter	Coupling Length	Make-up Loss	Tensile Efficiency With Sealability	Compression Efficiency With Sealability	Joint Yield Strength x1000 lb			
in *mm*	lb/ft	in	*mm*	in		in	in	in	in	% Pipe Body	% Pipe Body	80 ksi	95 ksi	110 ksi	125 ksi
7 *177,80*	35.00	0.498	*12,65*	5.879	Regular	5.941	7.788	11.540	4.775	100	80	814	966	1,119	1,272
	38.00	0.540	*13,72*	5.795	Regular	5.857	7.853	11.540	4.775	100	80	877	1,041	1,205	1,370
	41.00	0.590	*14,99*	5.695	Regular	5.757	7.930	11.540	4.775	100	80	950	1,129	1,307	1,485
7-5/8 *193,67*	29.70	0.375	*9,52*	6.750	Regular	6.809	8.213	11.730	4.868	100	80	683	811	940	1,068
	33.70	0.430	*10,92*	6.640	Regular	6.699	8.306	11.730	4.868	100	80	778	923	1,069	1,215
	35.80	0.465	*11,81*	6.570	Regular	6.644	8.363	11.730	4.868	100	80	837	994	1,151	1,308
	39.00	0.500	*12,70*	6.500	Regular	6.589	8.420	11.730	4.868	100	80	895	1,063	1,231	1,399
	42.80	0.562	*14,27*	6.376	Regular	6.479	8.518	11.730	4.868	100	80	998	1,185	1,372	1,559
	45.30	0.595	*15,11*	6.310	Regular	6.424	8.569	11.730	4.868	100	80	1,051	1,248	1,446	1,643
	47.10	0.625	*15,88*	6.250	Regular	6.372	8.615	11.730	4.868	100	80	1,100	1,306	1,512	1,718

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

FIELD-END MAKE-UP TORQUE VALUES

OD 5'' - 5-1/2''

Size (OD)	Nominal Weight	Wall Thickness	Design	MAKE-UP TORQUE 80 ksi ft.lb			MAKE-UP TORQUE 95 ksi ft.lb			MAKE-UP TORQUE 110 ksi ft.lb			MAKE-UP TORQUE 125 ksi ft.lb			MLT 80 ksi	MLT 95 ksi	MLT 110 ksi	MLT 125 ksi	Min. Dope Volume
in *mm*	lb/ft	in		Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	ft.lb	ft.lb	ft.lb	ft.lb	in³
5 *127,00*	15.00	0.296	Regular	4,950	5,500	6,050	5,480	6,080	6,680	6,060	6,730	7,400	6,510	7,230	7,950	7,090	8,300	9,400	9,400	0.90
	18.00	0.362	Regular	7,170	7,960	8,750	7,830	8,700	9,570	8,780	9,750	10,720	9,500	10,500	11,500	10,150	11,950	13,750	13,750	0.90
	20.30	0.408	Regular	8,460	9,400	10,340	9,500	10,500	11,500	10,850	11,950	13,050	11,700	13,000	14,300	11,050	12,900	14,150	15,950	0.90
	20.80	0.422	Regular	9,150	10,150	11,150	10,100	11,200	12,300	11,100	12,300	13,500	12,450	13,750	15,050	11,650	13,600	14,950	16,850	0.90
	21.40	0.437	Regular	9,500	10,500	11,500	10,850	11,950	13,050	11,700	13,000	14,300	13,050	14,450	15,850	11,850	13,800	15,750	17,750	0.90
	23.20	0.478	Regular	10,850	11,950	13,050	12,100	13,400	14,700	13,450	14,850	16,250	14,400	15,900	17,400	13,050	15,450	17,650	19,850	0.90
5-1/2 *139,70*	17.00	0.304	Regular	5,930	6,580	7,230	6,510	7,230	7,950	7,470	8,300	9,130	8,150	9,050	9,950	8,700	10,500	11,950	11,950	1.00
	20.00	0.361	Regular	7,830	8,700	9,570	8,780	9,750	10,720	9,850	10,850	11,850	10,850	11,950	13,050	11,950	13,750	15,900	15,900	1.00
	23.00	0.415	Regular	9,850	10,850	11,850	11,100	12,300	13,500	12,450	13,750	15,050	13,700	15,200	16,700	15,200	16,350	17,900	20,000	1.00
	26.00	0.476	Regular	12,100	13,400	14,700	13,700	15,200	16,700	15,050	16,650	18,250	15,650	17,350	19,050	15,650	21,200	23,100	23,100	1.00

MLT = Field Liner Max torque. When VAM TOP ® HT is used for an application requiring high torque, the connection should be made up at the rig floor to the Field Liner Max torque, without exceeding it.
MLT may be lower for anisotropic CRA materials (referenced as Type 2, 3 & 4 as per API 5CRA / ISO 13680): please check out the Connection Datasheet on VAM® Services website or contact Mr. Help.
For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

VAM TOP ® HT

FIELD-END MAKE-UP TORQUE VALUES

OD 5-1/2" - 7"

Size (OD)	Nominal Weight	Wall Thickness	Design	MAKE-UP TORQUE 80 ksi ft.lb			MAKE-UP TORQUE 95 ksi ft.lb			MAKE-UP TORQUE 110 ksi ft.lb			MAKE-UP TORQUE 125 ksi ft.lb			MLT 80 ksi	MLT 95 ksi	MLT 110 ksi	MLT 125 ksi	Min. Dope Volume
in *mm*	lb/ft	in		Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	ft.lb	ft.lb	ft.lb	ft.lb	in³
5-1/2 *139,70*	29.70	0.562	Regular	15,050	16,650	18,250	17,000	18,800	20,600	18,900	21,000	23,100	20,850	23,150	25,450	19,100	25,700	25,700	25,700	1.00
6 *152,40*	24.50	0.400	Regular	11,460	12,730	14,000	12,830	14,250	15,670	14,180	15,750	17,320				14,250	16,600	18,990		1.10
6-5/8 *168,27*	23.20	0.330	Regular	9,150	10,150	11,150	10,100	11,200	12,300	11,450	12,650	13,850	12,700	14,100	15,500	14,800	17,350	20,250	20,250	1.20
	24.00	0.352	Regular	10,100	11,200	12,300	11,450	12,650	13,850	13,050	14,450	15,850	14,400	15,900	17,400	16,650	19,500	22,800	22,800	1.20
	28.00	0.417	Regular	13,050	14,450	15,850	13,700	15,200	16,700	14,650	16,250	17,850	16,000	17,700	19,400	21,700	25,600	29,600	29,600	1.20
	32.00	0.475	Regular	14,400	15,900	17,400	16,300	18,100	19,900	18,000	19,900	21,800	19,850	22,050	24,250	27,000	32,100	37,150	37,150	1.20
	36.70	0.562	Regular	18,000	19,900	21,800	20,600	22,800	25,000	20,850	23,150	25,450	20,850	23,150	25,450	28,800	34,200	37,700	42,700	1.20
7 *177,80*	26.00	0.362	Regular	10,850	11,950	13,050	12,450	13,750	15,050	13,700	15,200	16,700	15,050	16,650	18,250	17,350	20,600	24,000	24,000	1.50
	29.00	0.408	Regular	13,450	14,850	16,250	15,300	17,000	18,700	16,000	17,700	19,400	16,300	18,100	19,900	22,050	26,050	30,100	30,100	1.50
	32.00	0.453	Regular	14,050	15,550	17,050	16,000	17,700	19,400	17,650	19,550	21,450	19,600	21,700	23,800	25,450	31,400	34,700	34,700	1.50

MLT = Field Liner Max torque. When VAM TOP ® HT is used for an application requiring high torque, the connection should be made up at the rig floor to the Field Liner Max torque, without exceeding it.
MLT may be lower for anisotropic CRA materials (referenced as Type 2, 3 & 4 as per API 5CRA / ISO 13680): please check out the Connection Datasheet on VAM® Services website or contact Mr. Help.
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FIELD-END MAKE-UP TORQUE VALUES

OD 7'' - 7-5/8''

Size (OD)	Nominal Weight	Wall Thickness	Design	MAKE-UP TORQUE 80 ksi ft.lb			MAKE-UP TORQUE 95 ksi ft.lb			MAKE-UP TORQUE 110 ksi ft.lb			MAKE-UP TORQUE 125 ksi ft.lb			MLT 80 ksi	MLT 95 ksi	MLT 110 ksi	MLT 125 ksi	Min. Dope Volume
in *mm*	lb/ft	in		Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	ft.lb	ft.lb	ft.lb	ft.lb	in³
7 *177,80*	35.00	0.498	Regular	16,300	18,100	19,900	18,600	20,600	22,600	20,600	22,800	25,000	20,850	23,150	25,450	30,600	36,150	41,800	41,800	1.50
	38.00	0.540	Regular	18,600	20,600	22,600	20,850	23,150	25,450	20,850	23,150	25,450	20,850	23,150	25,450	30,600	36,150	41,800	47,300	1.50
	41.00	0.590	Regular	20,850	23,150	25,450	20,850	23,150	25,450	20,850	23,150	25,450	20,850	23,150	25,450	33,350	39,650	44,050	53,750	1.50
7-5/8 *193,67*	29.70	0.375	Regular	13,050	14,450	15,850	15,050	16,650	18,250	16,650	18,450	20,250	18,600	20,600	22,600	17,600	20,800	24,000	27,300	1.70
	33.70	0.430	Regular	16,650	18,450	20,250	18,900	21,000	23,100	20,850	23,150	25,450	20,850	23,150	25,450	22,700	26,800	30,900	35,100	1.70
	35.80	0.465	Regular	18,600	20,600	22,600	20,850	23,150	25,450	20,850	23,150	25,450	20,850	23,150	25,450	24,400	28,800	33,200	37,700	1.70
	39.00	0.500	Regular	20,600	22,800	25,000	20,850	23,150	25,450	20,850	23,150	25,450	20,850	23,150	25,450	26,000	30,700	35,300	40,100	1.70
	42.80	0.562	Regular	20,850	23,150	25,450	20,850	23,150	25,450	20,850	23,150	25,450	20,850	23,150	25,450	30,500	35,900	41,300	46,800	1.70
	45.30	0.595	Regular	20,850	23,150	25,450	20,850	23,150	25,450	20,850	23,150	25,450	20,850	23,150	25,450	32,300	38,200	44,000	49,800	1.70
	47.10	0.625	Regular	20,850	23,150	25,450	20,850	23,150	25,450	20,850	23,150	25,450	20,850	23,150	25,450	33,300	39,500	45,700	51,700	1.70

MLT = Field Liner Max torque. When VAM TOP ® HT is used for an application requiring high torque, the connection should be made up at the rig floor to the Field Liner Max torque, without exceeding it.
MLT may be lower for anisotropic CRA materials (referenced as Type 2, 3 & 4 as per API 5CRA / ISO 13680): please check out the Connection Datasheet on VAM® Services website or contact Mr. Help.
For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

VAM® LOX

TECHNICAL TABLE

OD 18-5/8" - 20''

PIPE					CONNECTION PROPERTIES					CONNECTION PERFORMANCES							
Size (OD)	Nominal Weight	Wall Thickness		Drift	Design	Inside Diameter	Outside Diameter	Coupling Length	Make-up Loss	Structural Tensile Efficiency	Tensile Efficiency With Sealability	Structural Compression Efficiency	Compression Efficiency With Sealability	Joint Yield Strength x1000 lb			
in *mm*	lb/ft	in	*mm*	in		in	in	in	in	% Pipe Body	% Pipe Body	% Pipe Body	% Pipe Body	80 ksi	95 ksi	110 ksi	125 ksi
18-5/8 *473,07*	87.50	0.435	*11,05*	17.568	Regular	17.817	19.363	13.270	5.629	100	60	100	60	1,989	2,362	2,734	3,107
	96.50	0.485	*12,32*	17.500 S	Regular	17.731	19.434	13.980	5.984	100	60	100	60	2,211	2,626	3,040	3,455
	114.00	0.579	*14,71*	17.280	Regular	17.568	19.560	15.310	6.653	100	60	100	60	2,626	3,118	3,611	4,103
	136.00	0.693	*17,60*	17.052	Regular	17.540	19.709	16.970	7.480	100	60	100	60	3,123	3,709	4,294	4,880
	139.00	0.720	*18,29*	16.998	Regular	17.493	19.745	17.360	7.677	100	60	100	60	3,240	3,848	4,455	5,063
	147.00	0.755	*19,18*	16.928	Regular	17.431	19.792	17.830	7.913	100	60	100	60	3,391	4,027	4,662	5,298
	150.50	0.775	*19,68*	16.888	Regular	17.396	19.815	18.150	8.070	100	60	100	60	3,477	4,129	4,781	5,433
	155.00	0.800	*20,32*	16.838	Regular	17.353	19.847	18.460	8.228	100	60	100	60	3,584	4,256	4,928	5,600
20 *508,00*	94.00	0.438	*11,13*	18.937	Regular	19.187	20.745	13.350	5.669	100	60	100	60	2,153	2,557	2,961	3,365
	106.50	0.500	*12,70*	18.813	Regular	19.079	20.831	14.290	6.141	100	60	100	60	2,450	2,910	3,369	3,829

Drift values: A = Alternate Drift, S = Special Drift

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

TECHNICAL TABLE

OD 20"

PIPE					CONNECTION PROPERTIES					CONNECTION PERFORMANCES							
Size (OD)	Nominal Weight	Wall Thickness		Drift	Design	Inside Diameter	Outside Diameter	Coupling Length	Make-up Loss	Structural Tensile Efficiency	Tensile Efficiency With Sealability	Structural Compression Efficiency	Compression Efficiency With Sealability	Joint Yield Strength x1000 lb			
in *mm*	lb/ft	in	*mm*	in		in	in	in	in	% Pipe Body	% Pipe Body	% Pipe Body	% Pipe Body	80 ksi	95 ksi	110 ksi	125 ksi
20 *508,00*	133.00	0.635	*16,13*	18.543	Regular	18.846	21.012	16.260	7.125	100	60	100	60	3,090	3,670	4,249	4,829
	147.00	0.709	*18,01*	18.395	Regular	18.900	21.111	17.280	7.637	100	60	100	60	3,438	4,082	4,727	5,371
	155.50	0.750	*19,05*	18.313	Regular	18.829	21.166	17.910	7.952	100	60	100	60	3,629	4,309	4,989	5,670

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

VAM® LOX

FIELD-END MAKE-UP TORQUE VALUES

OD 18-5/8" - 20''

Size (OD)	Nominal Weight	Wall Thickness	Design	MAKE-UP TORQUE 80 ksi ft.lb			MAKE-UP TORQUE 95 ksi ft.lb			MAKE-UP TORQUE 110 ksi ft.lb			MAKE-UP TORQUE 125 ksi ft.lb			Min. Dope Volume	Max. Dope Volume
in *mm*	lb/ft	in		Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	in³	in³
18-5/8 *473,07*	87.50	0.435	Regular	27,100	32,000	34,100	27,100	32,000	34,100	27,100	32,000	34,100	27,100	32,000	34,100	5.69	8.49
	96.50	0.485	Regular	33,300	38,500	40,300	33,300	38,500	40,300	33,300	38,500	40,300	33,300	38,500	40,300	5.99	8.89
	114.00	0.579	Regular	44,900	51,600	53,900	44,900	51,600	53,900	44,900	51,600	53,900	44,900	51,600	53,900	6.69	9.99
	136.00	0.693	Regular	60,500	69,600	72,600	60,500	69,600	72,600	60,500	69,600	72,600	60,500	69,600	72,600	7.39	11.19
	139.00	0.720	Regular	65,300	75,100	78,400	65,300	75,100	78,400	65,300	75,100	78,400	65,300	75,100	78,400	7.69	11.49
	147.00	0.755	Regular	70,300	80,900	84,400	70,300	80,900	84,400	70,300	80,900	84,400	70,300	80,900	84,400	7.89	11.89
	150.50	0.775	Regular	73,300	84,300	88,000	73,300	84,300	88,000	73,300	84,300	88,000	73,300	84,300	88,000	8.09	11.99
	155.00	0.800	Regular	76,900	88,400	92,300	76,900	88,400	92,300	76,900	88,400	92,300	76,900	88,400	92,300	8.19	12.39
20 *508,00*	94.00	0.438	Regular	22,300	25,800	29,300	22,300	25,800	29,300	22,300	25,800	29,300	22,300	25,800	29,300	6.09	9.09
	106.50	0.500	Regular	34,300	37,800	41,300	34,300	37,800	41,300	34,300	37,800	41,300	34,300	37,800	41,300	6.59	9.89

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

VAM® LOX

FIELD-END MAKE-UP TORQUE VALUES

OD 20"

Size (OD)	Nominal Weight	Wall Thickness	Design	MAKE-UP TORQUE 80 ksi ft.lb			MAKE-UP TORQUE 95 ksi ft.lb			MAKE-UP TORQUE 110 ksi ft.lb			MAKE-UP TORQUE 125 ksi ft.lb			Min. Dope Volume	Max. Dope Volume
in *mm*	lb/ft	in		Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	in^3	in^3
20 *508,00*	133.00	0.635	Regular	49,100	52,600	56,100	49,100	52,600	56,100	49,100	52,600	56,100	49,100	52,600	56,100	7.59	11.39
	147.00	0.709	Regular	58,300	61,800	65,300	58,300	61,800	65,300	58,300	61,800	65,300	58,300	61,800	65,300	8.19	12.29
	155.50	0.750	Regular	66,900	70,400	73,900	66,900	70,400	73,900	66,900	70,400	73,900	66,900	70,400	73,900	8.49	12.69

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

VAM® SLIJ-3

TECHNICAL TABLE

OD 7-3/4'' - 10-3/4"

PIPE					CONNECTION PROPERTIES				CONNECTION PERFORMANCES						
Size (OD)	Nominal Weight	Wall Thickness		Drift	Design	Inside Diameter	Outside Diameter	Make-up Loss	Tensile Efficiency With Sealability	Compression Efficiency With Sealability	Joint Yield Strength x1000 lb				
in *mm*	lb/ft	in	*mm*	in		in	in	in	% Pipe Body	% Pipe Body	80 ksi	95 ksi	110 ksi	125 ksi	140 ksi
7-3/4 *196,85*	46.10	0.595	*15,11*	6.435	Regular	6.539	8.015	7.149	75.6	75.6				1,264	
9-5/8 *244,47*	53.50	0.545	*13,84*	8.500 A	Regular	8.535	9.960	6.631	70.5	70.5	877	1,041	1,206	1,370	
9-7/8 *250,82*	62.80	0.625	*15,88*	8.500 S	Regular	8.536	10.130	6.787	74.4	74.4	1,081	1,284	1,486	1,689	1,892
	65.30	0.650	*16,51*	8.500 S	Regular	8.536	10.165	7.162	75.8	75.8			1,571	1,785	1,999
9-7/8* *250,82**	66.90	0.668	*16,97*	8.500 S	Regular	8.536	10.165	7.222	73.3	73.3			1,568	1,782	1,995
10 *254,00*	67.20	0.672	*17,07*	8.500	Regular	8.536	10.315	7.215	76.4	76.4			1,655	1,881	2,106
	68.70	0.688	*17,48*	8.500 S	Regular	8.536	10.315	7.452	77	77			1,705	1,937	2,170
10.175 *258,44*	81.00	0.800	*20,32*	8.500 S	Regular	8.536	10.364	8.276	70	70				2,062	
10-3/4 *273,05*	60.70	0.545	*13,84*	9.504	Regular	9.539	10.962	6.768	71.5	71.5	999	1,187	1,374	1,562	
	65.70	0.595	*15,11*	9.500 S	Regular	9.536	11.002	6.783	72.9	72.9	1,107	1,315	1,522	1,730	

(*) This product is regular design threaded on a slightly oversized pipe (above 1%) to accommodate a special drift.
Drift values: A = Alternate Drift, S = Special Drift
For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

TECHNICAL TABLE

OD 10-3/4" - 14"

PIPE					CONNECTION PROPERTIES				CONNECTION PERFORMANCES						
Size (OD)	Nominal Weight	Wall Thickness		Drift	Design	Inside Diameter	Outside Diameter	Make-up Loss	Tensile Efficiency With Sealability	Compression Efficiency With Sealability	Joint Yield Strength x1000 lb				
in *mm*	lb/ft	in	*mm*	in		in	in	in	% Pipe Body	% Pipe Body	80 ksi	95 ksi	110 ksi	125 ksi	140 ksi
10-3/4 *273,05*	85.30	0.797	*20,24*	9.000	Regular	9.036	11.093	8.262	78	78			2,138	2,430	2,721
10-7/8 *276,22*	72.00	0.656	*16,66*	9.500 S	Regular	9.536	11.223	7.141	73.5	73.5			1,703	1,935	2,167
11-3/4 *298,45*	60.00	0.489	*12,42*	10.625 A	Regular	10.661	11.961	6.264	68.5	68.5	948	1,126	1,304	1,481	
	65.00	0.534	*13,56*	10.625 A	Regular	10.661	11.961	6.668	71.3	71.3	1,073	1,275	1,476	1,677	
11-7/8 *301,63*	71.80	0.582	*14,78*	10.625 S	Regular	10.661	12.095	6.309	72.6	72.6	1,199	1,424	1,649	1,874	
13-5/8 *346,07*	88.20	0.625	*15,88*	12.250 S	Regular	12.287	13.887	6.813	73	73	1,491	1,770	2,050	2,329	
13-3/4 *349,25*	99.50	0.707	*17,96*	12.250 S	Regular	12.286	14.157	7.614	70.2	70.2					2,847
13-7/8 *352,42*	107.00	0.755	*19,18*	12.259 S	Regular	12.286	14.157	8.115	69.6	69.6					3,032
14 *355,60*	115.00	0.812	*20,62*	12.250 S	Regular	12.284	14.322	8.536	73.8	73.8		2,359	2,731	3,103	3,476
	116.00	0.820	*20,83*	12.250 S	Regular	12.284	14.322	8.536	73.1	73.1		2,358	2,730	3,102	3,475

Drift values: A = Alternate Drift, S = Special Drift

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

VAM® SLIJ-3

TECHNICAL TABLE

OD 14.150'' - 16-1/4''

PIPE					CONNECTION PROPERTIES				CONNECTION PERFORMANCES						
Size (OD)	Nominal Weight	Wall Thickness		Drift	Design	Inside Diameter	Outside Diameter	Make-up Loss	Tensile Efficiency With Sealability	Compression Efficiency With Sealability	Joint Yield Strength x1000 lb				
in *mm*	lb/ft	in	*mm*	in		in	in	in	% Pipe Body	% Pipe Body	80 ksi	95 ksi	110 ksi	125 ksi	140 ksi
14.150 *359,41*	127.50	0.895	*22,73*	12.250 S	Regular	12.286	14.306	9.168	66.7	66.7				3,107	3,480
16 *406,40*	97.00	0.575	*14,60*	14.750 S	Regular	14.813	16.305	7.118	68	68	1,516	1,800	2,084	2,368	2,653
	104.00	0.625	*15,88*	14.563	Regular	14.636	16.305	7.326	70.1	70.1	1,693	2,010	2,328	2,645	2,963
	109.00	0.656	*16,66*	14.600 S	Regular	14.673	16.305	7.595	70.9	70.9	1,794	2,130	2,466	2,802	3,139
16.080 *408,43*	111.00	0.667	*16,94*	14.600 S	Regular	14.673	16.305	7.897	69.1	69.1				2,790	3,124
16.150 *410,21*	120.50	0.723	*18,36*	14.600 S	Regular	14.673	16.397	7.883	69	69				3,022	3,385
	128.00	0.772	*19,61*	14.500 S	Regular	14.573	16.399	8.118	69.1	69.1				3,221	3,608
16.200 *411,48*	132.50	0.800	*20,32*	14.500 S	Regular	14.573	16.399	8.290	69.1	69.1				3,343	3,744
16-1/4 *412,75*	137.00	0.825	*20,95*	14.500 S	Regular	14.573	16.399	8.314	66.9	66.9				3,343	3,744

Drift values: A = Alternate Drift, S = Special Drift

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

FIELD-END MAKE-UP TORQUE VALUES

OD 7-3/4'' - 10-3/4"

Size (OD)	Nominal Weight	Wall Thickness	Design	MAKE-UP TORQUE 80 ksi ft.lb			MAKE-UP TORQUE 95 ksi ft.lb			MAKE-UP TORQUE 110 ksi ft.lb			MAKE-UP TORQUE 125 ksi ft.lb			MAKE-UP TORQUE 140 ksi ft.lb			Min. Dope Volume	Max. Dope Volume
in *mm*	lb/ft	in		Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	in³	in³
7-3/4 *196,85*	46.10	0.595	Regular										29,000	34,000	39,000				1.34	1.96
9-5/8 *244,47*	53.50	0.545	Regular	23,800	26,400	29,000	26,000	28,850	31,700	27,400	30,600	33,800	29,600	32,900	36,200				1.54	2.17
9-7/8 *250,82*	62.80	0.625	Regular	28,800	30,600	32,400	30,250	33,200	36,150	33,200	36,150	39,100	35,900	39,900	43,900	35,900	39,900	43,900	1.81	2.50
	65.30	0.650	Regular							29,500	31,700	33,900	29,500	33,200	36,900	31,000	34,700	38,400	1.61	2.09
9-7/8* *250,82**	66.90	0.668	Regular							29,500	32,500	35,400	30,200	33,900	37,600	31,000	34,700	38,400	1.61	2.09
10 *254,00*	67.20	0.672	Regular							33,200	36,100	39,100	34,600	38,400	42,000	34,600	38,400	42,000	1.61	2.09
	68.70	0.688	Regular							32,500	35,400	38,400	33,900	37,600	41,300	33,900	37,600	41,300	1.61	2.09
10.175 *258,44*	81.00	0.800	Regular										38,400	42,000	45,700				1.61	2.09
10-3/4 *273,05*	60.70	0.545	Regular	26,600	28,800	31,000	26,600	29,100	31,700	28,000	31,300	34,700	31,700	35,200	38,700				2.23	2.90
	65.70	0.595	Regular	27,450	30,550	33,650	28,000	31,000	33,900	29,500	33,200	36,900	33,800	37,600	41,400				1.80	2.52

(*) This product is regular design threaded on a slightly oversized pipe (above 1%) to accommodate a special drift.
For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

VAM® SLIJ-3

FIELD-END MAKE-UP TORQUE VALUES

OD 10-3/4" - 14"

Size (OD)	Nominal Weight	Wall Thickness	Design	MAKE-UP TORQUE 80 ksi ft.lb			MAKE-UP TORQUE 95 ksi ft.lb			MAKE-UP TORQUE 110 ksi ft.lb			MAKE-UP TORQUE 125 ksi ft.lb			MAKE-UP TORQUE 140 ksi ft.lb			Min. Dope Volume	Max. Dope Volume
in *mm*	lb/ft	in		Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	in³	in³
10-3/4 *273,05*	85.30	0.797	Regular							44,300	47,200	50,200	44,300	47,900	51,600	44,300	47,900	51,600	1.93	2.58
10-7/8 *276,22*	72.00	0.656	Regular							33,200	36,900	40,600	34,600	38,400	42,000	34,600	38,400	42,000	1.61	2.09
11-3/4 *298,45*	60.00	0.489	Regular	25,100	27,300	29,500	25,100	27,300	29,500	26,600	29,500	32,500	27,300	31,000	34,700				1.61	2.09
	65.00	0.534	Regular	25,100	27,950	30,800	27,400	30,550	33,700	29,600	32,900	36,200	31,700	35,250	38,800				1.86	2.64
11-7/8 *301,63*	71.80	0.582	Regular	31,700	35,400	39,100	34,700	38,400	42,000	35,900	39,900	43,900	35,900	39,900	43,900				2.05	2.60
13-5/8 *346,07*	88.20	0.625	Regular	45,000	48,000	51,000	47,500	52,500	57,500	52,500	57,500	62,500	60,000	62,500	65,000				2.11	2.94
13-3/4 *349,25*	99.50	0.707	Regular													60,000	65,000	70,000	1.77	2.38
13-7/8 *352,42*	107.00	0.755	Regular													65,000	70,000	75,000	2.54	3.38
14 *355,60*	115.00	0.812	Regular				70,000	75,000	80,000	70,000	75,000	80,000	70,000	75,000	80,000	70,000	75,000	80,000	2.82	3.75
	116.00	0.820	Regular				70,000	75,000	80,000	70,000	75,000	80,000	70,000	75,000	80,000	70,000	75,000	80,000	2.82	3.75

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

FIELD-END MAKE-UP TORQUE VALUES

OD 14.150'' - 16-1/4''

Size (OD)	Nominal Weight	Wall Thickness	Design	MAKE-UP TORQUE 80 ksi ft.lb			MAKE-UP TORQUE 95 ksi ft.lb			MAKE-UP TORQUE 110 ksi ft.lb			MAKE-UP TORQUE 125 ksi ft.lb			MAKE-UP TORQUE 140 ksi ft.lb			Min. Dope Volume	Max. Dope Volume
in *mm*	lb/ft	in		Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	in³	in³
14.150 *359,41*	127.50	0.895	Regular										70,000	75,000	80,000	70,000	75,000	80,000	2.82	3.75
16 *406,40*	97.00	0.575	Regular	40,000	42,200	44,400	41,500	44,400	47,400	45,100	48,100	51,000	45,100	48,100	51,000	45,100	48,100	51,000	1.45	1.93
	104.00	0.625	Regular	46,500	49,400	52,400	50,200	52,400	54,600	52,400	56,100	59,700	52,400	56,100	59,700	52,400	56,100	59,700	1.45	1.93
	109.00	0.656	Regular	44,500	47,400	50,400	44,500	47,400	50,400	48,200	51,900	55,500	48,200	51,900	55,500	48,200	51,900	55,500	1.61	2.09
16.080 *408,43*	111.00	0.667	Regular										55,300	59,000	62,700	55,300	59,000	62,700	2.26	2.90
16.150 *410,21*	120.50	0.723	Regular										55,300	59,000	62,700	55,300	59,000	62,700	2.26	2.90
	128.00	0.772	Regular										59,000	62,700	66,400	59,000	62,700	66,400	2.26	2.90
16.200 *411,48*	132.50	0.800	Regular										59,000	62,700	66,400	59,000	62,700	66,400	2.58	3.38
16-1/4 *412,75*	137.00	0.825	Regular										59,000	62,700	66,400	59,000	62,700	66,400	2.58	3.38

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

VAM® SLIJ-II

TECHNICAL TABLE

OD 4-1/2'' - 5''

PIPE					CONNECTION PROPERTIES				CONNECTION PERFORMANCES						
Size (OD)	Nominal Weight	Wall Thickness		Drift	Design	Inside Diameter	Outside Diameter	Make-up Loss	Tensile Efficiency	Structural Compression Efficiency	Compression Efficiency With Sealability	Joint Yield Strength x1000 lb			
in *mm*	lb/ft	in	*mm*	in		in	in	in	% Pipe Body	% Pipe Body	% Pipe Body	80 ksi	95 ksi	110 ksi	125 ksi
4-1/2 *114,30*	15.10	0.337	*8,56*	3.701	Regular	3.765	4.646	4.476	70.9	70.9	49.6	250	297	344	390
	17.00	0.380	*9,65*	3.615	Regular	3.679	4.646	4.745	73.7	73.7	51.6	290	344	399	453
	18.90	0.430	*10,92*	3.515	Regular	3.579	4.654	5.278	74.2	74.2	52.0	327	388	449	510
	21.50	0.500	*12,70*	3.375	Regular	3.439	4.661	5.764	75.6	75.6	52.9	380	451	523	594
5 *127,00*	18.00	0.362	*9,19*	4.151	Regular	4.216	5.098	4.556	71.6	71.6	50.1	302	359	416	472
	20.30	0.408	*10,36*	4.059	Regular	4.124	5.136	4.810	75.1	75.1	52.6	354	420	486	553
	20.80	0.422	*10,72*	4.031	Regular	4.096	5.146	4.856	76.1	76.1	53.3	370	439	508	577
	21.40	0.437	*11,10*	4.001	Regular	4.066	5.158	5.050	77.1	77.1	54.0	387	459	531	604
	23.20	0.478	*12,14*	3.919	Regular	3.984	5.190	5.156	77.2	77.2	54.0	419	498	577	655
	24.10	0.500	*12,70*	3.875	Regular	3.940	5.193	5.214	77.4	77.4	54.1	437	519	601	683

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

TECHNICAL TABLE

OD 5'' - 5-1/2''

PIPE					CONNECTION PROPERTIES				CONNECTION PERFORMANCES						
Size (OD)	Nominal Weight	Wall Thickness		Drift	Design	Inside Diameter	Outside Diameter	Make-up Loss	Tensile Efficiency	Structural Compression Efficiency	Compression Efficiency With Sealability	Joint Yield Strength x1000 lb			
in *mm*	lb/ft	in	*mm*	in		in	in	in	% Pipe Body	% Pipe Body	% Pipe Body	80 ksi	95 ksi	110 ksi	125 ksi
5 *127,00*	26.70	0.562	*14,27*	3.751	Regular	3.816	5.203	5.504	77.6	77.6	54.3	486	578	669	760
	29.20	0.625	*15,88*	3.625	Regular	3.690	5.214	5.812	77.8	77.8	54.5	535	635	736	836
5-1/2 *139,70*	20.00	0.361	*9,17*	4.653	Regular	4.719	5.594	4.538	70.8	70.8	49.5	330	392	454	516
	23.00	0.415	*10,54*	4.545	Regular	4.611	5.635	4.862	74.8	74.8	52.4	397	471	545	620
	23.80	0.437	*11,10*	4.501	Regular	4.567	5.653	5.076	76.3	76.3	53.4	424	504	583	663
	26.00	0.476	*12,09*	4.423	Regular	4.489	5.678	5.346	77.6	77.6	54.3	467	554	642	729
	26.80	0.500	*12,70*	4.375	KA	4.441	5.706	5.420	78.1	78.1	54.7	491	583	675	767
	26.80	0.500	*12,70*	4.375	Regular	4.441	5.706	5.420	78.1	78.1	54.7	491	583	675	767
	28.40	0.530	*13,46*	4.315	KA	4.381	5.719	5.496	78.6	78.6	55.0	521	618	716	813
	28.40	0.530	*13,46*	4.315	Regular	4.381	5.719	5.496	78.6	78.6	55.0	521	618	716	813

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

VAM® SLIJ-II

TECHNICAL TABLE

OD 5-1/2'' - 6-5/8''

PIPE					CONNECTION PROPERTIES				CONNECTION PERFORMANCES						
Size (OD)	Nominal Weight	Wall Thickness		Drift	Design	Inside Diameter	Outside Diameter	Make-up Loss	Tensile Efficiency	Structural Compression Efficiency	Compression Efficiency With Sealability	Joint Yield Strength x1000 lb			
in *mm*	lb/ft	in	*mm*	in		in	in	in	% Pipe Body	% Pipe Body	% Pipe Body	80 ksi	95 ksi	110 ksi	125 ksi
5-1/2 *139,70*	29.70	0.562	*14,27*	4.251	KA	4.317	5.733	5.578	79.2	79.2	55.5	552	656	760	863
	29.70	0.562	*14,27*	4.251	Regular	4.317	5.733	5.578	79.2	79.2	55.5	552	656	760	863
	32.00	0.612	*15,54*	4.151	KA	4.217	5.742	5.854	79.3	79.3	55.5	596	708	820	932
	32.00	0.612	*15,54*	4.151	Regular	4.217	5.742	5.854	79.3	79.3	55.5	596	708	820	932
	32.60	0.625	*15,88*	4.125	KA	4.191	5.748	5.886	79.6	79.6	55.7	610	724	838	953
	32.60	0.625	*15,88*	4.125	Regular	4.191	5.748	5.886	79.6	79.6	55.7	610	724	838	953
6-5/8 *168,27*	28.00	0.417	*10,59*	5.666	Regular	5.735	6.751	5.062	73.4	73.4	51.4	478	567	657	746
	32.00	0.475	*12,06*	5.550	Regular	5.619	6.795	5.422	77.0	77.0	53.9	565	671	777	883
	33.00	0.500	*12,70*	5.500	Regular	5.569	6.822	5.480	76.9	76.9	53.8	592	703	814	925
	34.50	0.525	*13,33*	5.450	Regular	5.519	6.841	5.556	78.1	78.1	54.7	628	746	864	982

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

TECHNICAL TABLE

OD 6-5/8'' - 7''

PIPE					CONNECTION PROPERTIES				CONNECTION PERFORMANCES						
Size (OD)	Nominal Weight	Wall Thickness		Drift	Design	Inside Diameter	Outside Diameter	Make-up Loss	Tensile Efficiency	Structural Compression Efficiency	Compression Efficiency With Sealability	Joint Yield Strength x1000 lb			
in *mm*	lb/ft	in	*mm*	in		in	in	in	% Pipe Body	% Pipe Body	% Pipe Body	80 ksi	95 ksi	110 ksi	125 ksi
6-5/8 *168,27*	36.70	0.562	*14,27*	5.376	Regular	5.444	6.869	5.822	79.6	79.6	55.7	681	809	937	1,065
	40.20	0.625	*15,88*	5.250	Regular	5.319	6.920	6.108	80.3	80.3	56.2	757	899	1,041	1,183
	43.70	0.687	*17,45*	5.126	Regular	5.194	6.948	6.456	81.2	81.2	56.9	833	989	1,145	1,301
6-7/8 *174,63*	32.70	0.478	*12,14*	5.794	Regular	5.864	7.061	5.250	75.5	75.5	52.9	580	689	798	907
7 *177,80*	26.00	0.362	*9,19*	6.151	Regular	6.220	7.084	4.580	68.9	68.9	48.2	416	494	572	650
	29.00	0.408	*10,36*	6.059	Regular	6.128	7.119	5.050	72.6	72.6	50.8	491	583	675	767
	32.00	0.453	*11,51*	6.000 A	Regular	6.053	7.162	5.176	74.2	74.2	52.0	553	657	761	865
	35.00	0.498	*12,65*	5.879	Regular	5.948	7.198	5.474	76.8	76.8	53.8	625	742	859	977
	38.00	0.540	*13,72*	5.795	Regular	5.864	7.231	5.776	79.0	79.0	55.3	692	822	952	1,082
	41.00	0.590	*14,99*	5.695	Regular	5.764	7.264	5.918	80.0	80.0	56.0	761	903	1,046	1,188

Drift values: A = Alternate Drift, S = Special Drift

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

VAM® SLIJ-II

TECHNICAL TABLE

OD 7'' - 7-5/8''

PIPE					CONNECTION PROPERTIES				CONNECTION PERFORMANCES						
Size (OD)	Nominal Weight	Wall Thickness		Drift	Design	Inside Diameter	Outside Diameter	Make-up Loss	Tensile Efficiency	Structural Compression Efficiency	Compression Efficiency With Sealability	Joint Yield Strength x1000 lb			
in *mm*	lb/ft	in	*mm*	in		in	in	in	% Pipe Body	% Pipe Body	% Pipe Body	80 ksi	95 ksi	110 ksi	125 ksi
7 *177,80*	42.70	0.625	*15,88*	5.625	Regular	5.694	7.299	6.128	80.6	80.6	56.4	807	958	1,110	1,261
	44.00	0.640	*16,26*	5.595	Regular	5.664	7.309	6.156	80.8	80.8	56.6	827	982	1,137	1,292
	45.40	0.670	*17,02*	5.535	Regular	5.604	7.318	6.428	81.0	81.0	56.7	863	1,025	1,187	1,349
	46.40	0.687	*17,45*	5.501	Regular	5.570	7.323	6.472	80.9	80.9	56.7	882	1,048	1,213	1,379
	49.50	0.730	*18,54*	5.415	Regular	5.484	7.333	6.562	80.9	80.9	56.6	931	1,105	1,280	1,454
7-5/8 *193,67*	29.70	0.375	*9,52*	6.750	Regular	6.821	7.711	4.822	69.2	69.2	48.5	473	562	650	739
	33.70	0.430	*10,92*	6.640	Regular	6.711	7.754	5.170	73.2	73.2	51.3	570	676	783	890
	39.00	0.500	*12,70*	6.500	KA	6.571	7.818	5.526	76.2	76.2	53.3	682	810	938	1,065
	39.00	0.500	*12,70*	6.500	Regular	6.571	7.818	5.526	76.2	76.2	53.3	682	810	938	1,065
	42.80	0.562	*14,27*	6.376	KA	6.447	7.866	5.886	79.1	79.1	55.3	789	937	1,084	1,232

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

TECHNICAL TABLE

OD 7-5/8'' - 7-3/4''

PIPE					CONNECTION PROPERTIES				CONNECTION PERFORMANCES						
Size (OD)	Nominal Weight	Wall Thickness		Drift	Design	Inside Diameter	Outside Diameter	Make-up Loss	Tensile Efficiency	Structural Compression Efficiency	Compression Efficiency With Sealability	Joint Yield Strength x1000 lb			
in *mm*	lb/ft	in	*mm*	in		in	in	in	% Pipe Body	% Pipe Body	% Pipe Body	80 ksi	95 ksi	110 ksi	125 ksi
	42.80	0.562	*14,27*	6.376	Regular	6.447	7.866	5.886	79.1	79.1	55.3	789	937	1,084	1,232
	45.30	0.595	*15,11*	6.310	KA	6.380	7.889	6.156	80.1	80.1	56.1	842	1,000	1,158	1,316
	45.30	0.595	*15,11*	6.310	Regular	6.380	7.889	6.156	80.1	80.1	56.1	842	1,000	1,158	1,316
	47.10	0.625	*15,88*	6.250	Regular	6.321	7.920	6.168	80.1	80.1	56.1	881	1,046	1,211	1,376
7-5/8 *193,67*	51.20	0.687	*17,45*	6.126	Regular	6.197	7.962	6.540	81.4	81.4	57.0	975	1,158	1,341	1,524
	52.10	0.700	*17,78*	6.100	Regular	6.170	7.967	6.770	81.6	81.6	57.1	994	1,180	1,366	1,553
	52.80	0.712	*18,08*	6.076	Regular	6.146	7.976	6.802	82.0	82.0	57.4	1,014	1,204	1,394	1,584
	55.30	0.750	*19,05*	6.000	Regular	6.071	7.989	6.900	82.4	82.4	57.7	1,067	1,268	1,468	1,668
	59.20	0.812	*20,62*	5.876	Regular	5.947	7.991	7.214	81.3	81.3	56.9	1,130	1,342	1,554	1,765
7-3/4 *196,85*	46.10	0.595	*15,11*	6.500 A	Regular	6.555	8.019	6.128	78.8	78.8	55.2	843	1,001	1,159	1,317

Drift values: A = Alternate Drift, S = Special Drift

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

VAM® SLIJ-II

TECHNICAL TABLE

OD 7-3/4'' - 8-5/8''

PIPE					CONNECTION PROPERTIES				CONNECTION PERFORMANCES						
Size (OD)	Nominal Weight	Wall Thickness		Drift	Design	Inside Diameter	Outside Diameter	Make-up Loss	Tensile Efficiency	Structural Compression Efficiency	Compression Efficiency With Sealability	Joint Yield Strength x1000 lb			
in *mm*	lb/ft	in	*mm*	in		in	in	in	% Pipe Body	% Pipe Body	% Pipe Body	80 ksi	95 ksi	110 ksi	125 ksi
7-3/4 *196,85*	46.90	0.615	*15,62*	6.395	Regular	6.465	8.036	6.154	79.5	79.5	55.7	877	1,041	1,206	1,370
	47.60	0.625	*15,88*	6.375	Regular	6.446	8.045	6.166	80.0	80.0	56.0	895	1,063	1,231	1,398
	48.60	0.640	*16,26*	6.345	Regular	6.415	8.056	6.412	80.5	80.5	56.4	921	1,094	1,267	1,439
8-5/8 *219,07*	36.00	0.400	*10,16*	7.700	Regular	7.772	8.721	5.084	70.0	70.0	49.0	579	687	796	904
	40.00	0.450	*11,43*	7.625 A	Regular	7.681	8.767	5.424	72.2	72.2	50.5	667	792	917	1,042
	44.00	0.500	*12,70*	7.500	Regular	7.572	8.809	5.536	75.0	75.0	52.5	766	910	1,053	1,197
	49.00	0.557	*14,15*	7.386	Regular	7.457	8.855	5.880	77.8	77.8	54.5	879	1,044	1,209	1,374
	49.10	0.562	*14,27*	7.376	Regular	7.448	8.857	5.908	78.0	78.0	54.6	888	1,055	1,221	1,388
	52.00	0.595	*15,11*	7.310	Regular	7.381	8.880	6.176	78.6	78.6	55.0	944	1,121	1,298	1,475
	54.00	0.625	*15,88*	7.250	Regular	7.322	8.913	6.384	78.9	78.9	55.3	992	1,178	1,364	1,550

Drift values: A = Alternate Drift, S = Special Drift

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

TECHNICAL TABLE

OD 8-5/8'' - 9-5/8''

PIPE					CONNECTION PROPERTIES				CONNECTION PERFORMANCES						
Size (OD)	Nominal Weight	Wall Thickness		Drift	Design	Inside Diameter	Outside Diameter	Make-up Loss	Tensile Efficiency	Structural Compression Efficiency	Compression Efficiency With Sealability	Joint Yield Strength x1000 lb			
in *mm*	lb/ft	in	*mm*	in		in	in	in	% Pipe Body	% Pipe Body	% Pipe Body	80 ksi	95 ksi	110 ksi	125 ksi
8-5/8 *219,07*	58.70	0.687	*17,45*	7.126	Regular	7.198	8.955	6.544	80.6	80.6	56.4	1,105	1,312	1,519	1,726
	63.50	0.750	*19,05*	7.000	Regular	7.072	8.982	6.916	81.2	81.2	56.8	1,205	1,431	1,657	1,883
9-5/8 *244,47*	43.50	0.435	*11,05*	8.599	Regular	8.673	9.748	5.180	69.4	69.4	48.6	697	828	959	1,090
	47.00	0.472	*11,99*	8.525	KA	8.599	9.777	5.488	71.9	71.9	50.3	780	927	1,073	1,219
	47.00	0.472	*11,99*	8.525	Regular	8.599	9.777	5.488	71.9	71.9	50.3	780	927	1,073	1,219
	53.50	0.545	*13,84*	8.500 A	KA	8.558	9.855	6.040	74.6	74.6	52.2	927	1,101	1,275	1,449
	53.50	0.545	*13,84*	8.500 A	Regular	8.558	9.855	6.040	74.6	74.6	52.2	927	1,101	1,275	1,449
	58.40	0.595	*15,11*	8.375 A	KA	8.434	9.882	6.136	76.8	76.8	53.8	1,037	1,231	1,426	1,620
	58.40	0.595	*15,11*	8.375 A	Regular	8.434	9.882	6.136	76.8	76.8	53.8	1,037	1,231	1,426	1,620
	59.40	0.609	*15,47*	8.251	KA	8.325	9.894	6.378	77.4	77.4	54.2	1,068	1,268	1,469	1,669

Drift values: A = Alternate Drift, S = Special Drift

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

VAM® SLIJ-II

TECHNICAL TABLE

OD 9-5/8'' - 9-7/8''

PIPE					CONNECTION PROPERTIES				CONNECTION PERFORMANCES						
Size (OD)	Nominal Weight	Wall Thickness		Drift	Design	Inside Diameter	Outside Diameter	Make-up Loss	Tensile Efficiency	Structural Compression Efficiency	Compression Efficiency With Sealability	Joint Yield Strength x1000 lb			
in *mm*	lb/ft	in	*mm*	in		in	in	in	% Pipe Body	% Pipe Body	% Pipe Body	80 ksi	95 ksi	110 ksi	125 ksi
9-5/8 *244,47*	59.40	0.609	*15,47*	8.251	Regular	8.325	9.894	6.378	77.4	77.4	54.2	1,068	1,268	1,469	1,669
	61.10	0.625	*15,88*	8.219	KA	8.293	9.905	6.422	77.8	77.8	54.5	1,100	1,307	1,513	1,719
	61.10	0.625	*15,88*	8.219	Regular	8.293	9.905	6.422	77.8	77.8	54.5	1,100	1,307	1,513	1,719
	64.90	0.672	*17,07*	8.125	KA	8.199	9.941	6.554	79.3	79.3	55.5	1,199	1,423	1,648	1,873
	64.90	0.672	*17,07*	8.125	Regular	8.199	9.941	6.554	79.3	79.3	55.5	1,199	1,423	1,648	1,873
	70.30	0.734	*18,64*	8.001	Regular	8.075	9.977	6.916	80.4	80.4	56.3	1,319	1,566	1,814	2,061
	71.80	0.750	*19,05*	7.969	Regular	8.043	9.985	7.174	80.9	80.9	56.7	1,354	1,608	1,862	2,116
	80.80	0.859	*21,82*	7.751	Regular	7.825	9.961	7.614	80.0	80.0	56.0	1,514	1,798	2,081	2,365
9-3/4 *247,65*	59.20	0.595	*15,11*	8.404	Regular	8.559	10.006	6.134	76.6	76.6	53.6	1,049	1,245	1,442	1,638
9-7/8 *250,82*	62.80	0.625	*15,88*	8.500 S	Regular	8.559	10.151	6.422	77.6	77.6	54.3	1,128	1,339	1,551	1,762

Drift values: A = Alternate Drift, S = Special Drift

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

TECHNICAL TABLE

OD 9-7/8'' - 10-3/4"

PIPE					CONNECTION PROPERTIES				CONNECTION PERFORMANCES						
Size (OD)	Nominal Weight	Wall Thickness		Drift	Design	Inside Diameter	Outside Diameter	Make-up Loss	Tensile Efficiency	Structural Compression Efficiency	Compression Efficiency With Sealability	Joint Yield Strength x1000 lb			
in *mm*	lb/ft	in	*mm*	in		in	in	in	% Pipe Body	% Pipe Body	% Pipe Body	80 ksi	95 ksi	110 ksi	125 ksi
9-7/8 *250,82*	65.30	0.650	*16,51*	8.500 S	Regular	8.559	10.174	6.508	78.6	78.6	55.1	1,185	1,408	1,630	1,852
	66.90	0.668	*16,97*	8.383	Regular	8.457	10.188	6.562	79.2	79.2	55.5	1,225	1,454	1,684	1,914
	67.50	0.678	*17,22*	8.363	Regular	8.559	10.181	6.518	76.3	76.3	53.4	1,196	1,420	1,644	1,868
	68.90	0.700	*17,78*	8.319	KA	8.434	10.207	6.860	79.5	79.5	55.7	1,284	1,524	1,765	2,006
	68.90	0.700	*17,78*	8.319	Regular	8.393	10.207	6.860	79.5	79.5	55.7	1,284	1,524	1,765	2,006
10 *254,00*	67.20	0.672	*17,07*	8.500	Regular	8.574	10.312	6.568	79.3	79.3	55.5	1,249	1,483	1,717	1,951
	68.70	0.688	*17,48*	8.500 S	Regular	8.559	10.325	6.822	79.9	79.9	55.9	1,286	1,527	1,768	2,009
10-3/4 *273,05*	51.00	0.450	*11,43*	9.694	Regular	9.771	10.878	5.456	69.8	69.8	48.9	813	966	1,118	1,271
	55.50	0.495	*12,57*	9.625 A	Regular	9.686	10.913	5.786	72.6	72.6	50.8	926	1,100	1,273	1,447
	60.70	0.545	*13,84*	9.504	Regular	9.580	10.962	6.026	73.9	73.9	51.7	1,033	1,226	1,420	1,614

Drift values: A = Alternate Drift, S = Special Drift

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

VAM® SLIJ-II

TECHNICAL TABLE

OD 10-3/4" - 11-3/4''

PIPE					CONNECTION PROPERTIES				CONNECTION PERFORMANCES						
Size (OD)	Nominal Weight	Wall Thickness		Drift	Design	Inside Diameter	Outside Diameter	Make-up Loss	Tensile Efficiency	Structural Compression Efficiency	Compression Efficiency With Sealability	Joint Yield Strength x1000 lb			
in *mm*	lb/ft	in	*mm*	in		in	in	in	% Pipe Body	% Pipe Body	% Pipe Body	80 ksi	95 ksi	110 ksi	125 ksi
10-3/4 *273,05*	65.70	0.595	*15,11*	9.500 S	Regular	9.561	11.002	6.376	76.2	76.2	53.3	1,157	1,374	1,590	1,807
	71.10	0.650	*16,51*	9.294	Regular	9.370	11.045	6.556	78.4	78.4	54.8	1,293	1,535	1,778	2,020
	73.20	0.672	*17,07*	9.250	Regular	9.326	11.063	6.820	79.2	79.2	55.4	1,347	1,600	1,853	2,105
	75.90	0.700	*17,78*	9.194	Regular	9.271	11.081	6.886	79.3	79.3	55.5	1,402	1,665	1,928	2,190
	79.20	0.734	*18,64*	9.126	Regular	9.202	11.102	6.962	79.5	79.5	55.6	1,468	1,744	2,019	2,294
	80.80	0.750	*19,05*	9.094	Regular	9.171	11.114	7.220	79.9	79.9	55.9	1,505	1,787	2,070	2,352
	85.30	0.797	*20,24*	9.000	Regular	9.076	11.144	7.368	81.0	81.0	56.7	1,614	1,917	2,220	2,523
	85.30	0.797	*20,24*	9.000	KA	9.076	11.144	7.368	81.0	81.0	56.7			2,220	
10-7/8 *276,22*	72.00	0.656	*16,66*	9.407	Regular	9.484	11.165	6.548	76.9	76.9	53.8	1,296	1,539	1,782	2,025
11-3/4 *298,45*	54.00	0.435	*11,05*	10.724	KA	10.804	11.858	5.476	67.6	67.6	47.3	837	994	1,150	1,307

Drift values: A = Alternate Drift, S = Special Drift

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TECHNICAL TABLE

OD 11-3/4"

PIPE					CONNECTION PROPERTIES				CONNECTION PERFORMANCES						
Size (OD)	Nominal Weight	Wall Thickness		Drift	Design	Inside Diameter	Outside Diameter	Make-up Loss	Tensile Efficiency	Structural Compression Efficiency	Compression Efficiency With Sealability	Joint Yield Strength x1000 lb			
in *mm*	lb/ft	in	*mm*	in		in	in	in	% Pipe Body	% Pipe Body	% Pipe Body	80 ksi	95 ksi	110 ksi	125 ksi
11-3/4 *298,45*	54.00	0.435	*11,05*	10.724	Regular	10.804	11.858	5.476	67.6	67.6	47.3	837	994	1,150	1,307
	60.00	0.489	*12,42*	10.625 A	Regular	10.689	11.900	5.844	71.2	71.2	49.8	985	1,170	1,355	1,540
	65.00	0.534	*13,56*	10.625 A	KA	10.689	11.943	6.044	72.3	72.3	50.6	1,088	1,292	1,496	1,700
	65.00	0.534	*13,56*	10.625 A	Regular	10.689	11.943	6.044	72.3	72.3	50.6	1,088	1,292	1,496	1,700
	71.00	0.582	*14,78*	10.430	KA	10.509	11.982	6.392	74.6	74.6	52.2	1,218	1,447	1,675	1,904
	71.00	0.582	*14,78*	10.430	Regular	10.509	11.982	6.392	74.6	74.6	52.2	1,218	1,447	1,675	1,904
	74.60	0.618	*15,70*	10.358	KA	10.437	12.006	6.518	76.1	76.1	53.3	1,317	1,563	1,810	2,057
	74.60	0.618	*15,70*	10.358	Regular	10.437	12.006	6.518	76.1	76.1	53.3	1,317	1,563	1,810	2,057
	75.40	0.625	*15,88*	10.344	KA	10.424	12.011	6.542	76.4	76.4	53.5	1,335	1,586	1,836	2,087
	75.40	0.625	*15,88*	10.344	Regular	10.424	12.011	6.542	76.4	76.4	53.5	1,335	1,586	1,836	2,087

Drift values: A = Alternate Drift, S = Special Drift

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

VAM® SLIJ-II

TECHNICAL TABLE

OD 11-3/4" - 13-3/8''

PIPE					CONNECTION PROPERTIES				CONNECTION PERFORMANCES						
Size (OD)	Nominal Weight	Wall Thickness		Drift	Design	Inside Diameter	Outside Diameter	Make-up Loss	Tensile Efficiency	Structural Compression Efficiency	Compression Efficiency With Sealability	Joint Yield Strength x1000 lb			
in *mm*	lb/ft	in	*mm*	in		in	in	in	% Pipe Body	% Pipe Body	% Pipe Body	80 ksi	95 ksi	110 ksi	125 ksi
11-3/4 *298,45*	78.80	0.656	*16,66*	10.282	Regular	10.361	12.035	6.844	77.6	77.6	54.3	1,418	1,684	1,950	2,216
	80.50	0.672	*17,07*	10.250	Regular	10.329	12.048	6.900	78.1	78.1	54.7	1,462	1,736	2,010	2,284
	82.60	0.691	*17,55*	10.212	KA	10.314	12.063	6.964	78.8	78.8	55.2	1,513	1,797	2,081	2,364
	82.60	0.691	*17,55*	10.212	Regular	10.291	12.063	6.964	78.8	78.8	55.2	1,513	1,797	2,081	2,364
	87.40	0.734	*18,64*	10.126	Regular	10.206	12.097	7.288	80.2	80.2	56.1	1,629	1,935	2,240	2,546
11-7/8 *301,63*	71.80	0.582	*14,78*	10.625 S	Regular	10.689	12.096	6.454	74.2	74.2	51.9	1,226	1,455	1,685	1,915
13-3/8 *339,72*	68.00	0.480	*12,19*	12.259	Regular	12.341	13.513	5.766	67.7	67.7	47.4	1,054	1,251	1,449	1,646
	72.00	0.514	*13,06*	12.250 A	Regular	12.316	13.542	5.976	69.9	69.9	48.9	1,162	1,380	1,597	1,815
	77.00	0.550	*13,97*	12.119	Regular	12.201	13.573	6.056	71.9	71.9	50.3	1,275	1,514	1,753	1,992
	80.70	0.580	*14,73*	12.059	Regular	12.141	13.590	6.164	73.2	73.2	51.3	1,366	1,622	1,878	2,134

Drift values: A = Alternate Drift, S = Special Drift

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

TECHNICAL TABLE

OD 13-3/8" - 14"

PIPE					CONNECTION PROPERTIES				CONNECTION PERFORMANCES						
Size (OD)	Nominal Weight	Wall Thickness		Drift	Design	Inside Diameter	Outside Diameter	Make-up Loss	Tensile Efficiency	Structural Compression Efficiency	Compression Efficiency With Sealability	Joint Yield Strength x1000 lb			
in *mm*	lb/ft	in	*mm*	in		in	in	in	% Pipe Body	% Pipe Body	% Pipe Body	80 ksi	95 ksi	110 ksi	125 ksi
13-3/8 *339,72*	85.00	0.608	*15,44*	12.003	Regular	12.085	13.611	6.466	74.4	74.4	52.1	1,451	1,723	1,995	2,267
	86.00	0.625	*15,88*	11.969	Regular	12.051	13.625	6.532	75.1	75.1	52.6	1,505	1,787	2,069	2,351
	92.00	0.672	*17,07*	11.875	Regular	11.957	13.661	6.896	76.9	76.9	53.8	1,649	1,958	2,268	2,577
	98.00	0.719	*18,26*	11.781	Regular	11.863	13.698	7.246	78.4	78.4	54.9	1,793	2,130	2,466	2,802
13-5/8 *346,07*	88.20	0.625	*15,88*	12.250 S	Regular	12.316	13.875	6.518	75.0	75.0	52.5	1,531	1,818	2,105	2,393
14 *355,60*	82.50	0.562	*14,27*	12.689	Regular	12.773	14.199	6.406	71.8	71.8	50.2	1,362	1,618	1,873	2,129
	93.00	0.650	*16,51*	12.513	Regular	12.597	14.263	6.900	74.9	74.9	52.4	1,634	1,940	2,246	2,553
	100.00	0.700	*17,78*	12.413	Regular	12.496	14.301	7.274	76.6	76.6	53.6	1,792	2,128	2,464	2,800
	112.60	0.797	*20,24*	12.250 S	Regular	12.318	14.368	8.000	78.7	78.7	55.1	2,081	2,471	2,861	3,251
	115.00	0.812	*20,62*	12.250 S	Regular	12.318	14.381	8.054	79.3	79.3	55.5	2,133	2,533	2,934	3,334

Drift values: A = Alternate Drift, S = Special Drift

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

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TECHNICAL TABLE

OD 14" - 16''

PIPE					CONNECTION PROPERTIES				CONNECTION PERFORMANCES						
Size (OD)	Nominal Weight	Wall Thickness		Drift	Design	Inside Diameter	Outside Diameter	Make-up Loss	Tensile Efficiency	Structural Compression Efficiency	Compression Efficiency With Sealability	Joint Yield Strength x1000 lb			
in *mm*	lb/ft	in	*mm*	in		in	in	in	% Pipe Body	% Pipe Body	% Pipe Body	80 ksi	95 ksi	110 ksi	125 ksi
14 *355,60*	116.00	0.820	*20,83*	12.250 S	Regular	12.318	14.240	7.768	75.6	75.6	52.9	2,054	2,439	2,824	3,209
16 *406,40*	84.00	0.495	*12,57*	14.823	Regular	14.910	16.250	5.986	66.3	66.3	46.4	1,278	1,518	1,758	1,997
	97.00	0.575	*14,60*	14.750 S	Regular	14.823	16.250	6.496	70.8	70.8	49.5	1,577	1,873	2,169	2,464
	109.00	0.656	*16,66*	14.600 S	Regular	14.673	16.250	7.200	73.9	73.9	51.7	1,870	2,220	2,571	2,922
	118.00	0.715	*18,16*	14.383	Regular	14.470	16.250	7.630	76.3	76.3	53.4	2,095	2,488	2,881	3,274

Drift values: A = Alternate Drift, S = Special Drift

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

FIELD-END MAKE-UP TORQUE VALUES

OD 4-1/2'' - 5''

Size (OD)	Nominal Weight	Wall Thickness	Design	MAKE-UP TORQUE 80 ksi ft.lb			MAKE-UP TORQUE 95 ksi ft.lb			MAKE-UP TORQUE 110 ksi ft.lb			MAKE-UP TORQUE 125 ksi ft.lb			Min. Dope Volume	Max. Dope Volume
in *mm*	lb/ft	in		Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	in^3	in^3
4-1/2 *114,30*	15.10	0.337	Regular	6,210	6,900	7,590	6,390	7,100	7,810	6,570	7,300	8,030	6,750	7,500	8,250	0.49	0.61
	17.00	0.380	Regular	6,840	7,600	8,360	7,110	7,900	8,690	7,290	8,100	8,910	7,560	8,400	9,240	0.49	0.61
	18.90	0.430	Regular	8,640	9,600	10,560	8,910	9,900	10,890	9,180	10,200	11,220	9,540	10,600	11,660	0.61	0.79
	21.50	0.500	Regular	10,530	11,700	12,870	10,890	12,100	13,310	11,250	12,500	13,750	11,610	12,900	14,190	0.61	0.79
5 *127,00*	18.00	0.362	Regular	4,400	4,900	5,400	4,700	5,200	5,700	4,900	5,400	5,900	5,100	5,700	6,300	0.67	0.92
	20.30	0.408	Regular	5,100	5,700	6,300	5,500	6,100	6,700	5,800	6,500	7,200	6,100	6,800	7,500	0.67	0.92
	20.80	0.422	Regular	5,500	6,100	6,700	5,800	6,500	7,200	6,200	6,900	7,600	6,600	7,300	8,000	0.67	0.92
	21.40	0.437	Regular	5,800	6,400	7,000	6,100	6,800	7,500	6,500	7,200	7,900	6,900	7,700	8,500	0.67	0.92
	23.20	0.478	Regular	6,400	7,100	7,800	6,700	7,500	8,300	7,200	8,000	8,800	7,600	8,500	9,400	0.73	1.01
	24.10	0.500	Regular	6,700	7,400	8,100	7,200	8,000	8,800	7,600	8,500	9,400	8,100	9,000	9,900	0.73	1.01

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

VAM® SLIJ-II

FIELD-END MAKE-UP TORQUE VALUES

OD 5" - 5-1/2"

Size (OD)	Nominal Weight	Wall Thickness	Design	MAKE-UP TORQUE 80 ksi ft.lb			MAKE-UP TORQUE 95 ksi ft.lb			MAKE-UP TORQUE 110 ksi ft.lb			MAKE-UP TORQUE 125 ksi ft.lb			Min. Dope Volume	Max. Dope Volume
in *mm*	lb/ft	in		Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	in³	in³
5 *127,00*	26.70	0.562	Regular	7,600	8,400	9,200	8,100	9,000	9,900	8,600	9,600	10,600	9,200	10,200	11,200	0.73	1.01
	29.20	0.625	Regular	8,500	9,500	10,500	9,200	10,200	11,200	9,700	10,800	11,900	10,300	11,500	12,700	0.73	1.01
5-1/2 *139,70*	20.00	0.361	Regular	5,300	5,900	6,500	5,600	6,200	6,800	5,800	6,500	7,200	6,100	6,800	7,500	0.79	1.07
	23.00	0.415	Regular	6,500	7,200	7,900	6,800	7,600	8,400	7,300	8,100	8,900	7,700	8,600	9,500	0.79	1.07
	23.80	0.437	Regular	6,900	7,700	8,500	7,400	8,200	9,000	7,900	8,800	9,700	8,400	9,300	10,200	0.79	1.07
	26.00	0.476	Regular	7,800	8,700	9,600	8,400	9,300	10,200	8,900	9,900	10,900	9,400	10,500	11,600	0.79	1.07
	26.80	0.500	KA	8,300	9,200	10,100	8,800	9,800	10,800	9,400	10,400	11,400	9,900	11,000	12,100	0.92	1.16
	26.80	0.500	Regular	8,300	9,200	10,100	8,800	9,800	10,800	9,400	10,400	11,400	9,900	11,000	12,100	0.92	1.16
	28.40	0.530	KA	8,800	9,800	10,800	9,400	10,500	11,600	10,100	11,200	12,300	10,700	11,900	13,100	0.92	1.16
	28.40	0.530	Regular	8,800	9,800	10,800	9,400	10,500	11,600	10,100	11,200	12,300	10,700	11,900	13,100	0.92	1.16

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FIELD-END MAKE-UP TORQUE VALUES

OD 5-1/2'' - 6-5/8''

Size (OD)	Nominal Weight	Wall Thickness	Design	MAKE-UP TORQUE 80 ksi ft.lb			MAKE-UP TORQUE 95 ksi ft.lb			MAKE-UP TORQUE 110 ksi ft.lb			MAKE-UP TORQUE 125 ksi ft.lb			Min. Dope Volume	Max. Dope Volume
in *mm*	lb/ft	in		Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	in^3	in^3
5-1/2 *139,70*	29.70	0.562	KA	9,400	10,500	11,600	10,200	11,300	12,400	10,800	12,000	13,200	11,500	12,800	14,100	0.92	1.16
	29.70	0.562	Regular	9,400	10,500	11,600	10,200	11,300	12,400	10,800	12,000	13,200	11,500	12,800	14,100	0.92	1.16
	32.00	0.612	KA	10,400	11,600	12,800	11,200	12,400	13,600	11,900	13,200	14,500	12,600	14,000	15,400	0.92	1.16
	32.00	0.612	Regular	10,400	11,600	12,800	11,200	12,400	13,600	11,900	13,200	14,500	12,600	14,000	15,400	0.92	1.16
	32.60	0.625	KA	10,700	11,900	13,100	11,400	12,700	14,000	12,200	13,600	15,000	13,000	14,400	15,800	0.92	1.16
	32.60	0.625	Regular	10,700	11,900	13,100	11,400	12,700	14,000	12,200	13,600	15,000	13,000	14,400	15,800	0.92	1.16
6-5/8 *168,27*	28.00	0.417	Regular	8,600	9,600	10,600	9,200	10,200	11,200	9,800	10,900	12,000	10,300	11,500	12,700	1.10	1.40
	32.00	0.475	Regular	10,400	11,600	12,800	11,200	12,400	13,600	12,000	13,300	14,600	12,700	14,100	15,500	1.10	1.40
	33.00	0.500	Regular	11,000	12,200	13,400	11,800	13,100	14,400	12,600	14,000	15,400	13,400	14,900	16,400	1.10	1.40
	34.50	0.525	Regular	11,800	13,100	14,400	12,600	14,000	15,400	13,500	15,000	16,500	14,400	16,000	17,600	1.10	1.40

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VAM® SLIJ-II

FIELD-END MAKE-UP TORQUE VALUES

OD 6-5/8'' - 7''

Size (OD)	Nominal Weight	Wall Thickness	Design	MAKE-UP TORQUE 80 ksi ft.lb			MAKE-UP TORQUE 95 ksi ft.lb			MAKE-UP TORQUE 110 ksi ft.lb			MAKE-UP TORQUE 125 ksi ft.lb			Min. Dope Volume	Max. Dope Volume
in *mm*	lb/ft	in		Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	in³	in³
6-5/8 *168,27*	36.70	0.562	Regular	12,900	14,300	15,700	13,900	15,400	16,900	14,800	16,500	18,200	15,800	17,600	19,400	1.10	1.40
	40.20	0.625	Regular	14,800	16,400	18,000	15,900	17,700	19,500	17,100	19,000	20,900	18,200	20,200	22,200	1.22	1.59
	43.70	0.687	Regular	16,600	18,400	20,200	17,800	19,800	21,800	19,200	21,300	23,400	20,400	22,700	25,000	1.22	1.59
6-7/8 *174,63*	32.70	0.478	Regular	10,700	11,900	13,100	11,400	12,700	14,000	12,100	13,500	14,900	13,000	14,400	15,800	1.16	1.53
7 *177,80*	26.00	0.362	Regular	8,700	9,700	10,700	9,100	10,100	11,100	9,500	10,600	11,700	9,900	11,000	12,100	1.10	1.46
	29.00	0.408	Regular	10,400	11,600	12,800	10,900	12,100	13,300	11,400	12,700	14,000	12,000	13,300	14,600	1.10	1.46
	32.00	0.453	Regular	11,900	13,200	14,500	12,600	14,000	15,400	13,400	14,900	16,400	14,100	15,700	17,300	1.10	1.46
	35.00	0.498	Regular	13,600	15,100	16,600	14,600	16,200	17,800	15,500	17,200	18,900	16,400	18,200	20,000	1.10	1.46
	38.00	0.540	Regular	15,300	17,000	18,700	16,300	18,100	19,900	17,400	19,300	21,200	18,400	20,400	22,400	1.10	1.46
	41.00	0.590	Regular	17,100	19,000	20,900	18,400	20,400	22,400	19,600	21,800	24,000	20,800	23,100	25,400	1.10	1.46

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

FIELD-END MAKE-UP TORQUE VALUES

OD 7" - 7-5/8"

Size (OD)	Nominal Weight	Wall Thickness	Design	MAKE-UP TORQUE 80 ksi ft.lb			MAKE-UP TORQUE 95 ksi ft.lb			MAKE-UP TORQUE 110 ksi ft.lb			MAKE-UP TORQUE 125 ksi ft.lb			Min. Dope Volume	Max. Dope Volume
in *mm*	lb/ft	in		Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	in^3	in^3
7 *177,80*	42.70	0.625	Regular	18,500	20,600	22,700	19,800	22,000	24,200	21,100	23,500	25,900	22,800	25,300	27,800	1.28	1.71
	44.00	0.640	Regular	19,100	21,200	23,300	20,400	22,700	25,000	21,100	23,500	25,900	22,800	25,300	27,800	1.28	1.71
	45.40	0.670	Regular	20,200	22,400	24,600	21,100	23,500	25,900	22,800	25,300	27,800	24,400	27,100	29,800	1.28	1.71
	46.40	0.687	Regular	20,800	23,100	25,400	22,800	25,300	27,800	24,400	27,100	29,800	26,000	28,900	31,800	1.28	1.71
	49.50	0.730	Regular	22,800	25,300	27,800	24,400	27,100	29,800	26,000	28,900	31,800	27,600	30,700	33,800	1.28	1.71
7-5/8 *193,67*	29.70	0.375	Regular	10,300	11,400	12,500	10,800	12,000	13,200	11,300	12,600	13,900	11,900	13,200	14,500	1.22	1.65
	33.70	0.430	Regular	12,600	14,000	15,400	13,200	14,700	16,200	13,900	15,500	17,100	14,700	16,300	17,900	1.22	1.65
	39.00	0.500	KA	15,400	17,100	18,800	16,500	18,300	20,100	17,500	19,400	21,300	18,500	20,600	22,700	1.22	1.65
	39.00	0.500	Regular	15,400	17,100	18,800	16,500	18,300	20,100	17,500	19,400	21,300	18,500	20,600	22,700	1.22	1.65
	42.80	0.562	KA	18,100	20,100	22,100	19,400	21,600	23,800	20,800	23,100	25,400	22,800	25,300	27,800	1.22	1.65

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

VAM® SLIJ-II

FIELD-END MAKE-UP TORQUE VALUES

OD 7-5/8'' - 7-3/4''

Size (OD)	Nominal Weight	Wall Thickness	Design	MAKE-UP TORQUE 80 ksi ft.lb			MAKE-UP TORQUE 95 ksi ft.lb			MAKE-UP TORQUE 110 ksi ft.lb			MAKE-UP TORQUE 125 ksi ft.lb			Min. Dope Volume	Max. Dope Volume
in *mm*	lb/ft	in		Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	in³	in³
7-5/8 *193,67*	42.80	0.562	Regular	18,100	20,100	22,100	19,400	21,600	23,800	20,800	23,100	25,400	22,800	25,300	27,800	1.22	1.65
	45.30	0.595	KA	19,600	21,800	24,000	21,100	23,500	25,900	22,800	25,300	27,800	24,400	27,100	29,800	1.22	1.65
	45.30	0.595	Regular	19,600	21,800	24,000	21,100	23,500	25,900	22,800	25,300	27,800	24,400	27,100	29,800	1.22	1.65
	47.10	0.625	Regular	21,100	23,500	25,900	22,800	25,300	27,800	24,400	27,100	29,800	26,000	28,900	31,800	1.46	1.95
	51.20	0.687	Regular	24,400	27,100	29,800	26,000	28,900	31,800	27,600	30,700	33,800	29,200	32,500	35,800	1.46	1.95
	52.10	0.700	Regular	24,400	27,100	29,800	26,000	28,900	31,800	27,600	30,700	33,800	29,200	32,500	35,800	1.46	1.95
	52.80	0.712	Regular	24,400	27,100	29,800	26,000	28,900	31,800	27,600	30,700	33,800	29,200	32,500	35,800	1.46	1.95
	55.30	0.750	Regular	26,000	28,900	31,800	27,600	30,700	33,800	29,200	32,500	35,800	31,000	34,400	37,800	1.46	1.95
	59.20	0.812	Regular	29,200	32,500	35,800	31,000	34,400	37,800	32,600	36,200	39,800	34,200	38,000	41,800	1.46	1.95
7-3/4 *196,85*	46.10	0.595	Regular	19,400	21,600	23,800	20,800	23,100	25,400	22,800	25,300	27,800	24,400	27,100	29,800	1.46	1.95

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

FIELD-END MAKE-UP TORQUE VALUES

OD 7-3/4'' - 8-5/8''

Size (OD)	Nominal Weight	Wall Thickness	Design	MAKE-UP TORQUE 80 ksi ft.lb			MAKE-UP TORQUE 95 ksi ft.lb			MAKE-UP TORQUE 110 ksi ft.lb			MAKE-UP TORQUE 125 ksi ft.lb			Min. Dope Volume	Max. Dope Volume
in *mm*	lb/ft	in		Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	in^3	in^3
7-3/4 *196,85*	46.90	0.615	Regular	20,500	22,800	25,100	22,800	25,300	27,800	24,400	27,100	29,800	26,000	28,900	31,800	1.46	1.95
	47.60	0.625	Regular	21,100	23,500	25,900	22,800	25,300	27,800	24,400	27,100	29,800	26,000	28,900	31,800	1.46	1.95
	48.60	0.640	Regular	21,100	23,500	25,900	22,800	25,300	27,800	24,400	27,100	29,800	26,000	28,900	31,800	1.46	1.95
8-5/8 *219,07*	36.00	0.400	Regular	11,500	12,800	14,100	12,300	13,700	15,100	13,000	14,500	16,000	13,800	15,300	16,800	1.46	1.95
	40.00	0.450	Regular	13,600	15,100	16,600	14,700	16,300	17,900	15,700	17,400	19,100	16,600	18,500	20,400	1.65	2.26
	44.00	0.500	Regular	15,700	17,500	19,300	17,100	19,000	20,900	18,400	20,400	22,400	19,700	21,900	24,100	1.65	2.26
	49.00	0.557	Regular	18,300	20,300	22,300	19,900	22,100	24,300	21,100	23,500	25,900	22,800	25,300	27,800	1.65	2.26
	49.10	0.562	Regular	18,500	20,600	22,700	20,200	22,500	24,800	21,100	23,500	25,900	22,800	25,300	27,800	1.65	2.26
	52.00	0.595	Regular	20,100	22,300	24,500	21,100	23,500	25,900	22,800	25,300	27,800	24,400	27,100	29,800	1.65	2.26
	54.00	0.625	Regular	21,100	23,500	25,900	22,800	25,300	27,800	24,400	27,100	29,800	26,000	28,900	31,800	1.65	2.26

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VAM® SLIJ-II

FIELD-END MAKE-UP TORQUE VALUES

OD 8-5/8'' - 9-5/8''

Size (OD)	Nominal Weight	Wall Thickness	Design	MAKE-UP TORQUE 80 ksi ft.lb			MAKE-UP TORQUE 95 ksi ft.lb			MAKE-UP TORQUE 110 ksi ft.lb			MAKE-UP TORQUE 125 ksi ft.lb			Min. Dope Volume	Max. Dope Volume
in *mm*	lb/ft	in		Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	in³	in³
8-5/8 *219,07*	58.70	0.687	Regular	24,400	27,100	29,800	26,000	28,900	31,800	27,600	30,700	33,800	29,200	32,500	35,800	1.65	2.26
	63.50	0.750	Regular	27,600	30,700	33,800	29,200	32,500	35,800	31,000	34,400	37,800	32,600	36,200	39,800	1.65	2.26
9-5/8 *244,47*	43.50	0.435	Regular	13,400	14,900	16,400	14,400	16,000	17,600	15,500	17,200	18,900	16,500	18,300	20,100	1.71	2.38
	47.00	0.472	KA	15,100	16,800	18,500	16,400	18,200	20,000	17,500	19,500	21,500	18,700	20,800	22,900	1.71	2.38
	47.00	0.472	Regular	15,100	16,800	18,500	16,400	18,200	20,000	17,500	19,500	21,500	18,700	20,800	22,900	1.71	2.38
	53.50	0.545	KA	18,300	20,300	22,300	20,000	22,200	24,400	21,100	23,500	25,900	22,800	25,300	27,800	1.71	2.38
	53.50	0.545	Regular	18,300	20,300	22,300	20,000	22,200	24,400	21,100	23,500	25,900	22,800	25,300	27,800	1.71	2.38
	58.40	0.595	KA	20,700	23,000	25,300	22,800	25,300	27,800	24,400	27,100	29,800	26,000	28,900	31,800	1.71	2.38
	58.40	0.595	Regular	20,700	23,000	25,300	22,800	25,300	27,800	24,400	27,100	29,800	26,000	28,900	31,800	1.71	2.38
	59.40	0.609	KA	21,100	23,500	25,900	22,800	25,300	27,800	24,400	27,100	29,800	26,000	28,900	31,800	2.01	2.81

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VAM® SLIJ-II

FIELD-END MAKE-UP TORQUE VALUES

OD 9-5/8'' - 9-7/8''

Size (OD)	Nominal Weight	Wall Thickness	Design	MAKE-UP TORQUE 80 ksi ft.lb			MAKE-UP TORQUE 95 ksi ft.lb			MAKE-UP TORQUE 110 ksi ft.lb			MAKE-UP TORQUE 125 ksi ft.lb			Min. Dope Volume	Max. Dope Volume
in *mm*	lb/ft	in		Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	in^3	in^3
9-5/8 *244,47*	59.40	0.609	Regular	21,100	23,500	25,900	22,800	25,300	27,800	24,400	27,100	29,800	26,000	28,900	31,800	2.01	2.81
	61.10	0.625	KA	22,800	25,300	27,800	24,400	27,100	29,800	26,000	28,900	31,800	27,600	30,700	33,800	2.01	2.81
	61.10	0.625	Regular	22,800	25,300	27,800	24,400	27,100	29,800	26,000	28,900	31,800	27,600	30,700	33,800	2.01	2.81
	64.90	0.672	KA	24,400	27,100	29,800	26,000	28,900	31,800	27,600	30,700	33,800	29,200	32,500	35,800	2.01	2.81
	64.90	0.672	Regular	24,400	27,100	29,800	26,000	28,900	31,800	27,600	30,700	33,800	29,200	32,500	35,800	2.01	2.81
	70.30	0.734	Regular	27,600	30,700	33,800	29,200	32,500	35,800	31,000	34,400	37,800	32,600	36,200	39,800	2.01	2.81
	71.80	0.750	Regular	29,200	32,500	35,800	31,000	34,400	37,800	32,600	36,200	39,800	34,200	38,000	41,800	2.01	2.81
	80.80	0.859	Regular	34,200	38,000	41,800	35,800	39,800	43,800	37,400	41,600	45,800	39,000	43,400	47,800	2.01	2.81
9-3/4 *247,65*	59.20	0.595	Regular	20,700	23,000	25,300	22,800	25,300	27,800	24,400	27,100	29,800	26,000	28,900	31,800	1.89	2.56
9-7/8 *250,82*	62.80	0.625	Regular	22,800	25,300	27,800	24,400	27,100	29,800	26,000	28,900	31,800	27,600	30,700	33,800	2.01	2.81

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VAM® SLIJ-II

FIELD-END MAKE-UP TORQUE VALUES

OD 9-7/8'' - 10-3/4"

Size (OD)	Nominal Weight	Wall Thickness	Design	MAKE-UP TORQUE 80 ksi ft.lb			MAKE-UP TORQUE 95 ksi ft.lb			MAKE-UP TORQUE 110 ksi ft.lb			MAKE-UP TORQUE 125 ksi ft.lb			Min. Dope Volume	Max. Dope Volume
in *mm*	lb/ft	in		Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	in³	in³
9-7/8 *250,82*	65.30	0.650	Regular	24,400	27,100	29,800	26,000	28,900	31,800	27,600	30,700	33,800	29,200	32,500	35,800	2.01	2.81
	66.90	0.668	Regular	24,400	27,100	29,800	26,000	28,900	31,800	27,600	30,700	33,800	29,200	32,500	35,800	2.01	2.81
	67.50	0.678	Regular	24,400	27,100	29,800	26,000	28,900	31,800	27,600	30,700	33,800	29,200	32,500	35,800	2.01	2.81
	68.90	0.700	KA	27,600	30,700	33,800	29,200	32,500	35,800	31,000	34,400	37,800	32,600	36,200	39,800	2.01	2.81
	68.90	0.700	Regular	27,600	30,700	33,800	29,200	32,500	35,800	31,000	34,400	37,800	32,600	36,200	39,800	2.01	2.81
10 *254,00*	67.20	0.672	Regular	24,400	27,100	29,800	26,000	28,900	31,800	27,600	30,700	33,800	29,200	32,500	35,800	2.01	2.81
	68.70	0.688	Regular	26,000	28,900	31,800	27,600	30,700	33,800	29,200	32,500	35,800	31,000	34,400	37,800	2.01	2.81
10-3/4 *273,05*	51.00	0.450	Regular	14,800	16,400	18,000	16,200	18,000	19,800	17,700	19,700	21,700	19,200	21,300	23,400	2.01	2.81
	55.50	0.495	Regular	16,900	18,800	20,700	18,700	20,800	22,900	20,400	22,700	25,000	22,800	25,300	27,800	2.01	2.81
	60.70	0.545	Regular	19,400	21,600	23,800	21,100	23,500	25,900	22,800	25,300	27,800	24,400	27,100	29,800	2.01	2.81

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VAM® SLIJ-II

FIELD-END MAKE-UP TORQUE VALUES

OD 10-3/4" - 11-3/4"

Size (OD)	Nominal Weight	Wall Thickness	Design	MAKE-UP TORQUE 80 ksi ft.lb			MAKE-UP TORQUE 95 ksi ft.lb			MAKE-UP TORQUE 110 ksi ft.lb			MAKE-UP TORQUE 125 ksi ft.lb			Min. Dope Volume	Max. Dope Volume
in *mm*	lb/ft	in		Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	in^3	in^3
10-3/4 *273,05*	65.70	0.595	Regular	21,100	23,500	25,900	22,800	25,300	27,800	24,400	27,100	29,800	26,000	28,900	31,800	2.01	2.81
	71.10	0.650	Regular	24,400	27,100	29,800	26,000	28,900	31,800	27,600	30,700	33,800	29,200	32,500	35,800	2.26	3.23
	73.20	0.672	Regular	26,000	28,900	31,800	27,600	30,700	33,800	29,200	32,500	35,800	31,000	34,400	37,800	2.26	3.23
	75.90	0.700	Regular	27,600	30,700	33,800	29,200	32,500	35,800	31,000	34,400	37,800	32,600	36,200	39,800	2.26	3.23
	79.20	0.734	Regular	29,200	32,500	35,800	31,000	34,400	37,800	32,600	36,200	39,800	34,200	38,000	41,800	2.26	3.23
	80.80	0.750	Regular	29,200	32,500	35,800	31,000	34,400	37,800	32,600	36,200	39,800	34,200	38,000	41,800	2.26	3.23
	85.30	0.797	Regular	32,600	36,200	39,800	34,200	38,000	41,800	35,800	39,800	43,800	37,400	41,600	45,800	2.26	3.23
	85.30	0.797	KA							35,800	37,800	39,800				2.26	3.23
10-7/8 *276,22*	72.00	0.656	Regular	24,400	27,100	29,800	26,000	28,900	31,800	27,600	30,700	33,800	29,200	32,500	35,800	2.26	3.17
11-3/4 *298,45*	54.00	0.435	KA	14,800	16,400	18,000	16,300	18,100	19,900	17,700	19,700	21,700	19,300	21,400	23,500	2.32	3.30

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VAM® SLIJ-II

FIELD-END MAKE-UP TORQUE VALUES

OD 11-3/4"

Size (OD)	Nominal Weight	Wall Thickness	Design	MAKE-UP TORQUE 80 ksi ft.lb			MAKE-UP TORQUE 95 ksi ft.lb			MAKE-UP TORQUE 110 ksi ft.lb			MAKE-UP TORQUE 125 ksi ft.lb			Min. Dope Volume	Max. Dope Volume
in *mm*	lb/ft	in		Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	in³	in³
11-3/4 *298,45*	54.00	0.435	Regular	14,800	16,400	18,000	16,300	18,100	19,900	17,700	19,700	21,700	19,300	21,400	23,500	2.32	3.30
	60.00	0.489	Regular	17,500	19,400	21,300	19,300	21,500	23,700	21,100	23,500	25,900	22,800	25,300	27,800	2.32	3.30
	65.00	0.534	KA	19,300	21,500	23,700	21,100	23,500	25,900	22,800	25,300	27,800	24,400	27,100	29,800	2.32	3.30
	65.00	0.534	Regular	19,300	21,500	23,700	21,100	23,500	25,900	22,800	25,300	27,800	24,400	27,100	29,800	2.32	3.30
	71.00	0.582	KA	22,800	25,300	27,800	24,400	27,100	29,800	26,000	28,900	31,800	27,600	30,700	33,800	2.32	3.30
	71.00	0.582	Regular	22,800	25,300	27,800	24,400	27,100	29,800	26,000	28,900	31,800	27,600	30,700	33,800	2.32	3.30
	74.60	0.618	KA	24,400	27,100	29,800	26,000	28,900	31,800	27,600	30,700	33,800	29,200	32,500	35,800	2.32	3.30
	74.60	0.618	Regular	24,400	27,100	29,800	26,000	28,900	31,800	27,600	30,700	33,800	29,200	32,500	35,800	2.32	3.30
	75.40	0.625	KA	24,400	27,100	29,800	26,000	28,900	31,800	27,600	30,700	33,800	29,200	32,500	35,800	2.32	3.30
	75.40	0.625	Regular	24,400	27,100	29,800	26,000	28,900	31,800	27,600	30,700	33,800	29,200	32,500	35,800	2.32	3.30

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FIELD-END MAKE-UP TORQUE VALUES

OD 11-3/4" - 13-3/8"

Size (OD)	Nominal Weight	Wall Thickness	Design	MAKE-UP TORQUE 80 ksi ft.lb			MAKE-UP TORQUE 95 ksi ft.lb			MAKE-UP TORQUE 110 ksi ft.lb			MAKE-UP TORQUE 125 ksi ft.lb			Min. Dope Volume	Max. Dope Volume
in *mm*	lb/ft	in		Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	in^3	in^3
11-3/4 *298,45*	78.80	0.656	Regular	26,000	28,900	31,800	27,600	30,700	33,800	29,200	32,500	35,800	31,000	34,400	37,800	2.56	3.66
	80.50	0.672	Regular	27,600	30,700	33,800	29,200	32,500	35,800	31,000	34,400	37,800	32,600	36,200	39,800	2.56	3.66
	82.60	0.691	KA	27,600	30,700	33,800	29,200	32,500	35,800	31,000	34,400	37,800	32,600	36,200	39,800	2.56	3.66
	82.60	0.691	Regular	29,200	32,500	35,800	31,000	34,400	37,800	32,600	36,200	39,800	34,200	38,000	41,800	2.56	3.66
	87.40	0.734	Regular	31,000	34,400	37,800	32,600	36,200	39,800	34,200	38,000	41,800	35,800	39,800	43,800	2.56	3.66
11-7/8 *301,63*	71.80	0.582	Regular	22,800	25,300	27,800	24,400	27,100	29,800	26,000	28,900	31,800	27,600	30,700	33,800	2.56	3.72
13-3/8 *339,72*	68.00	0.480	Regular	18,100	20,100	22,100	20,300	22,600	24,900	22,800	25,300	27,800	24,400	27,100	29,800	2.62	3.78
	72.00	0.514	Regular	19,300	21,400	23,500	21,100	23,500	25,900	22,800	25,300	27,800	24,400	27,100	29,800	2.62	3.78
	77.00	0.550	Regular	21,100	23,500	25,900	22,800	25,300	27,800	24,400	27,100	29,800	26,000	28,900	31,800	2.62	3.78
	80.70	0.580	Regular	22,800	25,300	27,800	24,400	27,100	29,800	26,000	28,900	31,800	27,600	30,700	33,800	2.62	3.78

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

VAM® SLIJ-II

FIELD-END MAKE-UP TORQUE VALUES

OD 13-3/8" - 14''

Size (OD)	Nominal Weight	Wall Thickness	Design	MAKE-UP TORQUE 80 ksi ft.lb			MAKE-UP TORQUE 95 ksi ft.lb			MAKE-UP TORQUE 110 ksi ft.lb			MAKE-UP TORQUE 125 ksi ft.lb			Min. Dope Volume	Max. Dope Volume
in *mm*	lb/ft	in		Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	in³	in³
13-3/8 *339,72*	85.00	0.608	Regular	24,400	27,100	29,800	26,000	28,900	31,800	27,600	30,700	33,800	29,200	32,500	35,800	2.87	4.03
	86.00	0.625	Regular	26,000	28,900	31,800	27,600	30,700	33,800	29,200	32,500	35,800	31,000	34,400	37,800	2.87	4.03
	92.00	0.672	Regular	29,200	32,500	35,800	31,000	34,400	37,800	32,600	36,200	39,800	34,200	38,000	41,800	2.87	4.03
	98.00	0.719	Regular	31,000	34,400	37,800	32,600	36,200	39,800	34,200	38,000	41,800	35,800	39,800	43,800	2.87	4.03
13-5/8 *346,07*	88.20	0.625	Regular	26,000	28,900	31,800	27,600	30,700	33,800	29,200	32,500	35,800	31,000	34,400	37,800	2.87	4.03
14 *355,60*	82.50	0.562	Regular	26,000	28,900	31,800	27,600	30,700	33,800	29,200	32,500	35,800	31,000	34,400	37,800	3.05	4.03
	93.00	0.650	Regular	32,600	36,200	39,800	34,200	38,000	41,800	35,800	39,800	43,800	37,400	41,600	45,800	3.05	4.03
	100.00	0.700	Regular	35,800	39,800	43,800	37,400	41,600	45,800	39,000	43,400	47,700	40,700	45,200	49,700	3.05	4.03
	112.60	0.797	Regular	43,900	48,800	53,700	44,900	49,900	54,900	44,900	49,900	54,900	44,900	49,900	54,900	3.48	4.62
	115.00	0.812	Regular	44,900	49,900	54,900	44,900	49,900	54,900	44,900	49,900	54,900	44,900	49,900	54,900	3.48	4.62

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

FIELD-END MAKE-UP TORQUE VALUES

OD 14" - 16"

Size (OD)	Nominal Weight	Wall Thickness	Design	MAKE-UP TORQUE 80 ksi ft.lb			MAKE-UP TORQUE 95 ksi ft.lb			MAKE-UP TORQUE 110 ksi ft.lb			MAKE-UP TORQUE 125 ksi ft.lb			Min. Dope Volume	Max. Dope Volume
in *mm*	lb/ft	in		Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	in³	in³
14 *355,60*	116.00	0.820	Regular	44,900	49,900	54,900	44,900	49,900	54,900	44,900	49,900	54,900	44,900	49,900	54,900	3.48	4.62
16 *406,40*	84.00	0.495	Regular	31,000	34,400	37,800	32,600	36,200	39,800	34,200	38,000	41,800	35,800	39,800	43,800	3.23	4.27
	97.00	0.575	Regular	35,800	39,800	43,800	37,400	41,600	45,800	39,000	43,400	47,700	40,700	45,200	49,700	3.23	4.27
	109.00	0.656	Regular	42,300	47,000	51,700	43,900	48,800	53,700	44,900	49,900	54,900	44,900	49,900	54,900	3.72	4.94
	118.00	0.715	Regular	44,900	49,900	54,900	44,900	49,900	54,900	44,900	49,900	54,900	44,900	49,900	54,900	3.72	4.94

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

VAM® BOLT-II

TECHNICAL TABLE

OD 11-3/4" - 16''

PIPE					CONNECTION PROPERTIES				CONNECTION PERFORMANCES					
Size (OD)	Nominal Weight	Wall Thickness		Drift	Design	Inside Diameter	Outside Diameter	Make-up Loss	Tensile Efficiency With Sealability	Compression Efficiency With Sealability	Joint Yield Strength x1000 lb			
in *mm*	lb/ft	in	*mm*	in		in	in	in	% Pipe Body	% Pipe Body	80 ksi	95 ksi	110 ksi	125 ksi
11-3/4 *298,45*	60.00	0.489	*12,42*	10.625 A	Regular	10.702	11.826	6.013	60	60	830	986	1,142	1,298
	65.00	0.534	*13,56*	10.625 A	Regular	10.682	11.822	5.522	60	60	903	1,073	1,242	1,411
	82.60	0.691	*17,55*	10.212	Regular	10.276	11.826	6.361	61	61	1,172	1,391	1,611	1,831
11-7/8 *301,63*	71.80	0.582	*14,78*	10.625 S	Regular	10.690	11.946	5.745	60	60	991	1,177	1,363	1,549
13-5/8 *346,07*	88.20	0.625	*15,88*	12.250 S	Regular	12.331	13.713	6.658	60	60	1,225	1,455	1,685	1,914
14 *355,60*	112.60	0.797	*20,24*	12.250 S	Regular	12.320	14.091	7.463	63	63	1,666	1,979	2,291	2,603
	115.00	0.812	*20,62*	12.250 S	Regular	12.332	14.091	8.100	65	65	1,749	2,077	2,405	2,733
16 *406,40*	84.00	0.495	*12,57*	14.823	Regular	14.909	16.104	5.197	57	56	1,100	1,306	1,512	1,718
	95.00	0.566	*14,38*	14.750 S	Regular	14.836	16.104	6.559	60	60	1,317	1,564	1,811	2,058
	97.00	0.575	*14,60*	14.750 S	Regular	14.836	16.101	6.459	60	60	1,337	1,588	1,839	2,090

Drift values: A = Alternate Drift, S = Special Drift

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

TECHNICAL TABLE

OD 16"

PIPE					CONNECTION PROPERTIES				CONNECTION PERFORMANCES					
Size (OD)	Nominal Weight	Wall Thickness		Drift	Design	Inside Diameter	Outside Diameter	Make-up Loss	Tensile Efficiency With Sealability	Compression Efficiency With Sealability	Joint Yield Strength x1000 lb			
in *mm*	lb/ft	in	*mm*	in		in	in	in	% Pipe Body	% Pipe Body	80 ksi	95 ksi	110 ksi	125 ksi
16 *406,40*	109.00	0.656	*16,66*	14.600 S	Regular	14.673	16.118	7.789	63	63	1,594	1,893	2,191	2,490

Drift values: A = Alternate Drift, S = Special Drift

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

VAM® BOLT-II

TECHNICAL TABLE

OD 17" - 18''

PIPE					CONNECTION PROPERTIES				CONNECTION PERFORMANCES						
Size (OD)	Nominal Weight	Wall Thickness		Drift	Design	Inside Diameter	Outside Diameter	Make-up Loss	Structural Tensile Efficiency	Tensile Efficiency With Sealability	Structural Compression Efficiency	Compression Efficiency With Sealability	Joint Yield Strength x1000 lb		
in *mm*	lb/ft	in	*mm*	in		in	in	in	% Pipe Body	% Pipe Body	% Pipe Body	% Pipe Body	80 ksi	110 ksi	125 ksi
17 *431,80*	88.10	0.500	*12,70*	15.813	Regular	15.911	17.078	5.453	52	41.6	41.6	41.6	1,078	1,483	1,685
17-7/8 *454,02*	93.50	0.500	*12,70*	16.688	Regular	16.787	17.958	5.444	52	41.6	41.6	41.6	1,135	1,561	1,774
18 *457,20*	94.00	0.500	*12,70*	16.813	Regular	16.896	18.039	5.394	52	41.6	41.6	41.6	1,144	1,572	1,787
	105.00	0.562	*14,27*	16.689	Regular	16.789	18.042	6.288	57	45.6	45.6	45.6	1,404	1,930	2,194
	117.00	0.625	*15,88*	16.563	Regular	16.663	18.042	7.691	60	48	48	48	1,638	2,252	2,559
	119.00	0.640	*16,26*	16.533	Regular	16.633	18.042	7.029	61	48.8	48.8	48.8	1,703	2,342	2,661
	127.00	0.688	*17,48*	16.437	Regular	16.537	18.042	7.766	63	50.4	50.4	50.4	1,886	2,593	2,947

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

VAM® BOLT-II

FIELD-END MAKE-UP TORQUE VALUES

OD 11-3/4" - 16"

Size (OD)	Nominal Weight	Wall Thickness	Design	MAKE-UP TORQUE 80 ksi ft.lb			MAKE-UP TORQUE 95 ksi ft.lb			MAKE-UP TORQUE 110 ksi ft.lb			MAKE-UP TORQUE 125 ksi ft.lb			MTS 80 ksi	MTS 95 ksi	MTS 110 ksi	MTS 125 ksi	Min. Dope Volume	Max. Dope Volume
in *mm*	lb/ft	in		Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	ft.lb	ft.lb	ft.lb	ft.lb	in³	in³
11-3/4 *298,45*	60.00	0.489	Regular	18,700	20,900	23,200	21,100	23,700	26,400	21,200	25,400	29,600	24,400	28,500	32,700	24,400	27,800	31,100	34,400	1.86	2.41
	65.00	0.534	Regular	19,800	22,300	24,700	22,700	25,500	28,400	22,700	27,400	32,000	26,400	31,100	35,700	26,000	29,900	33,700	37,500	1.94	2.52
	82.60	0.691	Regular	28,800	32,300	35,900	32,800	37,000	41,100	33,900	40,000	46,200	41,300	46,300	51,300	37,800	43,200	48,600	54,000	2.20	2.86
11-7/8 *301,63*	71.80	0.582	Regular	22,600	25,400	28,200	26,000	29,300	32,500	26,300	31,500	36,700	30,500	35,800	40,900	29,800	34,200	38,600	43,100	2.03	2.64
13-5/8 *346,07*	88.20	0.625	Regular	29,000	32,600	36,200	33,200	37,300	41,500	34,200	40,500	46,800	39,500	45,800	52,100	42,600	48,800	55,000	61,200	2.63	3.41
14 *355,60*	112.60	0.797	Regular	38,900	43,700	48,600	44,800	50,300	55,900	46,500	54,900	63,200	53,900	62,300	70,600	57,200	65,800	74,300	83,000	3.14	4.08
	115.00	0.812	Regular	41,700	45,500	49,200	45,000	50,700	56,300	47,200	55,200	63,300	54,300	62,300	70,400	57,900	66,200	74,400	82,800	3.45	4.48
16 *406,40*	84.00	0.495	Regular	29,400	33,100	36,800	33,800	38,000	42,200	34,800	41,200	47,600	41,500	47,300	53,000	43,300	49,600	56,000	62,300	2.41	3.13
	95.00	0.566	Regular	31,900	35,900	39,900	36,800	41,400	46,000	37,900	44,900	52,000	44,000	51,000	58,100	46,900	54,100	61,200	68,400	3.07	3.99
	97.00	0.575	Regular	32,600	36,700	40,800	37,500	42,300	47,000	38,700	46,000	53,100	45,000	52,100	59,400	47,900	55,200	62,500	69,800	3.06	3.98

MTS = Maximum Torque with Sealability (maximum Torque up to which the string can be rotated downhole, with no impact on connection's performances)
For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

VAM® BOLT-II

FIELD-END MAKE-UP TORQUE VALUES

OD 16”

Size (OD)	Nominal Weight	Wall Thickness	Design	MAKE-UP TORQUE 80 ksi ft.lb			MAKE-UP TORQUE 95 ksi ft.lb			MAKE-UP TORQUE 110 ksi ft.lb			MAKE-UP TORQUE 125 ksi ft.lb			MTS 80 ksi	MTS 95 ksi	MTS 110 ksi	MTS 125 ksi	Min. Dope Volume	Max. Dope Volume
in *mm*	lb/ft	in		Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	ft.lb	ft.lb	ft.lb	ft.lb	in³	in³
16 *406,40*	109.00	0.656	Regular	36,300	40,800	45,400	41,500	46,800	51,900	43,300	50,900	58,500	49,900	57,500	65,100	53,300	61,100	68,800	76,600	3.67	4.77

MTS = Maximum Torque with Sealability (maximum Torque up to which the string can be rotated downhole, with no impact on connection's performances)
For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

VAM® BOLT-II

FIELD-END MAKE-UP TORQUE VALUES

OD 17" - 18"

Size (OD)	Nominal Weight	Wall Thickness	Design	MAKE-UP TORQUE 80 ksi ft.lb			MAKE-UP TORQUE 110 ksi ft.lb			MAKE-UP TORQUE 125 ksi ft.lb			Min. Dope Volume	Max. Dope Volume
in *mm*	lb/ft	in		Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	in³	in³
17 *431,80*	88.10	0.500	Regular	36,700	41,300	45,850	46,750	52,600	58,450	52,050	58,600	65,100	2.87	3.72
17-7/8 *454,02*	93.50	0.500	Regular	35,000	37,700	41,900	42,850	48,200	53,550	45,200	50,850	56,500	2.99	3.91
18 *457,20*	94.00	0.500	Regular	34,000	38,250	42,500	43,600	49,050	54,500	46,050	51,800	57,550	2.99	3.91
	105.00	0.562	Regular	33,000	37,100	41,200	42,050	47,350	52,600	46,650	52,450	58,300	3.48	4.52
	117.00	0.625	Regular	35,150	39,550	43,900	44,650	50,250	55,850	49,450	55,650	61,850	4.33	5.61
	119.00	0.640	Regular	35,500	39,950	44,350	45,100	50,750	56,400	49,950	56,200	62,450	3.97	5.19
	127.00	0.688	Regular	36,000	40,500	45,000	45,300	51,000	56,650	50,000	56,250	62,500	4.39	5.74

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

VAM® HTF-NR

TECHNICAL TABLE

OD 4-1/2'' - 5''

PIPE					CONNECTION PROPERTIES				CONNECTION PERFORMANCES						
Size (OD)	Nominal Weight	Wall Thickness		Drift	Design	Inside Diameter	Outside Diameter	Make-up Loss	Tensile Efficiency With Sealability	Structural Compression Efficiency	Compression Efficiency With Sealability	Joint Yield Strength x1000 lb			
in *mm*	lb/ft	in	*mm*	in		in	in	in	% Pipe Body	% Pipe Body	% Pipe Body	80 ksi	95 ksi	110 ksi	125 ksi
4-1/2 *114,30*	12.60	0.271	*6,88*	3.833	Regular	3.865	4.545	3.553	56.5	71.5	42.9	163	193	224	254
	13.50	0.290	*7,37*	3.795	Regular	3.826	4.545	3.968	58.7	72.7	43.6	180	214	248	282
	16.60	0.375	*9,52*	3.625	Regular	3.657	4.545	5.091	61.8	72.8	43.7	240	285	330	376
	17.00	0.380	*9,65*	3.615	Regular	3.647	4.545	4.907	61.5	72.3	43.4	242	287	333	378
	18.90	0.430	*10,92*	3.515	Regular	3.563	4.545	5.687	62.4	72.1	43.3	275	326	377	429
	21.50	0.500	*12,70*	3.375	Regular	3.423	4.545	6.418	62.7	71.0	42.6	315	374	433	492
5 *127,00*	15.00	0.296	*7,52*	4.283	Regular	4.315	5.050	4.019	56.8	70.5	42.3	199	236	273	310
	18.00	0.362	*9,19*	4.151	Regular	4.183	5.050	4.769	61.8	73.2	43.9	261	310	358	407
	20.30	0.408	*10,36*	4.059	Regular	4.091	5.050	5.155	58.2	72.1	43.2	274	325	377	428
	21.40	0.437	*11,10*	4.001	Regular	4.049	5.050	5.798	62.8	72.3	43.4	314	373	432	491

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

TECHNICAL TABLE

OD 5" - 7"

PIPE					CONNECTION PROPERTIES				CONNECTION PERFORMANCES						
Size (OD)	Nominal Weight	Wall Thickness		Drift	Design	Inside Diameter	Outside Diameter	Make-up Loss	Tensile Efficiency With Sealability	Structural Compression Efficiency	Compression Efficiency With Sealability	Joint Yield Strength x1000 lb			
in *mm*	lb/ft	in	*mm*	in		in	in	in	% Pipe Body	% Pipe Body	% Pipe Body	80 ksi	95 ksi	110 ksi	125 ksi
5 *127,00*	23.20	0.478	*12,14*	3.919	Regular	3.967	5.050	6.349	61.9	70.7	42.4	336	399	462	525
	24.10	0.500	*12,70*	3.875	Regular	3.924	5.050	6.358	62.4	70.7	42.4	353	419	485	551
	26.70	0.562	*14,27*	3.751	Regular	3.800	5.050	6.774	62.2	69.5	41.7	390	463	536	609
5-1/2 *139,70*	17.00	0.304	*7,72*	4.767	Regular	4.798	5.555	3.931	58.4	76.8	46.1	232	275	319	362
	20.00	0.361	*9,17*	4.653	Regular	4.685	5.555	4.659	57.8	73.5	44.1	269	320	370	421
	23.00	0.415	*10,54*	4.545	Regular	4.594	5.555	5.289	60.9	70.9	42.5	323	384	444	505
	29.70	0.562	*14,27*	4.251	Regular	4.300	5.555	7.954	63.0	70.6	42.3	439	521	604	686
7 *177,80*	26.00	0.362	*9,19*	6.151	Regular	6.183	7.070	5.089	59.3	73.6	44.2	358	425	492	559
	29.00	0.408	*10,36*	6.059	Regular	6.174	7.070	5.555	58.6	69.0	41.4	396	470	545	619
	32.00	0.453	*11,51*	6.000 A	Regular	6.050	7.070	6.364	60.9	70.2	42.1	454	539	624	710

Drift values: A = Alternate Drift, S = Special Drift

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

VAM® HTF-NR

TECHNICAL TABLE

OD 7'' - 9-3/8''

PIPE					CONNECTION PROPERTIES				CONNECTION PERFORMANCES						
Size (OD)	Nominal Weight	Wall Thickness		Drift	Design	Inside Diameter	Outside Diameter	Make-up Loss	Tensile Efficiency With Sealability	Structural Compression Efficiency	Compression Efficiency With Sealability	Joint Yield Strength x1000 lb			
in *mm*	lb/ft	in	*mm*	in		in	in	in	% Pipe Body	% Pipe Body	% Pipe Body	80 ksi	95 ksi	110 ksi	125 ksi
7 *177,80*	35.00	0.498	*12,65*	5.879	Regular	5.911	7.070	6.691	61.6	70.1	42.1	502	596	690	784
	38.00	0.540	*13,72*	5.795	Regular	5.844	7.070	7.709	62.1	70.1	42.1	544	646	748	850
7-5/8 *193,67*	26.40	0.328	*8,33*	6.844	Regular	6.876	7.701	4.496	56.5	73.4	44.1	340	403	467	531
	29.70	0.375	*9,52*	6.750	Regular	6.782	7.701	4.657	58.2	73.0	43.8	398	472	547	621
	33.70	0.430	*10,92*	6.640	Regular	6.672	7.701	5.722	60.0	69.9	41.9	467	554	642	729
	39.00	0.500	*12,70*	6.500	Regular	6.550	7.701	7.099	62.9	71.5	42.9	563	669	774	880
	42.80	0.562	*14,27*	6.376	Regular	6.426	7.701	8.105	62.1	69.8	41.9	620	736	852	968
	45.30	0.595	*15,11*	6.310	Regular	6.360	7.701	8.559	62.2	69.5	41.7	654	777	899	1,022
7-3/4 *196,85*	46.10	0.595	*15,11*	6.500 A	Regular	6.550	7.827	8.032	58.2	65.6	39.3	623	740	856	973
9-3/8 *238,13*	39.00	0.400	*10,16*	8.500 S	Regular	8.550	9.469	5.716	55.3	66.3	39.8	499	592	686	779

Drift values: A = Alternate Drift, S = Special Drift

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

TECHNICAL TABLE

OD 9-5/8'' - 9-7/8''

PIPE					CONNECTION PROPERTIES				CONNECTION PERFORMANCES						
Size (OD)	Nominal Weight	Wall Thickness		Drift	Design	Inside Diameter	Outside Diameter	Make-up Loss	Tensile Efficiency With Sealability	Structural Compression Efficiency	Compression Efficiency With Sealability	Joint Yield Strength x1000 lb			
in *mm*	lb/ft	in	*mm*	in		in	in	in	% Pipe Body	% Pipe Body	% Pipe Body	80 ksi	95 ksi	110 ksi	125 ksi
9-5/8 *244,47*	40.00	0.395	*10,03*	8.750 A	Regular	8.781	9.721	5.591	55.6	66.8	40.1	510	605	701	797
	43.50	0.435	*11,05*	8.599	Regular	8.630	9.721	6.354	60.4	70.5	42.3	607	721	835	949
	47.00	0.472	*11,99*	8.525	Regular	8.557	9.721	6.984	62.5	71.7	43.0	678	805	932	1,060
	53.50	0.545	*13,84*	8.500 A	Regular	8.550	9.721	7.812	58.4	66.4	39.8	726	862	998	1,134
	58.40	0.595	*15,11*	8.375 A	Regular	8.425	9.721	7.812	57.4	64.8	38.9	776	921	1,067	1,212
9-7/8 *250,82*	62.80	0.625	*15,88*	8.500 S	Regular	8.550	9.974	8.770	66.3	73.2	43.9	963	1,143	1,324	1,505

Drift values: A = Alternate Drift, S = Special Drift

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

VAM® HTF-NR

FIELD-END MAKE-UP TORQUE VALUES

OD 4-1/2" - 5"

Size (OD)	Nominal Weight	Wall Thickness	Design	MAKE-UP TORQUE 80 ksi ft.lb			MAKE-UP TORQUE 95 ksi ft.lb			MAKE-UP TORQUE 110 ksi ft.lb			MAKE-UP TORQUE 125 ksi ft.lb			MTS 80 ksi	MTS 95 ksi	MTS 110 ksi	MTS 125 ksi	Min. Dope Volume	Max. Dope Volume
in *mm*	lb/ft	in		Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	ft.lb	ft.lb	ft.lb	ft.lb	in³	in³
4-1/2 *114,30*	12.60	0.271	Regular	5,290	6,220	7,150	5,290	6,220	7,150	5,290	6,220	7,150	5,290	6,220	7,150	8,190	9,510	10,840	12,170	0.44	0.54
	13.50	0.290	Regular	4,920	5,790	6,660	4,920	5,790	6,660	4,920	5,790	6,660	4,920	5,790	6,660	8,920	10,440	11,910	13,390	0.48	0.62
	16.60	0.375	Regular	8,850	10,300	11,750	8,850	10,300	11,750	8,850	10,300	11,750	8,850	10,300	11,750	12,000	14,100	16,100	18,050	0.62	0.80
	17.00	0.380	Regular	9,050	10,050	11,050	9,050	10,050	11,050	9,050	10,050	11,050	9,050	10,050	11,050	11,350	13,200	15,050	16,900	0.62	0.80
	18.90	0.430	Regular	10,600	11,750	12,900	10,600	11,750	12,900	10,600	11,750	12,900	10,600	11,750	12,900	13,050	15,200	17,350	19,550	0.66	0.84
	21.50	0.500	Regular	12,700	13,850	15,000	12,700	13,850	15,000	12,700	13,850	15,000	12,700	13,850	15,000	15,350	17,900	20,450	22,950	0.80	1.02
5 *127,00*	15.00	0.296	Regular	6,450	7,590	8,730	6,450	7,590	8,730	6,450	7,590	8,730	6,450	7,590	8,730	11,800	13,800	15,800	17,800	0.54	0.74
	18.00	0.362	Regular	8,400	9,900	11,400	8,400	9,900	11,400	8,400	9,900	11,400	8,400	9,900	11,400	13,550	15,800	18,050	20,350	0.66	0.84
	20.30	0.408	Regular	10,750	12,610	14,460	10,750	12,610	14,460	10,750	12,610	14,460	10,750	12,610	14,460	14,850	17,200	19,600	22,000	0.62	0.80
	21.40	0.437	Regular	9,950	11,700	13,450	9,950	11,700	13,450	9,950	11,700	13,450	9,950	11,700	13,450	16,500	19,250	22,000	24,800	0.80	1.02

MTS = Maximum Torque with Sealability (maximum Torque up to which the string can be rotated downhole, with no impact on connection's performances)
MTS may be lower for anisotropic CRA materials (referenced as Type 2, 3 & 4 as per API 5CRA / ISO 13680): please check out the Connection Datasheet on VAM® Services website or contact Mr. Help.
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FIELD-END MAKE-UP TORQUE VALUES

OD 5'' - 7''

Size (OD)	Nominal Weight	Wall Thickness	Design	MAKE-UP TORQUE 80 ksi ft.lb			MAKE-UP TORQUE 95 ksi ft.lb			MAKE-UP TORQUE 110 ksi ft.lb			MAKE-UP TORQUE 125 ksi ft.lb			MTS 80 ksi	MTS 95 ksi	MTS 110 ksi	MTS 125 ksi	Min. Dope Volume	Max. Dope Volume
in *mm*	lb/ft	in		Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	ft.lb	ft.lb	ft.lb	ft.lb	in³	in³
5 *127,00*	23.20	0.478	Regular	10,750	12,650	14,550	10,750	12,650	14,550	10,750	12,650	14,550	10,750	12,650	14,550	19,050	22,200	25,350	28,550	0.84	1.10
	24.10	0.500	Regular	11,300	13,300	15,300	11,300	13,300	15,300	11,300	13,300	15,300	11,300	13,300	15,300	18,950	22,050	25,200	28,300	0.84	1.10
	26.70	0.562	Regular	12,550	14,750	16,950	12,550	14,750	16,950	12,550	14,750	16,950	12,550	14,750	16,950	20,500	23,800	27,100	30,400	0.92	1.22
5-1/2 *139,70*	17.00	0.304	Regular	6,940	8,170	9,400	6,940	8,170	9,400	6,940	8,170	9,400	6,940	8,170	9,400	12,400	14,450	16,500	18,600	0.54	0.74
	20.00	0.361	Regular	8,500	10,000	11,500	8,500	10,000	11,500	8,500	10,000	11,500	8,500	10,000	11,500	15,500	18,050	20,650	23,250	0.66	0.84
	23.00	0.415	Regular	11,000	12,950	14,900	11,000	12,950	14,900	11,000	12,950	14,900	11,000	12,950	14,900	19,050	22,200	25,350	28,550	0.80	1.02
	29.70	0.562	Regular	21,600	23,300	25,000	21,600	23,300	25,000	21,600	23,300	25,000	21,600	23,300	25,000	25,600	29,900	34,300	38,500	1.16	1.54
7 *177,80*	26.00	0.362	Regular	9,750	11,450	13,150	9,750	11,450	13,150	9,750	11,450	13,150	9,750	11,450	13,150	26,700	31,300	35,800	40,200	0.98	1.28
	29.00	0.408	Regular	11,050	13,000	14,950	11,050	13,000	14,950	11,050	13,000	14,950	11,050	13,000	14,950	30,500	35,750	41,250	46,500	1.10	1.40
	32.00	0.453	Regular	15,550	18,300	21,050	15,550	18,300	21,050	15,550	18,300	21,050	15,550	18,300	21,050	37,250	43,500	50,250	56,500	1.22	1.58

MTS = Maximum Torque with Sealability (maximum Torque up to which the string can be rotated downhole, with no impact on connection's performances)
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VAM® HTF-NR

FIELD-END MAKE-UP TORQUE VALUES

OD 7'' - 9-3/8''

Size (OD)	Nominal Weight	Wall Thickness	Design	MAKE-UP TORQUE 80 ksi ft.lb			MAKE-UP TORQUE 95 ksi ft.lb			MAKE-UP TORQUE 110 ksi ft.lb			MAKE-UP TORQUE 125 ksi ft.lb			MTS 80 ksi	MTS 95 ksi	MTS 110 ksi	MTS 125 ksi	Min. Dope Volume	Max. Dope Volume
in *mm*	lb/ft	in		Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	ft.lb	ft.lb	ft.lb	ft.lb	in³	in³
7 *177,80*	35.00	0.498	Regular	18,600	21,900	25,200	18,600	21,900	25,200	18,600	21,900	25,200	18,600	21,900	25,200	39,000	45,750	52,250	59,000	1.28	1.64
	38.00	0.540	Regular	25,650	30,150	34,650	25,650	30,150	34,650	25,650	30,150	34,650	25,650	30,150	34,650	41,250	48,250	55,250	62,000	1.46	1.90
7-5/8 *193,67*	26.40	0.328	Regular	8,400	9,900	11,400	8,400	9,900	11,400	8,400	9,900	11,400	8,400	9,900	11,400	29,700	34,700	39,600	44,800	0.98	1.28
	29.70	0.375	Regular	9,600	11,300	13,000	9,600	11,300	13,000	9,600	11,300	13,000	9,600	11,300	13,000	31,000	36,250	41,250	46,500	0.98	1.28
	33.70	0.430	Regular	15,450	18,150	20,850	15,450	18,150	20,850	15,450	18,150	20,850	15,450	18,150	20,850	38,000	44,250	50,500	57,250	1.22	1.58
	39.00	0.500	Regular	20,150	23,700	27,250	20,150	23,700	27,250	20,150	23,700	27,250	20,150	23,700	27,250	43,500	51,000	58,250	65,250	1.46	1.90
	42.80	0.562	Regular	28,250	33,250	38,250	28,250	33,250	38,250	28,250	33,250	38,250	28,250	33,250	38,250	52,250	61,250	70,000	79,250	1.72	2.20
	45.30	0.595	Regular	31,900	37,550	43,200	31,900	37,550	43,200	31,900	37,550	43,200	31,900	37,550	43,200	56,500	66,000	75,500	85,250	1.82	2.38
7-3/4 *196,85*	46.10	0.595	Regular	24,650	29,000	33,350	24,650	29,000	33,350	24,650	29,000	33,350	24,650	29,000	33,350	53,500	62,750	72,000	80,750	1.72	2.20
9-3/8 *238,13*	39.00	0.400	Regular	11,500	13,550	15,600	11,500	13,550	15,600	11,500	13,550	15,600	11,500	13,550	15,600	46,750	54,500	62,750	70,750	1.46	1.90

MTS = Maximum Torque with Sealability (maximum Torque up to which the string can be rotated downhole, with no impact on connection's performances)
MTS may be lower for anisotropic CRA materials (referenced as Type 2, 3 & 4 as per API 5CRA / ISO 13680): please check out the Connection Datasheet on VAM® Services website or contact Mr. Help.
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FIELD-END MAKE-UP TORQUE VALUES

OD 9-5/8'' - 9-7/8''

Size (OD)	Nominal Weight	Wall Thickness	Design	MAKE-UP TORQUE 80 ksi ft.lb			MAKE-UP TORQUE 95 ksi ft.lb			MAKE-UP TORQUE 110 ksi ft.lb			MAKE-UP TORQUE 125 ksi ft.lb			MTS 80 ksi	MTS 95 ksi	MTS 110 ksi	MTS 125 ksi	Min. Dope Volume	Max. Dope Volume
in *mm*	lb/ft	in		Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	ft.lb	ft.lb	ft.lb	ft.lb	in³	in³
9-5/8 *244,47*	40.00	0.395	Regular	11,450	13,450	15,450	11,450	13,450	15,450	11,450	13,450	15,450	11,450	13,450	15,450	47,250	55,250	63,500	71,500	1.46	1.90
	43.50	0.435	Regular	17,650	20,750	23,850	17,650	20,750	23,850	17,650	20,750	23,850	17,650	20,750	23,850	57,500	67,000	77,000	86,750	1.64	2.12
	47.00	0.472	Regular	19,000	22,350	25,700	19,000	22,350	25,700	19,000	22,350	25,700	19,000	22,350	25,700	66,500	77,750	89,250	100,250	1.82	2.38
	53.50	0.545	Regular	21,200	24,950	28,700	21,200	24,950	28,700	21,200	24,950	28,700	21,200	24,950	28,700	78,250	91,750	105,000	118,750	2.08	2.68
	58.40	0.595	Regular	24,250	28,550	32,850	24,250	28,550	32,850	24,250	28,550	32,850	24,250	28,550	32,850	78,500	92,250	105,500	119,000	2.08	2.68
9-7/8 *250,82*	62.80	0.625	Regular	32,800	38,600	44,400	32,800	38,600	44,400	32,800	38,600	44,400	32,800	38,600	44,400	94,750	111,000	127,500	143,750	2.50	3.24

MTS = Maximum Torque with Sealability (maximum Torque up to which the string can be rotated downhole, with no impact on connection's performances)
MTS may be lower for anisotropic CRA materials (referenced as Type 2, 3 & 4 as per API 5CRA / ISO 13680): please check out the Connection Datasheet on VAM® Services website or contact Mr. Help.
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VAM® FJL

TECHNICAL TABLE

OD 2-3/8'' - 2-7/8''

PIPE					CONNECTION PROPERTIES				CONNECTION PERFORMANCES					
Size (OD)	Nominal Weight	Wall Thickness		Drift	Design	Inside Diameter	Outside Diameter	Make-up Loss	Tensile Efficiency	Compression Efficiency	Joint Yield Strength x1000 lb			
in *mm*	lb/ft	in	*mm*	in		in	in	in	% Pipe Body	% Pipe Body	80 ksi	95 ksi	110 ksi	125 ksi
2-3/8 *60,32*	4.60	0.190	*4,83*	1.901	Regular	1.933	2.375	1.889	44.9	18.0	47	56	64	73
	5.10	0.218	*5,54*	1.845	Regular	1.877	2.375	2.283	51.4	20.6	61	72	84	95
	5.80	0.254	*6,45*	1.773	Regular	1.811	2.375	2.992	55.3	22.1	75	89	103	117
	6.30	0.280	*7,11*	1.721	Regular	1.763	2.375	2.874	55.1	22.0	81	96	112	127
	7.35	0.336	*8,53*	1.609	Regular	1.653	2.375	3.700	55.0	22.0	95	112	130	148
2-7/8 *73,02*	6.40	0.217	*5,51*	2.347	Regular	2.377	2.875	2.244	48.9	19.6	71	84	98	111
	7.80	0.276	*7,01*	2.229	Regular	2.275	2.875	2.913	52.0	20.8	94	111	129	146
	8.60	0.308	*7,82*	2.165	Regular	2.212	2.875	3.070	55.5	22.2	110	131	152	172
	9.80	0.362	*9,19*	2.057	Regular	2.106	2.875	3.818	55.0	22.0	126	149	173	197
	10.70	0.405	*10,29*	1.971	Regular	2.019	2.875	5.787	64.8	25.9	163	194	224	255

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

VAM® FJL

TECHNICAL TABLE

OD 3-1/2'' - 4''

PIPE					CONNECTION PROPERTIES				CONNECTION PERFORMANCES					
Size (OD)	Nominal Weight	Wall Thickness		Drift	Design	Inside Diameter	Outside Diameter	Make-up Loss	Tensile Efficiency	Compression Efficiency	Joint Yield Strength x1000 lb			
in *mm*	lb/ft	in	*mm*	in		in	in	in	% Pipe Body	% Pipe Body	80 ksi	95 ksi	110 ksi	125 ksi
3-1/2 *88,90*	7.70	0.216	*5,49*	2.943	Regular	3.015	3.500	2.125	47.5	19.0	85	101	116	132
	9.20	0.254	*6,45*	2.867	Regular	2.940	3.500	2.755	54.8	21.9	114	135	156	177
	10.20	0.289	*7,34*	2.797	Regular	2.858	3.500	3.307	54.8	21.9	128	152	176	200
	12.70	0.375	*9,52*	2.625	Regular	2.673	3.500	3.976	64.9	26.0	191	227	263	299
	13.70	0.413	*10,49*	2.549	Regular	2.594	3.500	4.448	67.7	27.1	217	258	298	339
	14.70	0.449	*11,40*	2.477	Regular	2.523	3.500	4.921	68.1	27.2	234	278	322	366
	15.50	0.476	*12,09*	2.423	Regular	2.472	3.500	5.236	68.0	27.2	246	292	338	384
4 *101,60*	9.50	0.226	*5,74*	3.423	Regular	3.480	4.000	2.204	48.1	19.2	103	122	142	161
	10.90	0.262	*6,65*	3.351	Regular	3.397	4.000	2.795	54.8	21.9	135	160	185	211
	11.30	0.286	*7,26*	3.303	Regular	3.373	4.000	3.179	55.0	22.0	147	174	202	230

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

VAM® FJL

TECHNICAL TABLE

OD 4'' - 4-1/2''

PIPE					CONNECTION PROPERTIES				CONNECTION PERFORMANCES					
Size (OD)	Nominal Weight	Wall Thickness		Drift	Design	Inside Diameter	Outside Diameter	Make-up Loss	Tensile Efficiency	Compression Efficiency	Joint Yield Strength x1000 lb			
in *mm*	lb/ft	in	*mm*	in		in	in	in	% Pipe Body	% Pipe Body	80 ksi	95 ksi	110 ksi	125 ksi
4 *101,60*	13.20	0.330	*8,38*	3.215	Regular	3.259	4.000	2.992	55.0	22.0	167	199	230	262
	14.80	0.380	*9,65*	3.115	Regular	3.165	4.000	3.779	60.4	24.2	209	248	287	326
	16.50	0.430	*10,92*	3.015	Regular	3.062	4.000	4.409	64.5	25.8	249	295	342	389
4-1/2 *114,30*	11.60	0.250	*6,35*	3.875	Regular	3.913	4.500	2.559	45.9	18.4	123	146	169	192
	12.60	0.271	*6,88*	3.833	Regular	3.877	4.500	2.559	49.9	20.0	144	171	198	225
	13.50	0.290	*7,37*	3.795	Regular	3.842	4.500	2.559	52.9	21.2	162	193	223	254
	15.10	0.337	*8,56*	3.701	Regular	3.755	4.500	3.188	59.1	23.6	208	247	286	325
	17.00	0.380	*9,65*	3.615	Regular	3.673	4.500	3.700	63.3	25.3	249	296	342	389
	18.90	0.430	*10,92*	3.515	Regular	3.574	4.500	4.291	65.1	26.0	286	340	394	447
	21.50	0.500	*12,70*	3.375	Regular	3.452	4.500	5.118	65.0	26.0	327	388	449	511

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

VAM® FJL

TECHNICAL TABLE

OD 4-1/2'' - 5-1/2''

PIPE					CONNECTION PROPERTIES				CONNECTION PERFORMANCES					
Size (OD)	Nominal Weight	Wall Thickness		Drift	Design	Inside Diameter	Outside Diameter	Make-up Loss	Tensile Efficiency	Compression Efficiency	Joint Yield Strength x1000 lb			
in *mm*	lb/ft	in	*mm*	in		in	in	in	% Pipe Body	% Pipe Body	80 ksi	95 ksi	110 ksi	125 ksi
4-1/2 *114,30*	23.70	0.560	*14,22*	3.255	Regular	3.334	4.500	5.826	65.1	26.0	361	429	497	564
5 *127,00*	13.00	0.253	*6,43*	4.369	Regular	4.417	5.000	2.795	55.1	22.0	166	197	229	260
	15.00	0.296	*7,52*	4.283	Regular	4.330	5.000	3.503	55.0	22.0	193	229	265	301
	18.00	0.362	*9,19*	4.151	Regular	4.208	5.000	3.425	60.8	24.3	256	305	353	401
	20.30	0.408	*10,36*	4.059	Regular	4.118	5.000	4.212	64.9	25.9	305	363	420	477
	20.80	0.422	*10,72*	4.031	Regular	4.090	5.000	4.212	65.9	26.4	320	380	440	500
	21.40	0.437	*11,10*	4.001	Regular	4.078	5.000	4.330	65.2	26.1	327	388	449	510
	23.20	0.478	*12,14*	3.919	Regular	3.996	5.000	5.039	67.4	26.9	366	435	503	572
	24.10	0.500	*12,70*	3.875	Regular	3.956	5.000	5.039	64.7	25.9	366	435	503	572
5-1/2 *139,70*	15.50	0.275	*6,99*	4.825	Regular	4.874	5.500	2.874	55.1	22.0	199	236	274	311

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

VAM® FJL

TECHNICAL TABLE

OD 5-1/2'' - 6-5/8''

PIPE					CONNECTION PROPERTIES				CONNECTION PERFORMANCES					
Size (OD)	Nominal Weight	Wall Thickness		Drift	Design	Inside Diameter	Outside Diameter	Make-up Loss	Tensile Efficiency	Compression Efficiency	Joint Yield Strength x1000 lb			
in *mm*	lb/ft	in	*mm*	in		in	in	in	% Pipe Body	% Pipe Body	80 ksi	95 ksi	110 ksi	125 ksi
5-1/2 *139,70*	17.00	0.304	*7,72*	4.767	Regular	4.822	5.500	3.346	55.1	22.1	219	260	301	342
	20.00	0.361	*9,17*	4.653	Regular	4.708	5.500	3.385	58.6	23.4	273	325	376	427
	23.00	0.415	*10,54*	4.545	Regular	4.602	5.500	4.251	63.6	25.4	337	401	464	527
	26.00	0.476	*12,09*	4.423	Regular	4.500	5.500	4.842	67.0	26.8	403	478	553	629
	28.40	0.530	*13,46*	4.315	Regular	4.389	5.500	5.314	65.1	26.1	431	512	593	674
	29.70	0.562	*14,27*	4.251	Regular	4.317	5.500	5.708	65.3	26.1	455	541	626	711
6-5/8 *168,27*	23.20	0.330	*8,38*	5.840	NA	5.913	6.625	3.149	54.8	21.9	286	339	393	447
	24.00	0.352	*8,94*	5.796	Regular	5.858	6.625	2.952	57.5	23.0	319	379	439	499
	28.00	0.417	*10,59*	5.666	Regular	5.732	6.625	3.976	63.8	25.5	415	493	571	648
	32.00	0.475	*12,06*	5.550	Regular	5.629	6.625	4.724	65.8	26.3	483	574	664	755

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

TECHNICAL TABLE

OD 6-5/8'' - 7-5/8''

PIPE					CONNECTION PROPERTIES				CONNECTION PERFORMANCES					
Size (OD)	Nominal Weight	Wall Thickness		Drift	Design	Inside Diameter	Outside Diameter	Make-up Loss	Tensile Efficiency	Compression Efficiency	Joint Yield Strength x1000 lb			
in *mm*	lb/ft	in	*mm*	in		in	in	in	% Pipe Body	% Pipe Body	80 ksi	95 ksi	110 ksi	125 ksi
6-5/8 *168,27*	35.00	0.525	*13,33*	5.450	Regular	5.527	6.625	5.511	67.4	26.9	542	644	746	847
7 *177,80*	23.00	0.317	*8,05*	6.250 A	NA	6.314	7.000	2.637	51.3	20.5	273	324	376	427
	26.00	0.362	*9,19*	6.151	NB	6.224	7.000	3.661	56.3	22.5	340	404	467	531
	29.00	0.408	*10,36*	6.059	Regular	6.122	7.000	3.700	61.5	24.6	416	494	572	650
	32.00	0.453	*11,51*	6.000 A	Regular	6.062	7.000	4.291	65.1	26.0	485	576	667	758
	35.00	0.498	*12,65*	5.879	Regular	5.956	7.000	4.842	65.3	26.1	531	631	731	830
	38.00	0.540	*13,72*	5.795	Regular	5.874	7.000	5.354	65.3	26.1	572	679	787	894
	41.00	0.590	*14,99*	5.695	Regular	5.771	7.000	5.944	65.1	26.0	619	735	851	967
7-5/8 *193,67*	26.40	0.328	*8,33*	6.844	NF	6.917	7.625	2.795	52.0	20.8	313	372	430	489
	29.70	0.375	*9,52*	6.750	NG	6.822	7.625	3.897	57.1	22.8	390	463	536	609

Drift values: A = Alternate Drift, S = Special Drift

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

VAM® FJL

TECHNICAL TABLE

OD 7-5/8'' - 8-5/8''

PIPE					CONNECTION PROPERTIES				CONNECTION PERFORMANCES					
Size (OD)	Nominal Weight	Wall Thickness		Drift	Design	Inside Diameter	Outside Diameter	Make-up Loss	Tensile Efficiency	Compression Efficiency	Joint Yield Strength x1000 lb			
in *mm*	lb/ft	in	*mm*	in		in	in	in	% Pipe Body	% Pipe Body	80 ksi	95 ksi	110 ksi	125 ksi
7-5/8 *193,67*	33.70	0.430	*10,92*	6.640	Regular	6.708	7.625	3.937	62.7	25.1	487	579	670	761
	35.80	0.465	*11,81*	6.570	Regular	6.645	7.625	4.370	65.2	26.1	546	648	750	853
	39.00	0.500	*12,70*	6.500	Regular	6.574	7.625	4.803	65.2	26.1	584	693	803	912
	42.80	0.562	*14,27*	6.376	Regular	6.452	7.625	5.551	65.1	26.0	649	771	893	1,014
	45.30	0.595	*15,11*	6.310	Regular	6.385	7.625	6.062	66.0	26.4	694	824	954	1,084
	47.10	0.625	*15,88*	6.250	Regular	6.322	7.625	5.905	65.9	26.4	725	861	997	1,133
8-5/8 *219,07*	32.00	0.352	*8,94*	7.875 A	NA	7.940	8.625	3.228	54.1	21.6	396	470	544	618
	36.00	0.400	*10,16*	7.700	NA	7.771	8.625	4.763	59.8	23.9	495	588	680	773
	40.00	0.450	*11,43*	7.600	Regular	7.688	8.625	4.370	63.9	25.6	591	702	813	924
	44.00	0.500	*12,70*	7.500	Regular	7.582	8.625	4.803	65.4	26.2	668	793	918	1,043

Drift values: A = Alternate Drift, S = Special Drift

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

TECHNICAL TABLE

OD 8-5/8'' - 9-5/8''

PIPE					CONNECTION PROPERTIES				CONNECTION PERFORMANCES					
Size (OD)	Nominal Weight	Wall Thickness		Drift	Design	Inside Diameter	Outside Diameter	Make-up Loss	Tensile Efficiency	Compression Efficiency	Joint Yield Strength x1000 lb			
in *mm*	lb/ft	in	*mm*	in		in	in	in	% Pipe Body	% Pipe Body	80 ksi	95 ksi	110 ksi	125 ksi
8-5/8 *219,07*	49.00	0.557	*14,15*	7.386	Regular	7.468	8.625	5.944	69.2	27.7	781	928	1,075	1,221
	52.00	0.595	*15,11*	7.310	Regular	7.393	8.625	5.944	65.1	26.0	781	928	1,074	1,221
9-3/8 *238,13*	39.00	0.400	*10,16*	8.450	Regular	8.523	9.375	4.330	57.6	23.1	520	618	715	813
	40.00	0.420	*10,67*	8.410	Regular	8.570	9.375	4.803	58.5	23.4	553	657	761	864
9-5/8 *244,47*	36.00	0.352	*8,94*	8.765	NA	8.838	9.625	2.992	52.9	21.2	434	515	597	678
	40.00	0.395	*10,03*	8.679	NA	8.755	9.625	4.330	58.0	23.2	531	631	730	830
	43.50	0.435	*11,05*	8.599	NA	8.673	9.625	5.590	61.9	24.7	621	738	855	971
	47.00	0.472	*11,99*	8.525	Regular	8.637	9.625	4.370	64.8	25.9	704	836	968	1,100
	53.50	0.545	*13,84*	8.500 A	Regular	8.566	9.625	5.275	65.1	26.1	810	962	1,114	1,266
	58.40	0.595	*15,11*	8.375 A	ND	8.448	9.625	5.303	64.5	25.8	871	1,035	1,198	1,361

Drift values: A = Alternate Drift, S = Special Drift

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

VAM® FJL

TECHNICAL TABLE

OD 9-5/8'' - 10-3/4"

PIPE					CONNECTION PROPERTIES				CONNECTION PERFORMANCES					
Size (OD)	Nominal Weight	Wall Thickness		Drift	Design	Inside Diameter	Outside Diameter	Make-up Loss	Tensile Efficiency	Compression Efficiency	Joint Yield Strength x1000 lb			
in *mm*	lb/ft	in	*mm*	in		in	in	in	% Pipe Body	% Pipe Body	80 ksi	95 ksi	110 ksi	125 ksi
9-5/8 *244,47*	59.40	0.609	*15,47*	8.251	Regular	8.362	9.625	6.259	66.7	26.7	920	1,092	1,265	1,437
	61.10	0.625	*15,88*	8.219	Regular	8.362	9.625	6.259	65.1	26.0	920	1,092	1,265	1,437
9-7/8 *250,82*	62.80	0.625	*15,88*	8.500 S	Regular	8.578	9.875	6.259	68.1	27.2	990	1,175	1,361	1,547
	65.30	0.650	*16,51*	8.500 S	Regular	8.578	9.875	6.259	65.7	26.3	990	1,175	1,361	1,546
	67.50	0.678	*17,22*	8.363	Regular	8.456	9.875	6.732	66.6	26.6	1,043	1,239	1,435	1,630
10-3/4 *273,05*	40.50	0.350	*8,89*	9.894	NA	9.976	10.750	2.952	52.1	20.9	477	566	656	745
	45.50	0.400	*10,16*	9.794	NB	9.877	10.750	4.212	58.1	23.3	605	718	832	945
	45.50	0.400	*10,16*	9.794	ND	9.952	10.750	3.818	55.0	22.0	573	680	788	895
	51.00	0.450	*11,43*	9.694	NB	9.775	10.750	5.787	62.8	25.1	732	869	1,006	1,143
	60.70	0.545	*13,84*	9.504	Regular	9.586	10.750	5.275	65.6	26.2	917	1,089	1,261	1,433

Drift values: A = Alternate Drift, S = Special Drift

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

VAM® FJL

TECHNICAL TABLE

OD 10-3/4" - 13-3/8"

PIPE					CONNECTION PROPERTIES				CONNECTION PERFORMANCES					
Size (OD)	Nominal Weight	Wall Thickness		Drift	Design	Inside Diameter	Outside Diameter	Make-up Loss	Tensile Efficiency	Compression Efficiency	Joint Yield Strength x1000 lb			
in *mm*	lb/ft	in	*mm*	in		in	in	in	% Pipe Body	% Pipe Body	80 ksi	95 ksi	110 ksi	125 ksi
10-3/4 *273,05*	65.70	0.595	*15,11*	9.404	Regular	9.488	10.750	5.905	65.6	26.2	996	1,183	1,370	1,556
11-3/4 *298,45*	47.00	0.375	*9,52*	10.844	Regular	10.960	11.750	3.385	55.9	22.4	599	711	824	936
	54.00	0.435	*11,05*	10.724	Regular	10.834	11.750	4.960	59.7	23.9	739	877	1,016	1,154
	60.00	0.489	*12,42*	10.625 A	Regular	10.716	11.750	4.251	63.5	25.4	879	1,044	1,208	1,373
	65.00	0.534	*13,56*	10.625 A	Regular	10.700	11.750	4.921	64.6	25.8	972	1,154	1,337	1,519
11-7/8 *301,63*	71.80	0.582	*14,78*	10.625 S	Regular	10.740	11.875	5.629	65.5	26.2	1,081	1,284	1,487	1,689
13-3/8 *339,72*	68.00	0.480	*12,19*	12.259	Regular	12.338	13.375	4.133	62.9	25.2	978	1,162	1,345	1,529

Drift values: A = Alternate Drift, S = Special Drift

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

VAM® FJL

FIELD-END MAKE-UP TORQUE VALUES

OD 2-3/8'' - 2-7/8''

Size (OD)	Nominal Weight	Wall Thickness	Design	MAKE-UP TORQUE 80 ksi ft.lb			MAKE-UP TORQUE 95 ksi ft.lb			MAKE-UP TORQUE 110 ksi ft.lb			MAKE-UP TORQUE 125 ksi ft.lb			Min. Dope Volume
in *mm*	lb/ft	in		Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	in³
2-3/8 *60,32*	4.60	0.190	Regular	530	580	630	590	650	710	630	690	750	650	720	790	0.50
	5.10	0.218	Regular	590	650	710	630	690	750	720	800	880	750	830	910	0.50
	5.80	0.254	Regular	650	720	790	720	800	880	790	870	950	850	940	1,030	0.50
	6.30	0.280	Regular	720	800	880	790	870	950	850	940	1,030	950	1,050	1,150	0.50
	7.35	0.336	Regular	790	870	950	850	940	1,030	910	1,010	1,110	1,050	1,160	1,270	0.50
2-7/8 *73,02*	6.40	0.217	Regular	790	870	950	850	940	1,030	890	980	1,070	980	1,080	1,180	0.60
	7.80	0.276	Regular	910	1,010	1,110	1,050	1,160	1,270	1,170	1,300	1,430	1,310	1,450	1,590	0.60
	8.60	0.308	Regular	1,170	1,300	1,430	1,310	1,450	1,590	1,500	1,660	1,820	1,630	1,810	1,990	0.60
	9.80	0.362	Regular	1,370	1,520	1,670	1,500	1,660	1,820	1,630	1,810	1,990	1,830	2,030	2,230	0.60
	10.70	0.405	Regular	1,500	1,660	1,820	1,630	1,810	1,990	1,760	1,950	2,140	1,960	2,170	2,380	0.60

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

FIELD-END MAKE-UP TORQUE VALUES

OD 3-1/2'' - 4''

Size (OD)	Nominal Weight	Wall Thickness	Design	MAKE-UP TORQUE 80 ksi ft.lb			MAKE-UP TORQUE 95 ksi ft.lb			MAKE-UP TORQUE 110 ksi ft.lb			MAKE-UP TORQUE 125 ksi ft.lb			Min. Dope Volume
in *mm*	lb/ft	in		Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	in³
3-1/2 *88,90*	7.70	0.216	Regular	980	1,080	1,180	1,050	1,160	1,270	1,170	1,300	1,430	1,310	1,450	1,590	0.80
	9.20	0.254	Regular	1,110	1,230	1,350	1,170	1,300	1,430	1,240	1,370	1,500	1,370	1,520	1,670	0.80
	10.20	0.289	Regular	1,240	1,370	1,500	1,310	1,450	1,590	1,440	1,590	1,740	1,500	1,660	1,820	0.80
	12.70	0.375	Regular	1,570	1,740	1,910	1,760	1,950	2,140	1,960	2,170	2,380	2,160	2,390	2,620	0.80
	13.70	0.413	Regular	1,700	1,880	2,060	1,890	2,100	2,310	2,160	2,390	2,620	2,340	2,600	2,860	0.80
	14.70	0.449	Regular	1,830	2,030	2,230	2,020	2,240	2,460	2,280	2,530	2,780	2,540	2,820	3,100	0.80
	15.50	0.476	Regular	1,960	2,170	2,380	2,160	2,390	2,620	2,480	2,750	3,020	2,740	3,040	3,340	0.80
4 *101,60*	9.50	0.226	Regular	1,170	1,300	1,430	1,370	1,520	1,670	1,570	1,740	1,910	1,700	1,880	2,060	0.90
	10.90	0.262	Regular	1,310	1,450	1,590	1,440	1,590	1,740	1,630	1,810	1,990	1,830	2,030	2,230	0.90
	11.30	0.286	Regular	1,370	1,520	1,670	1,500	1,660	1,820	1,700	1,880	2,060	1,890	2,100	2,310	0.90

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

VAM® FJL

FIELD-END MAKE-UP TORQUE VALUES

OD 4'' - 4-1/2''

Size (OD)	Nominal Weight	Wall Thickness	Design	MAKE-UP TORQUE 80 ksi ft.lb			MAKE-UP TORQUE 95 ksi ft.lb			MAKE-UP TORQUE 110 ksi ft.lb			MAKE-UP TORQUE 125 ksi ft.lb			Min. Dope Volume
in *mm*	lb/ft	in		Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	in³
4 *101,60*	13.20	0.330	Regular	2,020	2,240	2,460	2,280	2,530	2,780	2,480	2,750	3,020	2,680	2,970	3,260	0.90
	14.80	0.380	Regular	2,340	2,600	2,860	2,540	2,820	3,100	2,740	3,040	3,340	2,930	3,250	3,570	0.90
	16.50	0.430	Regular	2,610	2,890	3,170	2,800	3,110	3,420	3,000	3,330	3,660	3,260	3,620	3,980	0.90
4-1/2 *114,30*	11.60	0.250	Regular	1,960	2,170	2,380	2,160	2,390	2,620	2,420	2,680	2,940	2,680	2,970	3,260	1.00
	12.60	0.271	Regular	2,020	2,240	2,460	2,220	2,460	2,700	2,480	2,750	3,020	2,740	3,040	3,340	1.00
	13.50	0.290	Regular	2,080	2,310	2,540	2,280	2,530	2,780	2,540	2,820	3,100	2,800	3,110	3,420	1.00
	15.10	0.337	Regular	2,280	2,530	2,780	2,480	2,750	3,020	2,740	3,040	3,340	3,000	3,330	3,660	1.00
	17.00	0.380	Regular	2,480	2,750	3,020	2,740	3,040	3,340	3,000	3,330	3,660	3,260	3,620	3,980	1.00
	18.90	0.430	Regular	2,680	2,970	3,260	2,930	3,250	3,570	3,330	3,690	4,050	3,590	3,980	4,370	1.00
	21.50	0.500	Regular	3,000	3,330	3,660	3,260	3,620	3,980	3,650	4,050	4,450	3,910	4,340	4,770	1.00

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

FIELD-END MAKE-UP TORQUE VALUES

OD 4-1/2" - 5-1/2"

Size (OD)	Nominal Weight	Wall Thickness	Design	MAKE-UP TORQUE 80 ksi ft.lb			MAKE-UP TORQUE 95 ksi ft.lb			MAKE-UP TORQUE 110 ksi ft.lb			MAKE-UP TORQUE 125 ksi ft.lb			Min. Dope Volume
in *mm*	lb/ft	in		Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	in³
4-1/2 *114,30*	23.70	0.560	Regular	3,000	3,330	3,660	3,520	3,910	4,300	3,910	4,340	4,770	4,230	4,700	5,170	1.00
5 *127,00*	13.00	0.253	Regular	1,630	1,810	1,990	1,890	2,100	2,310	2,160	2,390	2,620	2,420	2,680	2,940	1.50
	15.00	0.296	Regular	1,760	1,950	2,140	2,020	2,240	2,460	2,280	2,530	2,780	2,480	2,750	3,020	1.50
	18.00	0.362	Regular	2,870	3,180	3,490	3,000	3,330	3,660	3,260	3,620	3,980	3,590	3,980	4,370	1.50
	20.30	0.408	Regular	3,190	3,540	3,890	3,390	3,760	4,130	3,590	3,980	4,370	3,780	4,200	4,620	1.50
	20.80	0.422	Regular	3,450	3,830	4,210	3,590	3,980	4,370	3,710	4,120	4,530	3,850	4,270	4,690	1.50
	21.40	0.437	Regular	3,520	3,910	4,300	3,780	4,200	4,620	3,910	4,340	4,770	4,040	4,480	4,920	1.50
	23.20	0.478	Regular	3,590	3,980	4,370	3,910	4,340	4,770	4,230	4,700	5,170	4,630	5,140	5,650	1.50
	24.10	0.500	Regular	3,650	4,050	4,450	4,040	4,480	4,920	4,430	4,920	5,410	4,760	5,280	5,800	1.50
5-1/2 *139,70*	15.50	0.275	Regular	2,420	2,680	2,940	2,740	3,040	3,340	3,130	3,470	3,810	3,450	3,830	4,210	1.60

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

VAM® FJL

FIELD-END MAKE-UP TORQUE VALUES

OD 5-1/2'' - 6-5/8''

Size (OD)	Nominal Weight	Wall Thickness	Design	MAKE-UP TORQUE 80 ksi ft.lb			MAKE-UP TORQUE 95 ksi ft.lb			MAKE-UP TORQUE 110 ksi ft.lb			MAKE-UP TORQUE 125 ksi ft.lb			Min. Dope Volume
in *mm*	lb/ft	in		Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	in³
5-1/2 *139,70*	17.00	0.304	Regular	2,540	2,820	3,100	2,870	3,180	3,490	3,190	3,540	3,890	3,590	3,980	4,370	1.60
	20.00	0.361	Regular	3,190	3,540	3,890	3,650	4,050	4,450	4,040	4,480	4,920	4,500	4,990	5,480	1.60
	23.00	0.415	Regular	3,850	4,270	4,690	3,970	4,410	4,850	4,370	4,850	5,330	4,760	5,280	5,800	1.60
	26.00	0.476	Regular	4,170	4,630	5,090	4,430	4,920	5,410	4,690	5,210	5,730	5,080	5,640	6,200	1.60
	28.40	0.530	Regular	4,430	4,920	5,410	5,080	5,640	6,200	5,280	5,860	6,440	5,400	6,000	6,600	1.60
	29.70	0.562	Regular	5,080	5,640	6,200	5,340	5,930	6,520	5,670	6,290	6,910	5,860	6,510	7,160	1.60
6-5/8 *168,27*	23.20	0.330	NA	4,230	4,700	5,170	4,880	5,420	5,960	5,540	6,150	6,760	6,190	6,870	7,550	1.90
	24.00	0.352	Regular	4,370	4,850	5,330	5,020	5,570	6,120	5,670	6,290	6,910	6,320	7,020	7,720	1.90
	28.00	0.417	Regular	4,690	5,210	5,730	5,340	5,930	6,520	5,990	6,650	7,310	6,510	7,230	7,950	1.90
	32.00	0.475	Regular	5,020	5,570	6,120	5,670	6,290	6,910	6,320	7,020	7,720	6,840	7,590	8,340	1.90

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

FIELD-END MAKE-UP TORQUE VALUES

OD 6-5/8'' - 7-5/8''

Size (OD)	Nominal Weight	Wall Thickness	Design	MAKE-UP TORQUE 80 ksi ft.lb			MAKE-UP TORQUE 95 ksi ft.lb			MAKE-UP TORQUE 110 ksi ft.lb			MAKE-UP TORQUE 125 ksi ft.lb			Min. Dope Volume
in *mm*	lb/ft	in		Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	in³
6-5/8 *168,27*	35.00	0.525	Regular	5,340	5,930	6,520	5,990	6,650	7,310	6,510	7,230	7,950	7,170	7,960	8,750	1.90
7 *177,80*	23.00	0.317	NA	4,500	4,990	5,480	5,220	5,790	6,360	5,860	6,510	7,160	6,510	7,230	7,950	2.60
	26.00	0.362	NB	5,080	5,640	6,200	5,800	6,440	7,080	6,510	7,230	7,950	7,470	8,300	9,130	2.60
	29.00	0.408	Regular	5,740	6,370	7,000	6,510	7,230	7,950	7,170	7,960	8,750	8,150	9,050	9,950	2.60
	32.00	0.453	Regular	6,060	6,730	7,400	6,840	7,590	8,340	7,470	8,300	9,130	8,460	9,400	10,340	2.60
	35.00	0.498	Regular	6,390	7,090	7,790	7,170	7,960	8,750	7,830	8,700	9,570	8,780	9,750	10,720	2.60
	38.00	0.540	Regular	6,840	7,590	8,340	7,470	8,300	9,130	8,150	9,050	9,950	9,150	10,150	11,150	2.60
	41.00	0.590	Regular	7,170	7,960	8,750	7,830	8,700	9,570	8,780	9,750	10,720	9,500	10,500	11,500	2.60
7-5/8 *193,67*	26.40	0.328	NF	5,480	6,080	6,680	6,320	7,020	7,720	7,170	7,960	8,750	8,150	9,050	9,950	2.80
	29.70	0.375	NG	6,120	6,800	7,480	7,170	7,960	8,750	8,150	9,050	9,950	8,780	9,750	10,720	2.80

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

VAM® FJL

FIELD-END MAKE-UP TORQUE VALUES

OD 7-5/8'' - 8-5/8''

Size (OD)	Nominal Weight	Wall Thickness	Design	MAKE-UP TORQUE 80 ksi ft.lb			MAKE-UP TORQUE 95 ksi ft.lb			MAKE-UP TORQUE 110 ksi ft.lb			MAKE-UP TORQUE 125 ksi ft.lb			Min. Dope Volume
in *mm*	lb/ft	in		Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	in³
7-5/8 *193,67*	33.70	0.430	Regular	6,840	7,590	8,340	7,830	8,700	9,570	8,780	9,750	10,720	9,850	10,850	11,850	2.80
	35.80	0.465	Regular	7,170	7,960	8,750	8,150	9,050	9,950	9,150	10,150	11,150	10,100	11,200	12,300	2.80
	39.00	0.500	Regular	7,470	8,300	9,130	8,460	9,400	10,340	9,500	10,500	11,500	10,450	11,550	12,650	2.80
	42.80	0.562	Regular	7,830	8,700	9,570	8,780	9,750	10,720	9,850	10,850	11,850	10,850	11,950	13,050	2.80
	45.30	0.595	Regular	7,830	8,700	9,570	9,150	10,150	11,150	10,100	11,200	12,300	11,450	12,650	13,850	2.80
	47.10	0.625	Regular	9,500	10,500	11,500	11,100	12,300	13,500	12,450	13,750	15,050	13,700	15,200	16,700	2.80
8-5/8 *219,07*	32.00	0.352	NA	7,170	7,960	8,750	8,150	9,050	9,950	9,500	10,500	11,500	10,850	11,950	13,050	3.80
	36.00	0.400	NA	7,470	8,300	9,130	8,460	9,400	10,340	9,850	10,850	11,850	11,100	12,300	13,500	3.80
	40.00	0.450	Regular	8,780	9,750	10,720	10,100	11,200	12,300	11,100	12,300	13,500	12,450	13,750	15,050	3.80
	44.00	0.500	Regular	9,150	10,150	11,150	10,450	11,550	12,650	11,700	13,000	14,300	13,050	14,450	15,850	3.80

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

FIELD-END MAKE-UP TORQUE VALUES

OD 8-5/8'' - 9-5/8''

Size (OD)	Nominal Weight	Wall Thickness	Design	MAKE-UP TORQUE 80 ksi ft.lb			MAKE-UP TORQUE 95 ksi ft.lb			MAKE-UP TORQUE 110 ksi ft.lb			MAKE-UP TORQUE 125 ksi ft.lb			Min. Dope Volume
in *mm*	lb/ft	in		Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	in³
8-5/8 *219,07*	49.00	0.557	Regular	9,150	10,150	11,150	10,850	11,950	13,050	11,700	13,000	14,300	13,050	14,450	15,850	3.80
	52.00	0.595	Regular	10,100	11,200	12,300	11,450	12,650	13,850	12,700	14,100	15,500	13,700	15,200	16,700	3.80
9-3/8 *238,13*	39.00	0.400	Regular	9,150	10,150	11,150	10,450	11,550	12,650	12,100	13,400	14,700	13,400	14,850	16,300	4.10
	40.00	0.420	Regular	9,150	10,150	11,150	10,450	11,550	12,650	11,700	13,000	14,300	13,400	14,850	16,300	4.10
9-5/8 *244,47*	36.00	0.352	NA	9,150	10,150	11,150	10,850	11,950	13,050	12,450	13,750	15,050	13,700	15,200	16,700	4.20
	40.00	0.395	NA	9,500	10,500	11,500	10,850	11,950	13,050	12,450	13,750	15,050	14,050	15,550	17,050	4.20
	43.50	0.435	NA	9,500	10,500	11,500	11,100	12,300	13,500	12,450	13,750	15,050	14,050	15,550	17,050	4.20
	47.00	0.472	Regular	11,100	12,300	13,500	12,700	14,100	15,500	14,400	15,900	17,400	14,400	15,900	17,400	4.20
	53.50	0.545	Regular	11,700	13,000	14,300	13,050	14,450	15,850	14,400	15,900	17,400	14,400	15,900	17,400	4.20
	58.40	0.595	ND	13,300	14,800	16,300	15,400	17,100	18,800	17,450	19,400	21,350	19,500	21,700	23,900	4.20

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

VAM® FJL

FIELD-END MAKE-UP TORQUE VALUES

OD 9-5/8'' - 10-3/4"

Size (OD)	Nominal Weight	Wall Thickness	Design	MAKE-UP TORQUE 80 ksi ft.lb			MAKE-UP TORQUE 95 ksi ft.lb			MAKE-UP TORQUE 110 ksi ft.lb			MAKE-UP TORQUE 125 ksi ft.lb			Min. Dope Volume
in *mm*	lb/ft	in		Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	in³
9-5/8 *244,47*	59.40	0.609	Regular	12,100	13,400	14,700	13,700	15,200	16,700	14,400	15,900	17,400	14,400	15,900	17,400	4.20
	61.10	0.625	Regular	12,450	13,750	15,050	13,700	15,200	16,700	14,400	15,900	17,400	14,400	15,900	17,400	4.20
9-7/8 *250,82*	62.80	0.625	Regular	13,050	14,450	15,850	14,400	15,900	17,400	14,400	15,900	17,400	14,400	15,900	17,400	4.30
	65.30	0.650	Regular	13,700	15,200	16,700	14,400	15,900	17,400	14,400	15,900	17,400	14,400	15,900	17,400	4.30
	67.50	0.678	Regular	14,400	15,900	17,400	14,400	15,900	17,400	14,400	15,900	17,400	14,400	15,900	17,400	4.30
10-3/4 *273,05*	40.50	0.350	NA	11,100	12,300	13,500	12,700	14,100	15,500	14,650	16,250	17,850	16,650	18,450	20,250	4.70
	45.50	0.400	NB	12,100	13,400	14,700	14,400	15,900	17,400	16,300	18,100	19,900	18,250	20,250	22,250	4.70
	45.50	0.400	ND	12,100	13,400	14,700	14,300	15,900	17,500	16,300	18,100	19,900	18,300	20,300	22,300	4.70
	51.00	0.450	NB	12,450	13,750	15,050	14,400	15,900	17,400	16,300	18,100	19,900	18,600	20,600	22,600	4.70
	60.70	0.545	Regular	14,400	15,900	17,400	14,400	15,900	17,400	14,400	15,900	17,400	14,400	15,900	17,400	4.70

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

FIELD-END MAKE-UP TORQUE VALUES

OD 10-3/4" - 13-3/8"

Size (OD)	Nominal Weight	Wall Thickness	Design	MAKE-UP TORQUE 80 ksi ft.lb			MAKE-UP TORQUE 95 ksi ft.lb			MAKE-UP TORQUE 110 ksi ft.lb			MAKE-UP TORQUE 125 ksi ft.lb			Min. Dope Volume
in *mm*	lb/ft	in		Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	in³
10-3/4 *273,05*	65.70	0.595	Regular	14,400	15,900	17,400	14,400	15,900	17,400	14,400	15,900	17,400	14,400	15,900	17,400	4.70
11-3/4 *298,45*	47.00	0.375	Regular	14,400	15,900	17,400	14,400	15,900	17,400	14,400	15,900	17,400	14,400	15,900	17,400	6.00
	54.00	0.435	Regular	14,400	15,900	17,400	14,400	15,900	17,400	14,400	15,900	17,400	14,400	15,900	17,400	6.00
	60.00	0.489	Regular	14,400	15,900	17,400	14,400	15,900	17,400	14,400	15,900	17,400	14,400	15,900	17,400	6.00
	65.00	0.534	Regular	14,400	15,900	17,400	14,400	15,900	17,400	14,400	15,900	17,400	14,400	15,900	17,400	6.00
11-7/8 *301,63*	71.80	0.582	Regular	14,400	15,900	17,400	14,400	15,900	17,400	14,400	15,900	17,400	14,400	15,900	17,400	6.10
13-3/8 *339,72*	68.00	0.480	Regular	14,700	16,300	17,900	15,900	17,700	19,500	15,900	17,700	19,500	15,900	17,700	19,500	6.89

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

VAM® EDGE SF+

TECHNICAL TABLE

OD 4-1/2" - 5-1/2"

PIPE					CONNECTION PROPERTIES				CONNECTION PERFORMANCES				
Size (OD)	Nominal Weight	Wall Thickness		Drift	Design	Inside Diameter	Outside Diameter	Make-up Loss	Tensile Efficiency With Sealability	Compression Efficiency With Sealability	Joint Yield Strength x1000 lb		
in *mm*	lb/ft	in	*mm*	in		in	in	in	% Pipe Body	% Pipe Body	95 ksi	110 ksi	125 ksi
4-1/2 *114,30*	13.50	0.290	*7,37*	3.795	Regular	3.848	4.725	4.913	77	77	281	325	369
	15.10	0.337	*8,56*	3.701	Regular	3.754	4.725	5.058	79	79	331	383	435
5 *127,00*	18.00	0.362	*9,19*	4.151	Regular	4.204	5.252	5.216	82	82	411	476	541
	21.40	0.437	*11,10*	4.001	Regular	4.054	5.252	5.496	85	85	506	586	666
	23.20	0.478	*12,14*	3.919	Regular	3.972	5.252	6.006	85	85	548	635	722
5-1/2 *139,70*	20.00	0.361	*9,17*	4.653	Regular	4.706	5.765	5.236	82	82	454	526	597
	23.00	0.415	*10,54*	4.545	Regular	4.598	5.765	5.213	84	84	529	613	696
	26.00	0.476	*12,09*	4.423	Regular	4.476	5.765	6.023	85	85	607	702	798

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

FIELD-END MAKE-UP TORQUE VALUES

OD 4-1/2" - 5-1/2"

Size (OD)	Nominal Weight	Wall Thickness	Design	MAKE-UP TORQUE 95 ksi ft.lb			MAKE-UP TORQUE 110 ksi ft.lb			MAKE-UP TORQUE 125 ksi ft.lb			MTS 95 ksi	MTS 110 ksi	MTS 125 ksi	Min. Dope Volume	Max. Dope Volume
in *mm*	lb/ft	in		Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	ft.lb	ft.lb	ft.lb	in³	in³
4-1/2 *114,30*	13.50	0.290	Regular	12,400	13,400	14,400	12,400	13,400	14,400	12,400	13,400	14,400	17,750	20,000	22,500	0.61	0.79
	15.10	0.337	Regular	13,800	14,800	15,800	13,800	14,800	15,800	13,800	14,800	15,800	20,000	22,500	25,000	0.67	0.92
5 *127,00*	18.00	0.362	Regular	16,200	17,200	18,200	16,200	17,200	18,200	16,200	17,200	18,200	20,000	22,500	28,700	0.73	0.98
	21.40	0.437	Regular	17,700	18,450	19,200	17,700	18,450	19,200	17,700	18,450	19,200	23,750	27,000	30,250	0.79	1.04
	23.20	0.478	Regular	17,700	18,450	19,200	17,700	18,450	19,200	17,700	18,450	19,200	20,250	23,000	25,750	0.79	1.04
5-1/2 *139,70*	20.00	0.361	Regular	16,950	17,950	18,950	16,950	17,950	18,950	16,950	17,950	18,950	23,250	26,250	29,500	0.85	1.16
	23.00	0.415	Regular	17,700	18,450	19,200	17,700	18,450	19,200	17,700	18,450	19,200	23,750	27,000	30,250	0.79	1.04
	26.00	0.476	Regular	17,700	18,450	19,200	17,700	18,450	19,200	17,700	18,450	19,200	25,500	29,000	32,500	0.92	1.22

MTS = Maximum Torque with Sealability (maximum Torque up to which the string can be rotated downhole, with no impact on connection's performances)
MTS may be lower for anisotropic CRA materials (referenced as Type 2, 3 & 4 as per API 5CRA / ISO 13680): please check out the Connection Datasheet on VAM® Services website or contact Mr. Help.
Higher MTS values may be available, depending on running thread compounds. Please contact Mr Help for more information at www.vamservices.com
For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

VAM® SPRINT-TC

TECHNICAL TABLE

OD 5'' - 6''

PIPE					CONNECTION PROPERTIES					CONNECTION PERFORMANCES				
Size (OD)	Nominal Weight	Wall Thickness		Drift	Design	Inside Diameter	Outside Diameter	Coupling Length	Make-up Loss	Tensile Efficiency	Compression Efficiency	Joint Yield Strength x1000 lb		
in *mm*	lb/ft	in	*mm*	in		in	in	in	in	% Pipe Body	% Pipe Body	95 ksi	110 ksi	125 ksi
5 *127,00*	18.00	0.362	*9,19*	4.151	Regular	4.323	5.500	8.251	3.901	100	100	501	580	659
	21.40	0.437	*11,10*	4.001	Regular	4.191	5.700	9.250	4.331	100	100	595	689	783
	23.20	0.478	*12,14*	3.919	Regular	4.120	5.700	9.250	4.331	100	100	645	747	849
5-1/2 *139,70*	17.00	0.304	*7,72*	4.767	Regular	4.930	5.950	7.500	3.632	100	100	471	546	620
	20.00	0.361	*9,17*	4.653	Regular	4.830	6.200	8.295	3.973	100	100	554	641	729
	20.00	0.361	*9,17*	4.653	SC	4.830	5.900	8.754	3.973	100	100	554	641	729
	23.00	0.415	*10,54*	4.545	Regular	4.736	6.200	8.295	3.973	100	100	630	729	829
6 *152,40*	22.30	0.360	*9,14*	5.155	Regular	5.337	6.525	8.451	3.990	100	100	606	702	797
	24.50	0.400	*10,16*	5.075	Regular	5.267	6.525	8.831	4.283	100	100	669	774	880
	25.50	0.415	*10,54*	5.045	Regular	5.241	6.525	8.831	4.283	100	100	692	801	910

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

FIELD-END MAKE-UP TORQUE VALUES

OD 5'' - 6''

Size (OD)	Nominal Weight	Wall Thickness	Design	MAKE-UP TORQUE 95 ksi ft.lb			MAKE-UP TORQUE 110 ksi ft.lb			MAKE-UP TORQUE 125 ksi ft.lb			MTS 95 ksi	MTS 110 ksi	MTS 125 ksi	Min. Dope Volume	Max. Dope Volume
in *mm*	lb/ft	in		Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	ft.lb	ft.lb	ft.lb	in³	in³
5 *127,00*	18.00	0.362	Regular	15,250	16,250	17,250	15,250	16,250	17,250	15,250	16,250	17,250	26,700	29,800	32,900	0.33	0.53
	21.40	0.437	Regular	25,500	26,500	27,500	25,500	26,500	27,500	25,500	26,500	27,500	33,500	36,750	40,000	0.38	0.58
	23.20	0.478	Regular	25,500	26,500	27,500	25,500	26,500	27,500	25,500	26,500	27,500	35,750	39,000	42,250	0.38	0.58
5-1/2 *139,70*	17.00	0.304	Regular	14,000	15,000	16,000	14,000	15,000	16,000	14,000	15,000	16,000	28,200	32,200	36,200	0.35	0.54
	20.00	0.361	Regular	23,000	24,000	25,000	23,000	24,000	25,000	23,000	24,000	25,000	30,900	35,800	39,200	0.40	0.60
	20.00	0.361	SC	23,000	24,000	25,000	23,000	24,000	25,000	23,000	24,000	25,000	30,900	35,800	39,200	0.38	0.58
	23.00	0.415	Regular	23,000	24,000	25,000	23,000	24,000	25,000	23,000	24,000	25,000	33,400	37,400	40,600	0.40	0.60
6 *152,40*	22.30	0.360	Regular	20,500	21,500	22,500	20,500	21,500	22,500	20,500	21,500	22,500	36,150	40,950	45,750	0.41	0.61
	24.50	0.400	Regular	25,000	26,000	27,000	25,000	26,000	27,000	25,000	26,000	27,000	41,800	47,200	52,600	0.43	0.62
	25.50	0.415	Regular	25,000	26,000	27,000	25,000	26,000	27,000	25,000	26,000	27,000	42,150	47,600	53,000	0.43	0.62

MTS = Maximum Torque with Sealability (maximum Torque up to which the string can be rotated downhole, with no impact on connection's performances)
For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

VAM® SPRINT-SF

TECHNICAL TABLE

OD 5'' - 7-5/8''

PIPE					CONNECTION PROPERTIES				CONNECTION PERFORMANCES					
Size (OD)	Nominal Weight	Wall Thickness		Drift	Design	Inside Diameter	Outside Diameter	Make-up Loss	Tensile Efficiency	Compression Efficiency	Joint Yield Strength x1000 lb			
in *mm*	lb/ft	in	*mm*	in		in	in	in	% Pipe Body	% Pipe Body	80 ksi	95 ksi	110 ksi	125 ksi
5 *127,00*	18.00	0.362	*9,19*	4.151	Regular	4.218	5.230	5.502	90.5	90.5	382	453	525	596
	21.40	0.437	*11,10*	4.001	Regular	4.070	5.231	5.795	92.5	92.5	463	550	637	724
	23.20	0.478	*12,14*	3.919	Regular	3.991	5.231	5.392	93.5	93.5	508	603	698	794
5-1/2 *139,70*	20.00	0.361	*9,17*	4.653	Regular	4.718	5.783	5.965	90	90	419	499	577	656
	23.00	0.415	*10,54*	4.545	Regular	4.615	5.779	5.606	92	92	488	580	671	763
	26.00	0.476	*12,09*	4.423	Regular	4.497	5.779	5.470	93.5	93.5	562	668	772	878
6 *152,40*	22.30	0.360	*9,14*	5.155	Regular	5.225	6.276	5.847	90	90	459	545	632	717
	24.50	0.400	*10,16*	5.075	Regular	5.147	6.277	5.386	91	91	512	609	704	801
	25.50	0.415	*10,54*	5.045	Regular	5.117	6.277	5.596	91.5	91.5	533	633	733	833
7-5/8 *193,67*	26.40	0.328	*8,33*	6.844	Regular	6.914	7.881	4.925	88.5	88.5	533	632	732	832

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

TECHNICAL TABLE

OD 7-5/8'' - 8-5/8''

PIPE					CONNECTION PROPERTIES				CONNECTION PERFORMANCES					
Size (OD)	Nominal Weight	Wall Thickness		Drift	Design	Inside Diameter	Outside Diameter	Make-up Loss	Tensile Efficiency	Compression Efficiency	Joint Yield Strength x1000 lb			
in *mm*	lb/ft	in	*mm*	in		in	in	in	% Pipe Body	% Pipe Body	80 ksi	95 ksi	110 ksi	125 ksi
7-5/8 *193,67*	29.70	0.375	*9,52*	6.750	Regular	6.823	7.882	4.897	89.5	89.5	611	726	841	956
8-5/8 *219,07*	32.00	0.352	*8,94*	7.875 A	Regular	7.945	9.033	5.887	90	90	659	782	905	1,030
	36.00	0.400	*10,16*	7.700	Regular	7.770	9.035	6.313	90.5	90.5	748	889	1,029	1,169

Drift values: A = Alternate Drift, S = Special Drift

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

VAM® SPRINT-SF

FIELD-END MAKE-UP TORQUE VALUES

OD 5'' - 7-5/8''

Size (OD)	Nominal Weight	Wall Thickness	Design	MAKE-UP TORQUE 80 ksi ft.lb			MAKE-UP TORQUE 95 ksi ft.lb			MAKE-UP TORQUE 110 ksi ft.lb			MAKE-UP TORQUE 125 ksi ft.lb			MTS 80 ksi	MTS 95 ksi	MTS 110 ksi	MTS 125 ksi	Min. Dope Volume	Max. Dope Volume
in *mm*	lb/ft	in		Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	ft.lb	ft.lb	ft.lb	ft.lb	in³	in³
5 *127,00*	18.00	0.362	Regular	15,500	18,000	20,500	15,500	18,000	20,500	15,500	18,000	20,500	15,500	18,000	20,500	21,000	25,000	29,000	33,000	0.71	0.91
	21.40	0.437	Regular	17,750	20,250	22,750	17,750	20,250	22,750	17,750	20,250	22,750	17,750	20,250	22,750	24,000	29,000	33,000	38,000	0.71	0.91
	23.20	0.478	Regular	17,500	20,000	22,500	17,500	20,000	22,500	17,500	20,000	22,500	17,500	20,000	22,500	23,000	27,000	31,000	35,000	0.71	0.91
5-1/2 *139,70*	20.00	0.361	Regular	20,000	22,500	25,000	20,000	22,500	25,000	20,000	22,500	25,000	20,000	22,500	25,000	26,000	31,000	36,000	40,000	0.81	1.01
	23.00	0.415	Regular	20,250	22,750	25,250	20,250	22,750	25,250	20,250	22,750	25,250	20,250	22,750	25,250	29,000	34,000	40,000	45,000	0.81	1.01
	26.00	0.476	Regular	21,500	24,000	26,500	21,500	24,000	26,500	21,500	24,000	26,500	21,500	24,000	26,500	28,000	33,000	38,000	43,000	0.81	1.01
6 *152,40*	22.30	0.360	Regular	21,750	24,250	26,750	21,750	24,250	26,750	21,750	24,250	26,750	21,750	24,250	26,750	31,000	37,000	43,000	48,000	0.81	1.01
	24.50	0.400	Regular	22,000	24,500	27,000	22,000	24,500	27,000	22,000	24,500	27,000	22,000	24,500	27,000	34,000	40,000	47,000	53,000	0.81	1.01
	25.50	0.415	Regular	22,750	25,250	27,750	22,750	25,250	27,750	22,750	25,250	27,750	22,750	25,250	27,750	35,000	41,000	48,000	54,000	0.91	1.11
7-5/8 *193,67*	26.40	0.328	Regular	25,000	30,000	35,000	25,000	30,000	35,000	25,000	30,000	35,000	25,000	30,000	35,000	49,000	50,000	50,000	50,000	0.81	1.02

MTS = Maximum Torque with Sealability (maximum Torque up to which the string can be rotated downhole, with no impact on connection's performances)
For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

VAM® SPRINT-SF

FIELD-END MAKE-UP TORQUE VALUES

OD 7-5/8'' - 8-5/8''

Size (OD)	Nominal Weight	Wall Thickness	Design	MAKE-UP TORQUE 80 ksi ft.lb			MAKE-UP TORQUE 95 ksi ft.lb			MAKE-UP TORQUE 110 ksi ft.lb			MAKE-UP TORQUE 125 ksi ft.lb			MTS 80 ksi	MTS 95 ksi	MTS 110 ksi	MTS 125 ksi	Min. Dope Volume	Max. Dope Volume
in *mm*	lb/ft	in		Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	ft.lb	ft.lb	ft.lb	ft.lb	in³	in³
7-5/8 *193,67*	29.70	0.375	Regular	25,000	30,000	35,000	25,000	30,000	35,000	25,000	30,000	35,000	25,000	30,000	35,000	50,000	50,000	50,000	50,000	0.81	1.02
8-5/8 *219,07*	32.00	0.352	Regular	25,250	30,250	35,250	25,250	30,250	35,250	25,250	30,250	35,250	25,250	30,250	35,250	50,000	50,000	50,000	50,000	0.92	1.12
	36.00	0.400	Regular	25,000	30,000	35,000	25,000	30,000	35,000	25,000	30,000	35,000	25,000	30,000	35,000	50,000	50,000	50,000	50,000	1.02	1.22

MTS = Maximum Torque with Sealability (maximum Torque up to which the string can be rotated downhole, with no impact on connection's performances)
For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

VAM® SPRINT-FJ

TECHNICAL TABLE

OD 7-5/8'' - 8-5/8''

PIPE					CONNECTION PROPERTIES				CONNECTION PERFORMANCES					
Size (OD)	Nominal Weight	Wall Thickness		Drift	Design	Inside Diameter	Outside Diameter	Make-up Loss	Tensile Efficiency	Compression Efficiency	Joint Yield Strength x1000 lb			
in *mm*	lb/ft	in	*mm*	in		in	in	in	% Pipe Body	% Pipe Body	80 ksi	95 ksi	110 ksi	125 ksi
7-5/8 *193,67*	29.70	0.375	*9,52*	6.750	Regular	6.827	7.654	4.056	80.5	80.5	550	653	756	859
8-5/8 *219,07*	32.00	0.352	*8,94*	7.875 A	Regular	7.954	8.665	2.614	65.5	65.5	479	569	659	749

Drift values: A = Alternate Drift, S = Special Drift

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

FIELD-END MAKE-UP TORQUE VALUES

OD 7-5/8'' - 8-5/8''

Size (OD)	Nominal Weight	Wall Thickness	Design	MAKE-UP TORQUE 80 ksi ft.lb			MAKE-UP TORQUE 95 ksi ft.lb			MAKE-UP TORQUE 110 ksi ft.lb			MAKE-UP TORQUE 125 ksi ft.lb			MTS 80 ksi	MTS 95 ksi	MTS 110 ksi	MTS 125 ksi	Min. Dope Volume	Max. Dope Volume
in *mm*	lb/ft	in		Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	ft.lb	ft.lb	ft.lb	ft.lb	in³	in³
7-5/8 *193,67*	29.70	0.375	Regular	15,000	16,500	28,000	15,000	16,500	28,000	15,000	16,500	28,000	15,000	16,500	28,000	32,000	32,000	32,000	32,000	0.81	1.01
8-5/8 *219,07*	32.00	0.352	Regular	15,000	16,500	28,000	15,000	16,500	28,000	15,000	16,500	28,000	15,000	16,500	28,000	32,000	37,650	43,600	48,000	1.16	1.36

MTS = Maximum Torque with Sealability (maximum Torque up to which the string can be rotated downhole, with no impact on connection's performances)
For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

DINO VAM

TECHNICAL TABLE

OD 7'' - 9-5/8''

PIPE					CONNECTION PROPERTIES					CONNECTION PERFORMANCES					
Size (OD)	Nominal Weight	Wall Thickness		Drift	Design	Inside Diameter	Outside Diameter	Coupling Length	Make-up Loss	Tensile Efficiency	Compression Efficiency	Joint Yield Strength x1000 lb			
in *mm*	lb/ft	in	*mm*	in		in	in	in	in	% Pipe Body	% Pipe Body	80 ksi	95 ksi	110 ksi	125 ksi
7 *177,80*	20.00	0.272	*6,91*	6.331	Regular	6.461	7.657	7.961	3.973	100	50	460	546	632	719
	23.00	0.317	*8,05*	6.241	Regular	6.443	7.657	7.961	3.973	100	50	532	632	732	832
	26.00	0.362	*9,19*	6.151	Regular	6.363	7.657	7.961	3.973	100	50	604	717	830	944
	29.00	0.408	*10,36*	6.059	Regular	6.279	7.657	7.961	3.973	100	50	676	803	929	1,056
9-5/8 *244,47*	36.00	0.352	*8,94*	8.765	Regular	9.005	10.626	9.493	4.739	100	50	820	974	1,128	1,282
	40.00	0.395	*10,03*	8.679	Regular	8.928	10.626	9.493	4.739	100	50	916	1,088	1,260	1,432
	43.50	0.435	*11,05*	8.599	Regular	8.857	10.626	9.493	4.739	100	50	1,005	1,193	1,381	1,570
	47.00	0.472	*11,99*	8.525	Regular	8.789	10.626	9.493	4.739	100	50	1,086	1,289	1,493	1,697
	53.50	0.545	*13,84*	8.379	Regular	8.659	10.626	9.493	4.739	100	50	1,244	1,477	1,710	1,943
	58.40	0.595	*15,11*	8.279	Regular	8.569	10.626	9.493	4.739	100	50	1,350	1,604	1,857	2,110

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

TECHNICAL TABLE

OD 9-5/8'' - 9-7/8''

PIPE					CONNECTION PROPERTIES					CONNECTION PERFORMANCES					
Size (OD)	Nominal Weight	Wall Thickness		Drift	Design	Inside Diameter	Outside Diameter	Coupling Length	Make-up Loss	Tensile Efficiency	Compression Efficiency	Joint Yield Strength x1000 lb			
in *mm*	lb/ft	in	*mm*	in		in	in	in	in	% Pipe Body	% Pipe Body	80 ksi	95 ksi	110 ksi	125 ksi
9-5/8 *244,47*	59.40	0.609	*15,47*	8.251	Regular	8.542	10.626	9.156	4.570	100	50	1,380	1,639	1,898	2,156
	61.10	0.625	*15,88*	8.219	Regular	8.514	10.626	9.156	4.570	100	50	1,414	1,679	1,944	2,209
	64.90	0.672	*17,07*	8.125	Regular	8.430	10.626	9.156	4.570	100	50	1,512	1,796	2,079	2,363
	70.30	0.734	*18,64*	8.001	Regular	8.318	10.626	9.156	4.570	100	50	1,640	1,948	2,255	2,563
	71.80	0.750	*19,05*	7.969	Regular	8.290	10.626	9.156	4.570	100	50	1,673	1,987	2,300	2,614
9-3/4 *247,65*	59.20	0.595	*15,11*	8.404	Regular	8.694	10.626	8.310	4.147	100	50	1,369	1,626	1,882	2,139
	60.20	0.609	*15,47*	8.376	Regular	8.668	10.626	8.310	4.147	100	50	1,399	1,661	1,924	2,186
9-7/8 *250,82*	67.50	0.678	*17,22*	8.363	Regular	8.669	10.870	8.976	4.480	100	50	1,567	1,861	2,155	2,449
	68.90	0.700	*17,78*	8.319	Regular	8.629	10.870	8.976	4.480	100	50			2,219	
	70.50	0.720	*18,29*	8.279	Regular	8.593	10.870	8.976	4.480	100	50	1,657	1,967	2,278	2,589

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

DINO VAM

TECHNICAL TABLE

OD 10-3/4"

PIPE					CONNECTION PROPERTIES					CONNECTION PERFORMANCES					
Size (OD)	Nominal Weight	Wall Thickness		Drift	Design	Inside Diameter	Outside Diameter	Coupling Length	Make-up Loss	Tensile Efficiency	Compression Efficiency	Joint Yield Strength x1000 lb			
in *mm*	lb/ft	in	*mm*	in		in	in	in	in	% Pipe Body	% Pipe Body	80 ksi	95 ksi	110 ksi	125 ksi
10-3/4 *273,05*	40.50	0.350	*8,89*	9.894	Regular	10.134	11.752	10.088	5.036	100	50	915	1,086	1,258	1,429
	45.50	0.400	*10,16*	9.794	Regular	10.043	11.752	10.088	5.036	100	50	1,040	1,236	1,431	1,626
	51.00	0.450	*11,43*	9.694	Regular	9.954	11.752	10.088	5.036	100	50	1,165	1,383	1,602	1,820
	55.50	0.495	*12,57*	9.604	Regular	9.873	11.752	10.088	5.036	100	50	1,276	1,515	1,754	1,993
	60.70	0.545	*13,84*	9.504	Regular	9.783	11.752	10.088	5.036	100	50	1,398	1,660	1,922	2,184
	65.70	0.595	*15,11*	9.404	Regular	9.693	11.752	10.088	5.036	100	50	1,519	1,803	2,088	2,373
	66.15	0.611	*15,52*	9.372	Regular	9.663	11.752	9.793	4.889	100	50	1,557	1,849	2,141	2,433
	73.20	0.672	*17,07*	9.250	Regular	9.555	11.752	9.793	4.889	100	50	1,702	2,021	2,340	2,660
	76.10	0.709	*18,01*	9.176	Regular	9.487	11.752	9.793	4.889	100	50	1,789	2,125	2,460	2,796
	79.20	0.734	*18,64*	9.126	Regular	9.443	11.752	9.793	4.889	100	50	1,848	2,194	2,541	2,887

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

TECHNICAL TABLE

OD 11-3/4'' - 13-3/8''

PIPE					CONNECTION PROPERTIES					CONNECTION PERFORMANCES					
Size (OD)	Nominal Weight	Wall Thickness		Drift	Design	Inside Diameter	Outside Diameter	Coupling Length	Make-up Loss	Tensile Efficiency	Compression Efficiency	Joint Yield Strength x1000 lb			
in *mm*	lb/ft	in	*mm*	in		in	in	in	in	% Pipe Body	% Pipe Body	80 ksi	95 ksi	110 ksi	125 ksi
11-3/4 *298,45*	47.00	0.375	*9,52*	10.844	Regular	11.089	12.752	8.969	4.476	100	50	1,072	1,273	1,474	1,675
	54.00	0.435	*11,05*	10.724	Regular	10.981	12.752	8.969	4.476	100	50	1,237	1,469	1,701	1,933
	60.00	0.489	*12,42*	10.616	Regular	10.883	12.752	8.729	4.356	100	50	1,384	1,644	1,903	2,163
	65.00	0.534	*13,56*	10.526	Regular	10.803	12.752	8.729	4.356	100	50	1,505	1,788	2,070	2,352
	71.00	0.582	*14,78*	10.430	Regular	10.717	12.752	8.729	4.356	100	50	1,634	1,940	2,246	2,553
13-3/8 *339,72*	54.50	0.380	*9,65*	12.459	Regular	12.705	14.374	9.523	4.754	100	50	1,241	1,474	1,706	1,939
	61.00	0.430	*10,92*	12.359	Regular	12.615	14.374	9.523	4.754	100	50	1,399	1,661	1,924	2,186
	68.00	0.480	*12,19*	12.259	Regular	12.525	14.374	9.523	4.754	100	50	1,556	1,847	2,139	2,431
	72.00	0.514	*13,06*	12.191	Regular	12.463	14.374	9.523	4.754	100	50	1,661	1,973	2,284	2,596
	77.00	0.550	*13,97*	12.119	Regular	12.397	14.374	9.032	4.508	100	50	1,773	2,105	2,438	2,770

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

DINO VAM

TECHNICAL TABLE

OD 13-3/8" - 14''

PIPE					CONNECTION PROPERTIES					CONNECTION PERFORMANCES					
Size (OD)	Nominal Weight	Wall Thickness		Drift	Design	Inside Diameter	Outside Diameter	Coupling Length	Make-up Loss	Tensile Efficiency	Compression Efficiency	Joint Yield Strength x1000 lb			
in *mm*	lb/ft	in	*mm*	in		in	in	in	in	% Pipe Body	% Pipe Body	80 ksi	95 ksi	110 ksi	125 ksi
13-3/8 *339,72*	80.70	0.580	*14,73*	12.059	Regular	12.345	14.374	9.032	4.508	100	50	1,865	2,215	2,565	2,914
	85.00	0.608	*15,44*	12.003	Regular	12.295	14.374	9.032	4.508	100	50	1,951	2,317	2,682	3,048
	86.00	0.625	*15,88*	11.969	Regular	12.263	14.374	9.032	4.508	100	50	2,003	2,378	2,754	3,129
13-5/8 *346,07*	88.20	0.625	*15,88*	12.188	Regular	12.513	14.488	9.032	4.508	100	50	2,042	2,425	2,808	3,191
14 *355,60*	82.50	0.562	*14,27*	12.689	Regular	13.002	15.043	11.056	5.520	100	50	1,898	2,254	2,610	2,966
	86.00	0.600	*15,24*	12.613	Regular	12.934	15.043	11.056	5.520	100	50	2,021	2,400	2,778	3,157
	93.00	0.650	*16,51*	12.513	Regular	12.844	15.043	11.056	5.520	100	50	2,181	2,590	2,999	3,408
	94.80	0.656	*16,66*	12.501	Regular	12.834	15.043	11.056	5.520	100	50	2,200	2,613	3,025	3,438
	99.00	0.688	*17,48*	12.437	Regular	12.774	15.043	11.056	5.520	100	50	2,302	2,733	3,165	3,597
	100.00	0.700	*17,78*	12.413	Regular	12.754	15.043	11.056	5.520	100	50	2,340	2,779	3,217	3,656

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

TECHNICAL TABLE

OD 14'' - 16''

PIPE					CONNECTION PROPERTIES					CONNECTION PERFORMANCES					
Size (OD)	Nominal Weight	Wall Thickness		Drift	Design	Inside Diameter	Outside Diameter	Coupling Length	Make-up Loss	Tensile Efficiency	Compression Efficiency	Joint Yield Strength x1000 lb			
in *mm*	lb/ft	in	*mm*	in		in	in	in	in	% Pipe Body	% Pipe Body	80 ksi	95 ksi	110 ksi	125 ksi
14 *355,60*	106.00	0.750	*19,05*	12.313	Regular	12.664	15.043	11.056	5.520	100	50	2,498	2,966	3,434	3,903
16 *406,40*	65.00	0.375	*9,52*	15.063	Regular	15.339	17.000	10.424	5.204	100	50	1,473	1,749	2,025	2,301
	75.00	0.438	*11,13*	14.937	Regular	15.225	17.000	10.424	5.204	100	50	1,713	2,034	2,356	2,677
	84.00	0.495	*12,57*	14.823	Regular	15.123	17.000	10.424	5.204	100	50	1,929	2,291	2,652	3,014
	84.80	0.500	*12,70*	14.813	Regular	15.115	17.000	10.424	5.204	100	50	1,948	2,313	2,678	3,043
	94.50	0.562	*14,27*	14.689	Regular	15.002	17.000	11.686	5.835	100	50	2,181	2,589	2,998	3,407
	97.00	0.575	*14,60*	14.663	Regular	14.979	17.000	11.686	5.835	100	50	2,229	2,647	3,065	3,483
	104.00	0.625	*15,88*	14.563	Regular	14.889	17.000	11.686	5.835	100	50	2,415	2,868	3,321	3,774
	109.00	0.656	*16,66*	14.501	Regular	14.832	17.000	11.686	5.835	100	50	2,530	3,004	3,478	3,953
	128.00	0.781	*19,84*	14.251	Regular	14.608	17.000	11.686	5.835	100	50	2,987	3,547	4,108	4,668

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

DINO VAM

FIELD-END MAKE-UP TORQUE VALUES

OD 7'' - 9-5/8''

Size (OD)	Nominal Weight	Wall Thickness	Design	MAKE-UP TORQUE 80 ksi ft.lb			MAKE-UP TORQUE 95 ksi ft.lb			MAKE-UP TORQUE 110 ksi ft.lb			MAKE-UP TORQUE 125 ksi ft.lb			Min. Dope Volume
in *mm*	lb/ft	in		Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	in³
7 *177,80*	20.00	0.272	Regular	5,010	5,570	6,130	5,010	5,570	6,130	5,010	5,570	6,130	5,400	6,000	6,600	2.10
	23.00	0.317	Regular	5,990	6,650	7,320	5,990	6,650	7,320	6,120	6,800	7,480	6,710	7,450	8,200	2.10
	26.00	0.362	Regular	7,940	8,820	9,700	7,430	8,250	9,080	8,270	9,190	10,110	9,050	10,050	11,060	2.10
	29.00	0.408	Regular	8,920	9,910	10,900	10,150	11,280	12,410	11,390	12,660	13,930	12,560	13,960	15,360	2.10
9-5/8 *244,47*	36.00	0.352	Regular	5,590	6,580	7,570	6,460	7,600	8,740	7,050	8,300	9,550	8,000	9,400	10,800	2.50
	40.00	0.395	Regular	7,700	9,050	10,400	8,900	10,500	12,100	10,150	11,950	13,750	11,400	13,400	15,400	2.50
	43.50	0.435	Regular	9,800	11,550	13,300	11,400	13,400	15,400	12,900	15,200	17,500	14,750	17,350	19,950	2.50
	47.00	0.472	Regular	11,700	13,750	15,800	13,500	15,900	18,300	15,700	18,450	21,200	17,500	20,600	23,700	2.50
	53.50	0.545	Regular	15,400	18,100	20,800	17,850	21,000	24,150	18,450	21,700	24,950	18,450	21,700	24,950	2.50
	58.40	0.595	Regular	17,850	21,000	24,150	18,450	21,700	24,950	18,450	21,700	24,950	18,450	21,700	24,950	2.50

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

FIELD-END MAKE-UP TORQUE VALUES

OD 9-5/8'' - 9-7/8''

Size (OD)	Nominal Weight	Wall Thickness	Design	MAKE-UP TORQUE 80 ksi ft.lb			MAKE-UP TORQUE 95 ksi ft.lb			MAKE-UP TORQUE 110 ksi ft.lb			MAKE-UP TORQUE 125 ksi ft.lb			Min. Dope Volume
in *mm*	lb/ft	in		Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	in³
9-5/8 *244,47*	59.40	0.609	Regular	14,150	16,650	19,150	16,300	19,150	22,000	18,450	21,700	24,950	18,450	21,700	24,950	2.50
	61.10	0.625	Regular	14,750	17,350	19,950	17,200	20,250	23,300	18,450	21,700	24,950	18,450	21,700	24,950	2.50
	64.90	0.672	Regular	16,900	19,900	22,900	18,450	21,700	24,950	18,450	21,700	24,950	18,450	21,700	24,950	2.50
	70.30	0.734	Regular	18,450	21,700	24,950	18,450	21,700	24,950	18,450	21,700	24,950	18,450	21,700	24,950	2.50
	71.80	0.750	Regular	18,450	21,700	24,950	18,450	21,700	24,950	18,450	21,700	24,950	18,450	21,700	24,950	2.50
9-3/4 *247,65*	59.20	0.595	Regular	14,750	17,350	19,950	17,200	20,250	23,300	18,450	21,700	24,950	18,450	21,700	24,950	2.50
	60.20	0.609	Regular	15,400	18,100	20,800	18,150	21,350	24,550	18,450	21,700	24,950	18,450	21,700	24,950	2.50
9-7/8 *250,82*	67.50	0.678	Regular	18,450	21,700	24,950	18,450	21,700	24,950	18,450	21,700	24,950	18,450	21,700	24,950	2.60
	68.90	0.700	Regular							18,450	21,700	24,950				2.60
	70.50	0.720	Regular	18,450	21,700	24,950	18,450	21,700	24,950	18,450	21,700	24,950	18,450	21,700	24,950	2.60

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

DINO VAM

FIELD-END MAKE-UP TORQUE VALUES

OD 10-3/4"

Size (OD)	Nominal Weight	Wall Thickness	Design	MAKE-UP TORQUE 80 ksi ft.lb			MAKE-UP TORQUE 95 ksi ft.lb			MAKE-UP TORQUE 110 ksi ft.lb			MAKE-UP TORQUE 125 ksi ft.lb			Min. Dope Volume
in *mm*	lb/ft	in		Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	in³
10-3/4 *273,05*	40.50	0.350	Regular	6,090	7,160	8,230	6,760	7,950	9,140	7,700	9,050	10,400	8,650	10,150	11,650	2.80
	45.50	0.400	Regular	9,200	10,850	12,500	10,750	12,650	14,550	12,000	14,100	16,200	13,500	15,900	18,300	2.80
	51.00	0.450	Regular	12,300	14,450	16,600	14,450	17,000	19,550	16,300	19,150	22,000	18,450	21,700	24,950	2.80
	55.50	0.495	Regular	15,050	17,700	20,350	17,850	21,000	24,150	18,450	21,700	24,950	18,450	21,700	24,950	2.80
	60.70	0.545	Regular	18,150	21,350	24,550	18,450	21,700	24,950	18,450	21,700	24,950	18,450	21,700	24,950	2.80
	65.70	0.595	Regular	18,450	21,700	24,950	18,450	21,700	24,950	18,450	21,700	24,950	18,450	21,700	24,950	2.80
	66.15	0.611	Regular	16,300	19,150	22,000	18,450	21,700	24,950	18,450	21,700	24,950	18,450	21,700	24,950	2.80
	73.20	0.672	Regular	18,450	21,700	24,950	18,450	21,700	24,950	18,450	21,700	24,950	18,450	21,700	24,950	2.80
	76.10	0.709	Regular	18,450	21,700	24,950	18,450	21,700	24,950	18,450	21,700	24,950	18,450	21,700	24,950	2.80
	79.20	0.734	Regular	18,450	21,700	24,950	18,450	21,700	24,950	18,450	21,700	24,950	18,450	21,700	24,950	2.80

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

FIELD-END MAKE-UP TORQUE VALUES

OD 11-3/4" - 13-3/8"

Size (OD)	Nominal Weight	Wall Thickness	Design	MAKE-UP TORQUE 80 ksi ft.lb			MAKE-UP TORQUE 95 ksi ft.lb			MAKE-UP TORQUE 110 ksi ft.lb			MAKE-UP TORQUE 125 ksi ft.lb			Min. Dope Volume
in *mm*	lb/ft	in		Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	in³
11-3/4 *298,45*	47.00	0.375	Regular	10,450	12,300	14,150	12,300	14,450	16,600	14,150	16,650	19,150	15,700	18,450	21,200	3.60
	54.00	0.435	Regular	15,050	17,700	20,350	17,500	20,600	23,700	18,450	21,700	24,950	18,450	21,700	24,950	3.60
	60.00	0.489	Regular	12,900	15,200	17,500	14,750	17,350	19,950	16,900	19,900	22,900	18,450	21,700	24,950	3.60
	65.00	0.534	Regular	16,300	19,150	22,000	18,450	21,700	24,950	18,450	21,700	24,950	18,450	21,700	24,950	3.60
	71.00	0.582	Regular	18,450	21,700	24,950	18,450	21,700	24,950	18,450	21,700	24,950	18,450	21,700	24,950	3.60
13-3/8 *339,72*	54.50	0.380	Regular	12,900	15,200	17,500	14,750	17,350	19,950	16,900	19,900	22,900	18,450	21,700	24,950	4.10
	61.00	0.430	Regular	17,850	21,000	24,150	18,450	21,700	24,950	18,450	21,700	24,950	18,450	21,700	24,950	4.10
	68.00	0.480	Regular	18,450	21,700	24,950	18,450	21,700	24,950	18,450	21,700	24,950	18,450	21,700	24,950	4.10
	72.00	0.514	Regular	18,450	21,700	24,950	18,450	21,700	24,950	18,450	21,700	24,950	18,450	21,700	24,950	4.10
	77.00	0.550	Regular	18,450	21,700	24,950	18,450	21,700	24,950	18,450	21,700	24,950	18,450	21,700	24,950	4.10

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

DINO VAM

FIELD-END MAKE-UP TORQUE VALUES

OD 13-3/8" - 14''

Size (OD)	Nominal Weight	Wall Thickness	Design	MAKE-UP TORQUE 80 ksi ft.lb			MAKE-UP TORQUE 95 ksi ft.lb			MAKE-UP TORQUE 110 ksi ft.lb			MAKE-UP TORQUE 125 ksi ft.lb			Min. Dope Volume
in *mm*	lb/ft	in		Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	in³
13-3/8 *339,72*	80.70	0.580	Regular	18,450	21,700	24,950	18,450	21,700	24,950	18,450	21,700	24,950	18,450	21,700	24,950	4.10
	85.00	0.608	Regular	18,450	21,700	24,950	18,450	21,700	24,950	18,450	21,700	24,950	18,450	21,700	24,950	4.10
	86.00	0.625	Regular	18,450	21,700	24,950	18,450	21,700	24,950	18,450	21,700	24,950	18,450	21,700	24,950	4.10
13-5/8 *346,07*	88.20	0.625	Regular	18,450	21,700	24,950	18,450	21,700	24,950	18,450	21,700	24,950	18,450	21,700	24,950	4.10
14 *355,60*	82.50	0.562	Regular	18,150	21,350	24,550	18,450	21,700	24,950	18,450	21,700	24,950	18,450	21,700	24,950	4.30
	86.00	0.600	Regular	18,450	21,700	24,950	18,450	21,700	24,950	18,450	21,700	24,950	18,450	21,700	24,950	4.30
	93.00	0.650	Regular	18,450	21,700	24,950	18,450	21,700	24,950	18,450	21,700	24,950	18,450	21,700	24,950	4.30
	94.80	0.656	Regular	18,450	21,700	24,950	18,450	21,700	24,950	18,450	21,700	24,950	18,450	21,700	24,950	4.30
	99.00	0.688	Regular	18,450	21,700	24,950	18,450	21,700	24,950	18,450	21,700	24,950	18,450	21,700	24,950	4.30
	100.00	0.700	Regular	18,450	21,700	24,950	18,450	21,700	24,950	18,450	21,700	24,950	18,450	21,700	24,950	4.30

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

DINO VAM

FIELD-END MAKE-UP TORQUE VALUES

OD 14" - 16"

Size (OD)	Nominal Weight	Wall Thickness	Design	MAKE-UP TORQUE 80 ksi ft.lb			MAKE-UP TORQUE 95 ksi ft.lb			MAKE-UP TORQUE 110 ksi ft.lb			MAKE-UP TORQUE 125 ksi ft.lb			Min. Dope Volume
in *mm*	lb/ft	in		Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	in³
14 *355,60*	106.00	0.750	Regular	18,450	21,700	24,950	18,450	21,700	24,950	18,450	21,700	24,950	18,450	21,700	24,950	4.30
16 *406,40*	65.00	0.375	Regular	14,450	17,000	19,550	16,600	19,550	22,500	18,450	21,700	24,950	18,450	21,700	24,950	5.40
	75.00	0.438	Regular	18,450	21,700	24,950	18,450	21,700	24,950	18,450	21,700	24,950	18,450	21,700	24,950	5.40
	84.00	0.495	Regular	18,450	21,700	24,950	18,450	21,700	24,950	18,450	21,700	24,950	18,450	21,700	24,950	5.40
	84.80	0.500	Regular	18,450	21,700	24,950	18,450	21,700	24,950	18,450	21,700	24,950	18,450	21,700	24,950	5.40
	94.50	0.562	Regular	18,450	21,700	24,950	18,450	21,700	24,950	18,450	21,700	24,950	18,450	21,700	24,950	5.40
	97.00	0.575	Regular	18,450	21,700	24,950	18,450	21,700	24,950	18,450	21,700	24,950	18,450	21,700	24,950	5.40
	104.00	0.625	Regular	18,450	21,700	24,950	18,450	21,700	24,950	18,450	21,700	24,950	18,450	21,700	24,950	5.40
	109.00	0.656	Regular	18,450	21,700	24,950	18,450	21,700	24,950	18,450	21,700	24,950	18,450	21,700	24,950	5.40
	128.00	0.781	Regular	18,450	21,700	24,950	18,450	21,700	24,950	18,450	21,700	24,950	18,450	21,700	24,950	5.40

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

BIG OMEGA ®

TECHNICAL TABLE

OD 14" - 26''

PIPE					CONNECTION PROPERTIES				CONNECTION PERFORMANCES		
Size (OD)	Nominal Weight	Wall Thickness		Drift	Design	Outside Diameter	Coupling Length	Make-up Loss	Joint Yield Strength x1000 lb		
in *mm*	lb/ft	in	*mm*	in		in	in	in	80 ksi	95 ksi	110 ksi
14 *355,60*	82.50	0.562	*14,27*	12.689	Regular	15.000	10.630	4.815	1,872	2,152	2,431
16 *406,40*	84.00	0.495	*12,57*	14.823	Regular	17.000	10.630	3.815	1,861		
18-5/8 *473,07*	94.50	0.468	*11,89*	17.502	Regular	20.000	10.630	3.815	2,001		
20 *508,00*	106.50	0.500	*12,70*	18.813	Regular	21.000	10.630	3.815	2,259		
24 *609,60*	174.00	0.688	*17,48*	22.437	Regular	25.000	10.630	4.815	3,639		5,004
24-1/2 *622,30*	165.00	0.635	*16,13*	22.962	Regular	25.500	10.630	4.815	3,510		
26 *660,40*	207.00	0.750	*19,05*	24.313	Regular	27.500	10.630	4.815	4,655		

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

FIELD-END MAKE-UP TORQUE VALUES

OD 14" - 26"

Size (OD)	Guiding make-up torque values for power tong capacity choice (All grades)
in *mm*	ft.lb
14 *355,60*	12,000
16 *406,40*	13,000
18-5/8 *473,07*	15,000
20 *508,00*	16,000
24 *609,60*	17,000
24-1/2 *622,30*	18,000
26 *660,40*	20,000

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

BIG OMEGA ®-IS

TECHNICAL TABLE

OD 16'' - 20''

PIPE					CONNECTION PROPERTIES				CONNECTION PERFORMANCES			
Size (OD)	Nominal Weight	Wall Thickness		Drift	Design	Outside Diameter	Coupling Length	Make-up Loss	Joint Yield Strength x1000 lb			
in *mm*	lb/ft	in	*mm*	in		in	in	in	55 ksi	80 ksi	95 ksi	110 ksi
16 *406,40*	104.00	0.625	*15,88*	14.563	Regular	17.000	12.992	5.827	1,660	2,331	2,695	3,060
	109.00	0.656	*16,66*	14.501	Regular	17.000	12.992	5.827	1,739	2,441	2,823	3,205
	118.00	0.715	*18,16*	14.383	Regular	17.000	12.992	5.827	1,888	2,650	3,065	3,480
	128.00	0.781	*19,84*	14.251	Regular	17.000	12.992	5.827	2,054	2,883	3,334	3,785
	147.00	0.906	*23,01*	14.001	Regular	17.000	12.992	5.827	2,235	3,266	3,836	4,355
18-5/8 *473,07*	136.00	0.693	*17,60*	17.052	Regular	20.000	12.992	5.827	2,086	2,926	3,413	3,901
	139.00	0.720	*18,29*	16.998	Regular	20.000	12.992	5.827	2,164	3,035	3,541	4,047
20 *508,00*	133.00	0.635	*16,13*	18.543	Regular	21.000	12.992	5.827	2,012	2,849	3,340	3,831
	147.00	0.709	*18,01*	18.395	Regular	21.000	12.992	5.827	2,238	3,169	3,715	4,262
	169.00	0.812	*20,62*	18.189	Regular	21.000	12.992	5.827	2,550	3,610	4,232	4,855

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

TECHNICAL TABLE

OD 26"

PIPE					CONNECTION PROPERTIES				CONNECTION PERFORMANCES			
Size (OD)	Nominal Weight	Wall Thickness		Drift	Design	Outside Diameter	Coupling Length	Make-up Loss	Joint Yield Strength x1000 lb			
in *mm*	lb/ft	in	*mm*	in		in	in	in	55 ksi	80 ksi	95 ksi	110 ksi
26 *660,40*	207.00	0.750	*19,05*	24.313	Regular	27.500	12.992	5.827	3,201	4,655		
	223.00	0.812	*20,62*	24.189	Regular	27.500	12.992	5.827	3,457			

For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

BIG OMEGA ®-IS

FIELD-END MAKE-UP TORQUE VALUES

OD 16" - 20"

Size (OD)	Nominal Weight	Wall Thickness	Design	MAKE-UP TORQUE 55 ksi ft.lb			MAKE-UP TORQUE 80 ksi ft.lb			MAKE-UP TORQUE 95 ksi ft.lb			MAKE-UP TORQUE 110 ksi ft.lb			MAT 55 ksi	MAT 80 ksi	MAT 95 ksi	MAT 110 ksi	Min. Dope Volume	Max. Dope Volume
in *mm*	lb/ft	in		Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	ft.lb	ft.lb	ft.lb	ft.lb	in³	in³
16 *406,40*	104.00	0.625	Regular	17,800	19,800	21,800	22,200	24,700	27,200	25,600	28,400	31,200	30,100	33,400	36,700	50,500	75,800	91,700	108,400	5.74	7.14
	109.00	0.656	Regular	18,500	20,600	22,700	23,100	25,700	28,300	26,600	29,500	32,500	31,300	34,800	38,300	57,400	86,200	104,200	123,100	5.74	7.14
	118.00	0.715	Regular	19,900	22,100	24,300	24,800	27,500	30,300	28,400	31,600	34,800	33,500	37,200	40,900	60,300	90,500	109,400	129,200	5.74	7.14
	128.00	0.781	Regular	21,200	23,500	25,900	26,300	29,200	32,100	30,200	33,600	37,000	35,600	39,600	43,600	60,600	91,000	110,000	130,000	5.74	7.14
	147.00	0.906	Regular	23,300	25,900	28,500	29,000	32,200	35,400	33,300	37,000	40,700	39,200	43,500	47,900	61,200	91,800	111,000	131,200	5.74	7.14
18-5/8 *473,07*	136.00	0.693	Regular	24,800	27,600	30,400	31,400	34,900	38,400	36,800	40,900	45,000	40,900	45,400	49,900	90,500	135,800	163,500	181,700	5.74	7.14
	139.00	0.720	Regular	25,700	28,500	31,400	32,500	36,100	39,700	38,000	42,200	46,400	42,200	46,900	51,600	94,700	142,100	169,000	187,800	5.74	7.14
20 *508,00*	133.00	0.635	Regular	22,500	25,000	27,500	29,100	32,300	35,500	29,100	32,300	35,500	33,600	37,300	41,000	83,200	125,000	129,300	149,300	5.74	7.14
	147.00	0.709	Regular	24,600	27,300	30,000	31,800	35,300	38,800	31,800	35,300	38,800	36,700	40,800	44,900	88,900	133,600	141,200	163,200	5.74	7.14
	169.00	0.812	Regular	27,200	30,200	33,200	35,000	38,900	42,800	35,000	38,900	42,800	40,400	44,900	49,400	89,700	134,800	155,700	179,700	5.74	7.14

MAT = Maximum Allowed Torque. MAT is the maximum torque the connection can withstand when the string is rotated during installation.
For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

BIG OMEGA ®-IS

FIELD-END MAKE-UP TORQUE VALUES

OD 26"

Size (OD)	Nominal Weight	Wall Thickness	Design	MAKE-UP TORQUE 55 ksi ft.lb			MAKE-UP TORQUE 80 ksi ft.lb			MAKE-UP TORQUE 95 ksi ft.lb			MAKE-UP TORQUE 110 ksi ft.lb			MAT 55 ksi	MAT 80 ksi	MAT 95 ksi	MAT 110 ksi	Min. Dope Volume	Max. Dope Volume
in *mm*	lb/ft	in		Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	Min.	Opti.	Max.	ft.lb	ft.lb	ft.lb	ft.lb	in³	in³
26 *660,40*	207.00	0.750	Regular	36,200	40,200	44,200	47,500	52,800	58,100							160,900	211,200			5.74	7.14
	223.00	0.812	Regular	38,700	43,000	47,300										171,900				5.74	7.14

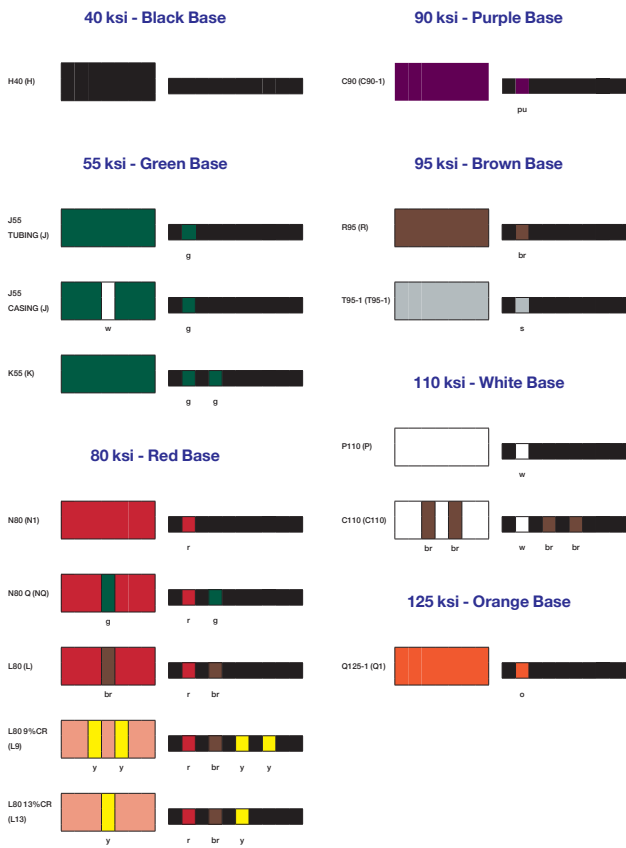
MAT = Maximum Allowed Torque. MAT is the maximum torque the connection can withstand when the string is rotated during installation.
For other grades, derivative and special products, and options (SC, SB, CLEANWELL®), please check out the Connection Datasheets on VAM® Services website at www.vamservices.com

15. COLOR CODES

NOTE

Per API 5CRA - Couplings and accessories should not be painted with color bands unless specified in the purchase order

15.1 API Grades

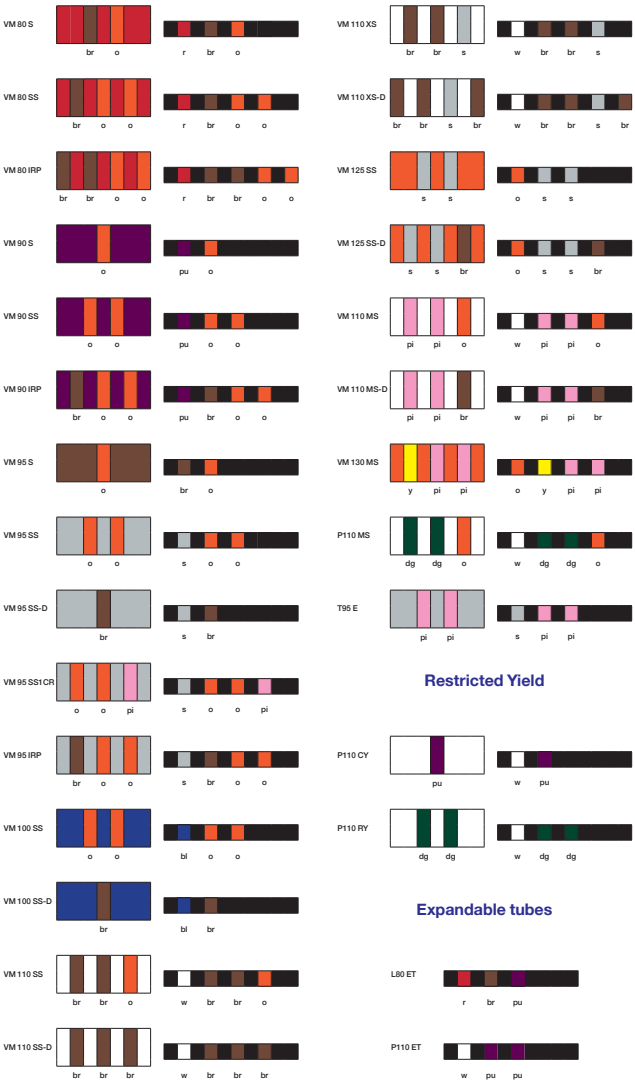


NOTE

The letter in brackets after the grade is the API abreviation for the grade. It is the letter stenciled on the pipe body.

15.2 Vallourec Proprietary Steel Grades

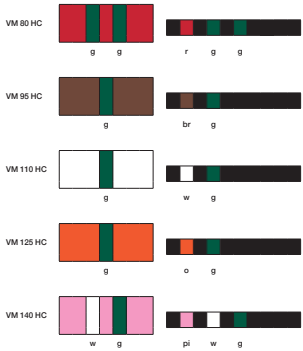
Sour Service



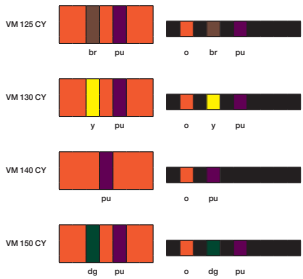
Restricted Yield

Expandable tubes

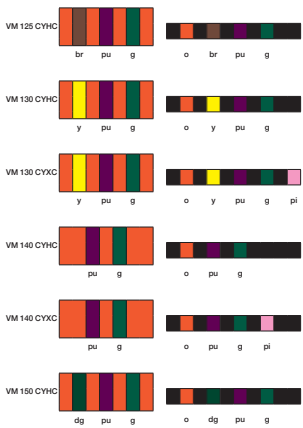
High Collapse



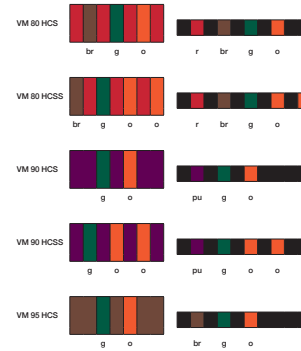
High Strength

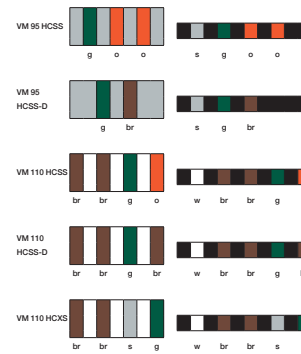


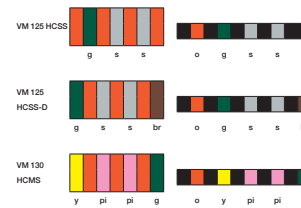
High Collapse High Strength



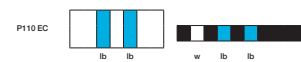
High Collapse and Sour Service



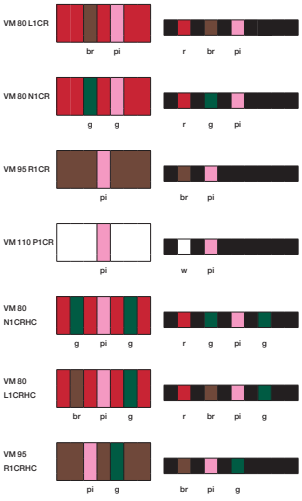




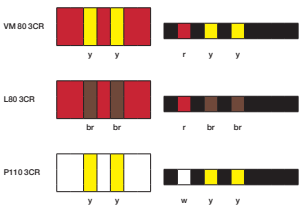
Enhanced Collapse



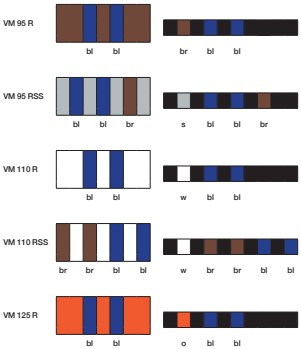
1% Chrome



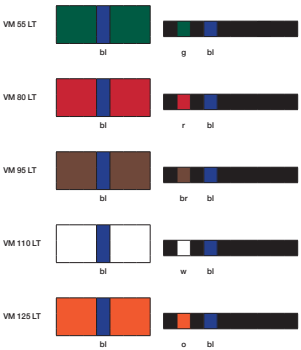
3% Chrome



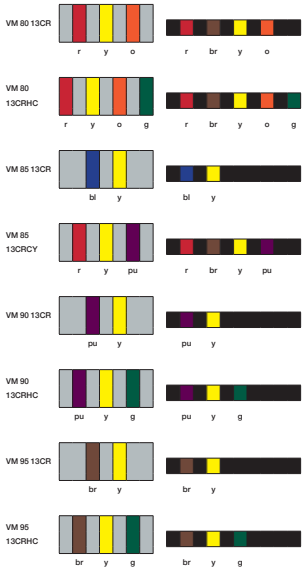
Riser



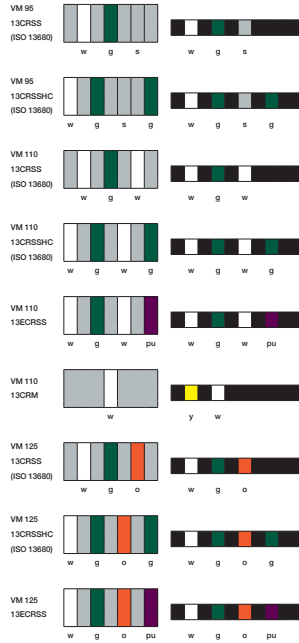
Low Temperature



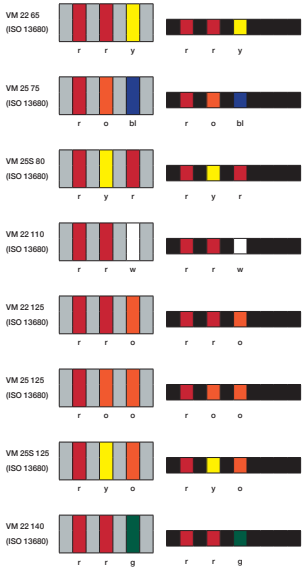
Martensitic Stainless Steel 13% Chrome



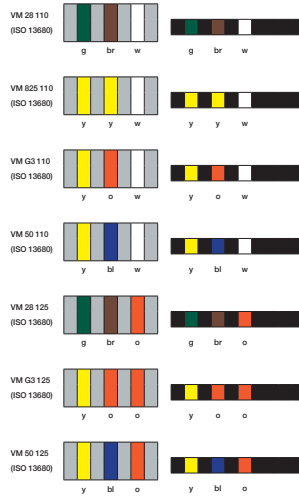
Martensitic Stainless Steel Super 13% Chrome



Duplex and Super Duplex Stainless Steel

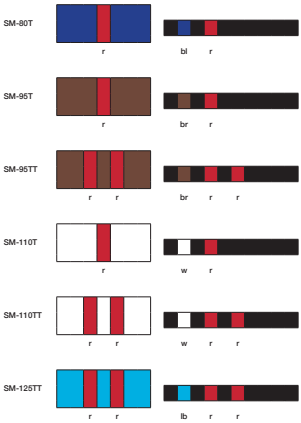


Super Austenitic and Nickel Based Alloy

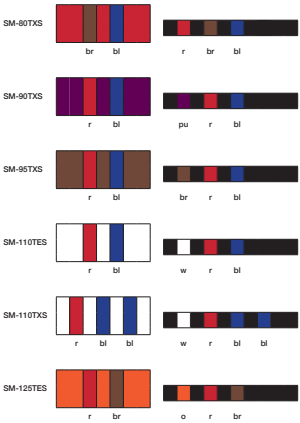


15.3 Nippon Steel Corporation Proprietary Steel Grades

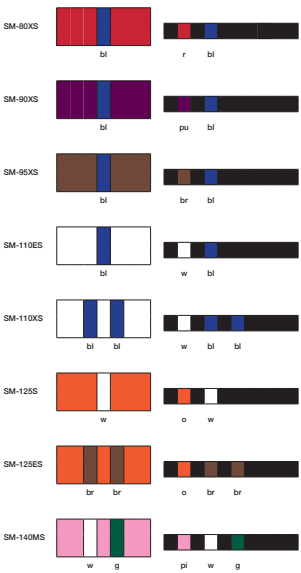
High Collapse



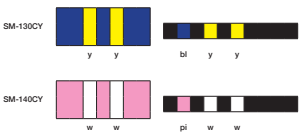
High Collapse and Sour Service



Sour Service



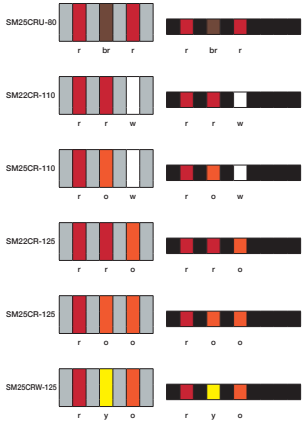
Deep Well



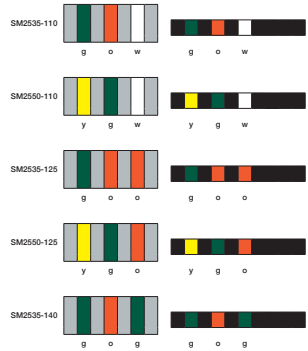
Martensitic Stainless Steel



Duplex Stainless Steel



Austenitic Stainless Steel



16. MISCELLANEOUS

16.1 Conversion Factors

Conversion Factors for U.S. / British and Metric Units		
U.S. / British Unit		**S.I. Unit**
Length		
1 inch (in)	=	25.4000 mm
1 foot (ft) = 12 in	=	0.30480 m
1 yard (yd) = 3 ft	=	0.91440 m
1 mile (mi)	=	1.60935 km
0.03937 in	=	1 millimeter (mm)
0.39370 in	=	1 centimeter (cm)
3.28084 ft = 1.09361 yd	=	1 meter (m)
0.62137 mi	=	1 kilometer (km)
Area		
1 square inch (in^2)	=	645.160 mm^2 = 6.45160 cm^2
1 square foot (ft^2) = 144 in^2	=	0.09290 m^2
1 square yard (yd^2) = 9 ft^2	=	0.83612 m^2
0.00155 in^2	=	1 square millimeter (mm^2)
0.15500 in^2	=	1 square centimeter (cm^2)
10.7639 ft^2 = 1.19599 yd^2	=	1 square meter (m^2)
Volume		
1 cubic inch (in^3)	=	16.3871 cm^3 = 1 mL
1 US fluid ounce (US fl oz) = 1.80469 in^3	=	29.5735 cm^3 = 29.5735 mL
1 imperial fluid ounce (imp fl oz) = 1.73387 in^3	=	28.4131 cm^3 = 28.4131 mL
1 cubic foot (ft^3) = 1728 in^3	=	28.3168 dm^3 = 28.3168 L
1 US gallon (US gal)	=	3.78541 dm^3 = 3.78451 L
1 imperial gallon (imp gal)	=	4.54609 dm^3 = 4.54609 L
1 barrel (bbl) = 42 US gal = 35 imp gal	=	159.987 dm^3 = 159.987 L
0.06102 in^2	=	1 cubic centimeter (cm^3) = 1 milliliter (mL)
0.03531 ft^2	=	1 cubic decimeter (dm^3) = 1 liter (L)
35.3147 ft^2	=	1 cubic meter (m^3) = 1000 L
Weight		
1 ounce (oz)	=	28.3495 g
1 pound (lb)	=	0.453559 kg
1 long ton (lt)	=	1016.05 kg
1 short ton (st)	=	907.184 kg
0.03527 oz	=	1 gramm (g)
2.20462 lb	=	1 kilogramm (kg)
0.98421 lt	=	1 metric ton (t) = 1000 kg
1.10231 st	=	1 metric ton (t) = 1000 kg

Conversion Factors for U.S. / British and Metric Units

U.S. / British Unit		S.I. Unit
Weight per length		
1 lb/ft	=	1.48816 kg/m
0.67197 lb/ft	=	1 kg/m
Force		
1 pound-force (lbf)	=	4.44816 N
0.22481 lbf	=	1 newton (N)
Pressure / Stress		
1 pound-force per square inch (psi)	=	0.06895 bar = 0.006895 MPa
14.5038 psi	=	1 bar (bar)
145.038 psi	=	1 megapascal (MPa)
Density		
1 pound per cubic foot (lb/ft^3)	=	0.01602 kg/L
62.4280 lb/ft^3	=	1 kilogramm per liter (kg/L)
Torque		
1 foot-pound force (ft.lb)	=	1.35582 N
0.73756 ft.lb	=	1 newton-meter (N.m)
Flow rate		
1 cubic foot per minute (ft^3/min)	=	0.02832 m^3/min = 40.7763 m^3/d
1 barrel per day (bbl/d)	=	0.01590 m^3/d
35.3147 ft^3/min = 9057.33 bbl/d	=	1 cubic meter per minute (m^3/min)
0.02452 ft^3/min = 6.2898 bbl/d	=	1 cubic meter per day (m^3/day)
Temperature		
Conversion formula: °C = 5/9 * (°F - 32)		
32°F	=	0°C
212°F	=	100°C

16.2 Warning About VAM® Copies

Since granting the first VAM® license in the mid-1960s, we have believed that a strong, global licensee network is a key factor for offering top-of-the-range OCTG products. The combination of this network with VAM® extensive design, testing and manufacturing experience, has allowed us to both meet and exceed the expectations of our worldwide customer base over the past 60 years. Unfortunately, because of this continuing success, several manufacturers have copied VAM® designs and are competing directly against genuine VAM® products.

We would like to draw your attention to the significant risks of using such VAM® copies, especially when mixing them with genuine VAM® connections. Despite claims of interchangeability by copy manufacturers, we are aware that considerable problems have been experienced in the field.

Please keep in mind that manufacturers of VAM® copies:

- Do not have access to **genuine drawings and technical information**, which are dispatched to our licensee network through a 'controlled document' system, and which are regularly updated to take into consideration the latest developments
- Do not have access to **VAM® gauges system**, which is under the exclusive control of VAM® Services. In order to ensure compatibility of VAM® joints manufactured worldwide, these joints are inspected according to VAM® gauging procedures specifying the use of specific setting blocks calibrated under the control of VAM® Services. As VAM® copy manufacturers do not have access to this sophisticated gauging system, it is impossible for them to manufacture copy threads and to claim that they are compatible with VAM® joints
- Do not belong to **VAM® Service Network**, and therefore are not supported by VAM® licensee workshop network. Neither will it be possible to obtain technical assistance, nor field service or trouble shooting support from our worldwide representatives of VAM® Field Service International.

Due to the differences in tolerances, make-up torque, gauging criteria and lack of access to VAM® approved quality control system, VAM® copies mixed

with genuine VAM® joints may lead to failures such as: thread or seal galling, ineffective sealing, thread jump out, tensile failures at loads substantially lower than theoretical minimum, connection back off, ID restriction, etc.

VAM® copies are not compatible or interchangeable with genuine VAM® joints. Only with VAM® can you manage operational risks efficiently. Please note that, when using those copies, Vallourec in no case can be held responsible for leakage, accidents or any other problem that may arise and damage your reputation.

May you require any further information or assistance, please do not hesitate to contact VAM® Services.

17. NOTES

www.vamservices.com

NIPPON STEEL

vallourec
SMART TUBULAR SOLUTIONS