

TenarisHydril Blue[®] Thermal Liner Connection

Scope

These guidelines apply specifically to the use of TenarisHydril Blue[®] Thermal Liner connections. This document should be used in conjunction with the TenarisHydril Running Manual, which is the main document applicable to the running of all TenarisHydril Premium Connections.

Tenaris Field Service Representatives can modify these guidelines when circumstances dictate. Implementation will only occur if the representative deems the modification to be non-detrimental to product integrity. All modifications being explained and agreed with the client representative prior to implementation and fully documented in the running report.

References

- TenarisHydril Running Manual.
- Premium Connection Approved Thread Compounds FTD29356.
- Recommended guidelines for the field inspection of TenarisHydril connections, GDL31457.

Equipment, Material & Documents

1. Verify the appropriate thread compound is available.
2. Refer to document FTD29356 for a list of compounds approved by Tenaris.

3. Latest version of the specific Product Data Sheet can be obtained from the Tenaris web site. In case this is unavailable, request the data sheet from the local Technical Sales representative or contact-tenarishydril@tenaris.com.

Pre-Running

1. Never move or handle pipe without the correct thread protectors securely in place.
2. Ensure connections are cleaned and free of all debris and / or contaminants, cleaning methods employed should conform to the recommendations contained within the TenarisHydril Running Manual.
3. Verify all pipe and accessories have genuine TenarisHydril manufactured connections.
4. Visually inspect threads and torque shoulder prior to running, ensuring no damage is evident.
5. On Dopeless® Technology connections check condition of both pin and box coating ensuring no peel off or degradation has occurred.
6. Verify the compatibility of the TenarisHydril Blue® Thermal Liner pipe with any accessories such as cement heads, safety valves, cross overs, etc.
7. Connection weight interchange capability is indicated in the TenarisHydril premium connections catalogue.
8. Verify material grade of all accessories ensuring compatibility with the main string.

Inspection

1. Inspection criteria for all TenarisHydril connections is as outlined in the Field Service Operative Guideline GDL31457.
2. Ensure the pin and box torque shoulders have no dents, tears or raised material which would interfere with correct assembly.

Blue® Thermal Liner Configuration

5 TPI \leq 5 ½"

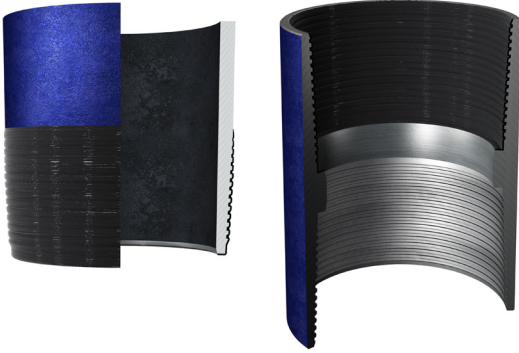
4 TPI $>$ 5 ½"

No Metal to Metal seal



TORQUE SHOULDER

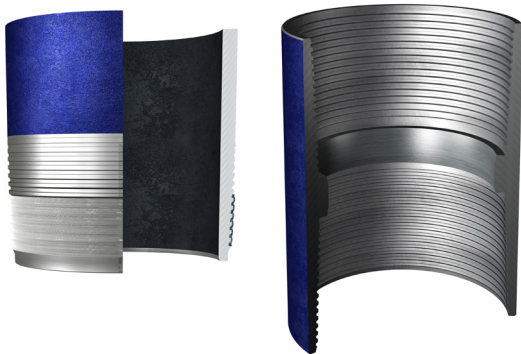
Thread Compound Application



1. Apply a thin coating of thread compound on the pin and box connections, fully covering all threads, pin nose and torque shoulders, the thread form should be fully visible.
2. Use approximately 50% of the quantity applied to the pin when doping the box.
3. For Tenaris approved thread compounds, apply the friction factor indicated in FTD29356. For thread compounds other than those listed, apply the thread compound manufacturers indicated friction factor.

Thread Lock Application

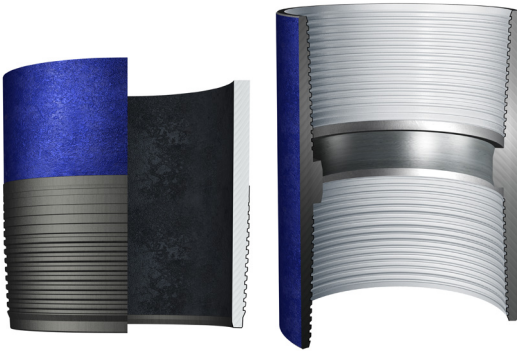
Connections must be clean and dry when applying thread lock



1. Apply a thin coating of thread lock on 50% of the pin threads furthest from the pipe body.
2. Do not apply thread lock on the torque shoulder.
3. Apply thread compound to the box torque shoulder.
4. Apply the thread lock manufacturers indicated friction factor.

Blue® Thermal Liner Dopeless® Technology

1. Minor rust or discolouring of the pin connection can be removed with the use of a clean, dry rag ensuring the Dopeless® Technology coating remains intact.
2. Minor rust or discolouring of the box connection can be removed with the use of a non abrasive plastic scouring pad and a clean, dry rag ensuring the Dopeless® Technology coating remains intact.



3. Dopeless® Technology connections do not require the application of thread compound for make up.
4. If for whatever reason thread compound has to be applied to Blue® Thermal Liner Dopeless® Technology connections, whether both pin and box are Dopeless® Technology or when mixing a doped connection with Dopeless® Technology, apply thread compound as indicated below.

NON DOPELESS® PIN INTO DOPELESS® BOX

- Apply a very thin coating of thread compound on all pin threads and pin nose.
- Do not apply thread compound to the box connection.

DOPELESS® PIN INTO STANDARD BOX

- Apply a very thin coating of thread compound on all pin threads only.
- Do not dope box connection.

DOPELESS® PIN INTO DOPELESS® BOX

- Apply a very thin layer of thread compound on all pin threads only.
- Do not dope box connection.

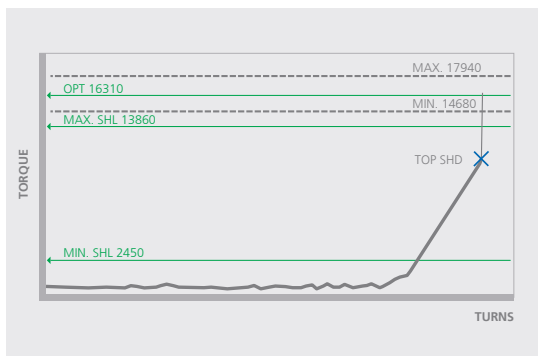
	DOPELESS® PIN	STANDARD PIN
Standard Box	Dope Pin Threads Only	See page 4
Dopeless® Box	Dope Pin Threads Only	Dope Pin Threads & Shoulder.

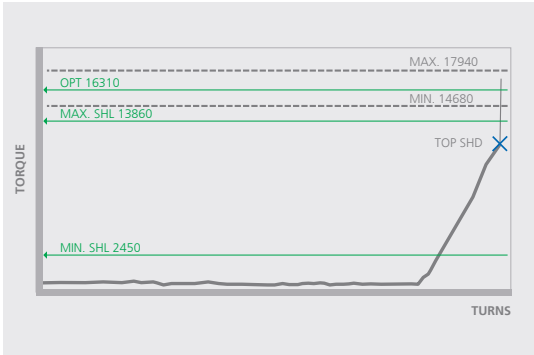
Thread Lock Blue® Thermal Liner Dopeless® Technology

1. Ideally when running a Dopeless® Technology string the connections to be thread locked should be the non Dopeless® Technology option with the connections cleaned of thread compound and completely dried, then thread lock and dope applied as per page 5.
2. When thread locking Dopeless® Technology connections remove the Dopeless® Technology coating from the threads on the pin connection where the thread lock is to be applied.
3. Use a hand or rotary brass wire wheel to remove the Dopeless® Technology coating from the threads.
4. Leave the Dopeless® Technology coating on the pin nose, torque shoulder and threads where no thread lock is to be applied.
5. Dopeless® Technology boxes should be washed with hot water then dried prior to thread locking.
6. Thread lock should be applied to 50% of the pin threads immediately behind the pin nose, as per the diagram in page 5.
7. When assembling Dopeless® Technology connections with thread lock, apply the non Dopeless® Technology torque values taken from the standard product data sheet.
8. Apply the thread lock manufacturers indicated friction factor.
9. The application of thread dope is not required.

Torque Application

1. The use of computer make up analysis equipment is strongly recommended when assembling TenarisHydril Blue® Thermal Liner connections.
2. Shoulder points for Blue® Thermal Liner can be found in the product data sheet.
3. Reference torque should initially be set at 5% of optimum torque.
4. The dump valve should be set at optimum torque, verify correct operation on the pipe body prior to first make up.
5. Set the computer turns to 2 initially then adjust as necessary to attain good graph depiction.
6. Refer to the TenarisHydril running manual make up acceptance section for further explanation.
7. The computer make up profile for Blue® Thermal Liner should be similar to the ones below.





8. If different weight or grade of connections are to be mixed apply the lower weight or grade make up torque.
9. When assembling Dopeless® Technology connections the torques applied must be taken from the Dopeless® Technology variant product data sheet.
10. When mixing standard doped and Dopeless® Technology connections apply the torque values indicated in the table below.

TORQUE APPLICATION	DOPELESS® PIN	STANDARD PIN
Standard Box	Apply the higher torque value of Standard / Dopeless®	Doped Torques
Dopeless® Box	Dopeless® Torques	Apply the lower torque value of Standard / Dopeless®

Running

1. The use of a stabbing guide is strongly recommended.
2. The use of a weight compensator is strongly recommended for chrome, large OD and heavy pipe.
3. To avoid cross threading stab pipe in a smooth controlled fashion ensuring the pipe is vertical when doing so, continue to support and stabilise the pipe throughout the stabbing and make up operation.
4. Upon commencement of initial rotation use low RPM (5 RPM or below) in order to ensure the pipe has not cross threaded during stabbing.
5. If cross threading is evident, immediately reverse rotate the pipe, completely disassemble, clean and inspect both connections.
6. Maximum spin in speed should not exceed 15 RPM.
7. Apply power tong at low rpm (do not exceed 5 RPM) for final make up.
8. Walk chrome pipe all the way in to hand tight, then apply tong only for final make up.

Pulling

1. Automatic stabbing system or stabber is highly recommended to maintain the pipe in a vertical position.
2. The use of a stabbing guide is recommended to assist in centralising the pin to prevent hang up.
3. A weight compensator is strongly recommended for chrome, large OD and heavy pipe.

4. Apply the back up tong jaw on the lower part, over the mill end of the coupling.
5. Apply power tong in low RPM (3-5 RPM) to break the connection, ensuring the pipe is stabilised during the break and spin out process.
6. Do not exceed 15 RPM during spin out.
7. Walk chrome pipe all the way out by hand after initial break.
8. Visual inspection is recommended to classify the thread condition. Any rejected connections should be clearly marked and segregated for further investigation.
9. Apply clean, dry thread protectors after applying storage compound on clean, dry connections.
10. Storage / thread compound should always be applied to connections post job, even rejects.
11. Do not apply storage compound to Dopeless® Technology connections.
12. For long term storage of Dopeless® Technology connections, refurbishment by qualified personnel is recommended.
13. Ensure clean, dry, Dopeless® Technology protectors with seal rings correctly in place are installed.

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