

TenarisHydril Wedge 425™ Connection

Scope

These guidelines apply specifically to the use of Wedge 425™ connections. This document should be used in conjunction with the TenarisHydril Running Manual, which is the main document applicable for running 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 need to be clearly explained and agreed with the client representative prior to implementation. .

References

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

Equipment, Material & Documents

1. Verify the appropriate thread compound is available for this connection.

2. Refer to document FTD29356 for a list of compounds tested by Tenaris.
3. Latest version of the specific Product Data Sheet can be obtained from the Tenaris web site. In case it is not available, request the data sheet from the local Technical Sales Representative or contact-tenarishydril@tenaris.com
4. The use of a torque-turn computer monitoring system is not mandatory but is recommended to be used to make up this type of connection when applied on carbon steel.
5. The use of a torque turn computer monitoring system is strongly recommended to be used to make up this connection when applied on chrome steel.

Pre-Running

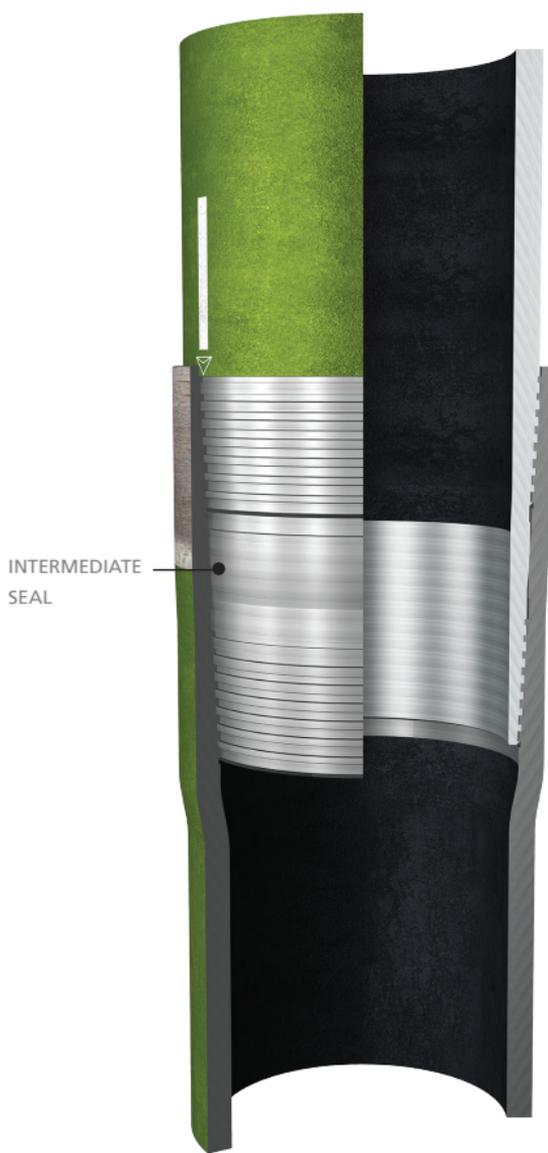
1. Ensure connections are cleaned and free of all debris and / or contaminants, cleaning methods employed should conform to the recommendations contained within the TenarisHydril running manual.
2. Never move or handle pipe without the correct thread protectors securely in place.
3. Visually inspect threads and seal areas prior to running, ensuring no damage is evident.
4. Verify the connections to be assembled are genuine TenarisHydril manufactured connections.
5. Verify the compatibility of the Wedge 425™ pipe with accessories such as pup joints, cross overs, cement heads, etc.
6. Verify material grade of all accessories ensuring compatibility with main string.

7. Check availability of handling plugs, minimum of 3 to ensure efficiency of running process.
8. Check the handling plugs are in good condition and fit correctly onto the pipe.
9. Check single joint elevators have sufficient clearance to slide over the box expanded area and seat against the handling plug.
10. Check the handling plugs are correct for the size and weight of the connection. This should be stamped on the plug.

Inspection

1. The inspection criteria for all Wedge 400™ series connections are outlined in the Field Inspection Guideline GDL31457.
2. Pay particular attention to the seal area.
3. Ensure there are no gouges, tears or raised material on the lead-in areas from final thread to seal.
4. Check box connections for mashes or ovality caused by transportation, handling or storage.
5. Ensure that at least 75% coverage of 'Dry Moly' is present on the connection if it is bead blasted. If the connection is phosphated 'Dry Moly' is not required.

Wedge 425™ Configuration



INTERCHANGEABILITY:

TenarisHydril Wedge 425™ is not interchangeable with any other weight of the same size.

TenarisHydril Wedge 425™ was formerly TORQ® SFW™ connection and therefore, is interchangeable with that connection in the same size and weight.

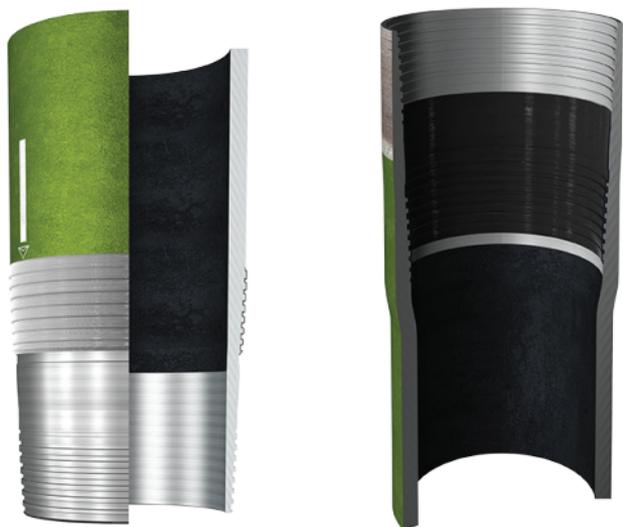
Wedge 425™ has at least one make up indicator stamp, while TORQ® SFW™ does not have any. Therefore, computer assisted make up is strongly recommended when assembling TORQ® SFW™ to a compatible Wedge 425™ connection.

Thread Compound Application



1. All storage compound should be completely cleaned from the connections.
2. Apply a thin coating of thread compound on the full pin end only, threads, seal and pin nose, the thread form should be clearly visible.
3. Do not apply running compound to the box end. If thread compound has been applied previously, remove before running.
4. If pipe is received from Tenaris as RunReady™, no additional compound application is required prior to running. Remove thread protectors, redistribute thread compound on the pin with clean brush to ensure homogeneous coverage of threads, seal and nose.

Thread Lock Application



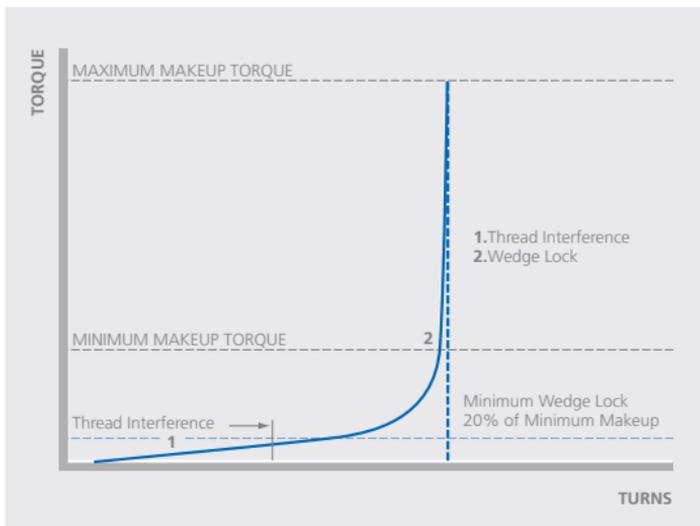
1. Connections must be clean and dry when applying thread lock. 'Dry Moly' should also be removed if present.
2. Thread lock should be applied to 50% of the threads at the back of the pin connection.
3. Do not apply thread lock to the intermediate seal.
4. Running compound should then be applied to the seal and threads at the back of the box connection.

Torque Application

1. Check calibration certificates of any torque gauge and computer equipment used for make-up.
2. Set tong dump valve at optimum torque then test on pipe body.

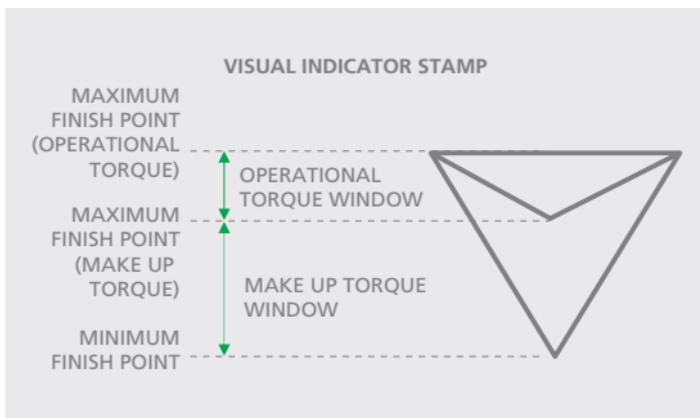
3. Apply the specified torques indicated on the latest TenarisHydril data sheet.
4. When applying thread lock 10% should be added to the make-up torque.
5. If two different grades are to be made up, the torque to be applied should fall within the torque windows of both connections.
6. Computer make up equipment is not mandatory for Wedge 425™ connections in carbon steel however it is recommended.
7. Computer make up equipment is strongly recommended for Wedge 425™ connections in chrome steel.
8. Graph analysis for Wedge 425™ is similar to that of Wedge 500™ series, refer to the TenarisHydril running manual make up acceptance section for further explanation.
9. When computer equipment is used to monitor connection make up, the graph profile should be similar to the one below.
10. The wedge lock shall be clearly visible at no less than 20% of minimum make-up torque and no higher than 90% of minimum make-up torque.
11. If the wedge lock is out with these parameters completely disassemble the connections and inspect both.
12. Wedge 425™ connections of the same size and different weights are not interchangeable.
13. Wedge 425™ connections may have as many as two threads exposed after makeup. This is normal for this connection and should not be cause of concern.

14. Wedge 425™ is correctly assembled when the required torque is attained along with an acceptable computer graph as indicated below.



15. In case that computer make up analysis is not available, the visual indicator stamp should be used to verify correct assembly. It is possible for a pin to have up to 3 visual indicator stamps, one of them will be marked with a white locator stripe.

16. When assembled correctly, the face of the box will finish within the visual indicator stamp as indicated below depending on the torque applied.



Running

1. The use of a stabbing guide is strongly recommended.
2. The use of slip type elevators is recommended.
3. The use of a safety clamp is strongly recommended.
4. The use of a weight compensator is strongly recommended for chrome, large OD and heavy weight pipe.
5. Upon commencement of initial rotation use low RPM (5 RPM or below) in order to ensure the pipe has not cross threaded during stabbing.
6. If cross threading is evident, immediately reverse rotate the pipe, completely disassemble, clean and inspect both connections.
7. Maximum assembly speeds are indicated in the table below. These are applicable for running singles with a power tong or CRT and assuming ideal conditions. Several factors may dictate a lower RPM should be used for assembly such as weather, pipe movement or alignment among other variables.

THS W425™	OD	SPIN IN RPM	FINAL MAKE-UP RPM
Carbon Steel	4" - 5 1/2"	35	15
	6 5/8" - 7 5/8"	20	10
	8 5/8" - 9 5/8"	10	5
	10 3/4" - 13 5/8"	3	3

8. Walk chrome pipe all the way in to hand tight, then apply tong only for final make up.

9. Ensure back up tong is located below the box upset to prevent damage.

10. Never apply either tong over the connection area.

11. A factor which may preclude complete assembly is excessive thread compound being applied to the connection, reduce the quantity applied if this is found to be the case.

Downhole Rotation

1. Tenaris recommends utilizing the minimum amount of torque necessary to break the friction between the tubing, casing and the well bore if downhole rotation of the string is required.

2. Wedge 425™ connections should not be rotated beyond the specified operating torque and the RPM should be limited to 40RPM or lower.

3. Care should be taken to gradually increase or decrease torque when rotating to allow the stored kinetic energy to dissipate in order to prevent connection yield or break out.

4. Caution is advised as torque measurement accuracy and dump valve response time can vary depending on the equipment utilized.

Pulling

1. The use of a stabbing guide is strongly recommended to prevent hang up.

2. The use of a safety clamp is strongly recommended.

3. A single joint compensator is strongly recommended for chrome, large OD or heavy pipe.

4. Apply the back-up tong jaw well below the box.
5. Do not apply tongs over either pin or box connection.
6. Apply power tong in low rpm (3-5 rpm) to break out the connection, ensuring the pipe is stabilised during the break out process.
7. Do not exceed 15 RPM during spin out.
8. Walk chrome pipe all the way out by hand after initial break out.
9. Visual inspection is recommended to classify the thread condition, any rejected connections should be clearly marked and segregated for further investigation.
10. Apply clean dry thread protectors after applying storage compound on clean, dry connections.
11. Storage / thread compound should always be applied to connections post job, even rejects.
12. Prior to re-running; the connections should be thoroughly cleaned and inspected.
13. Unless the connections are phosphate coated apply an even coat of 'Dry Moly' to the connections and allow to dry.
14. Do not re-run the string if it has been taken beyond the specified operating torque.

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