TenarisHydril Wedge 625® Connection

Scope

These guidelines apply specifically to the use of TenarisHydril Wedge 625® connections, all variants including Dopeless® connections.

This document is part of the TenarisHydril Running Manual, and provides an overview of best practices for these specific products. It should be used in conjunction with the rest of the sections within the TenarisHydril Running Manual.

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 and fully documented in the running report.

References

- FTD29356 - Premium Connection Approved Thread Compounds.
- GDL31457 - Recommended Guidelines for the Field Inspection of TenarisHydril Connections.
- GDL23351 - Handling / Lift plugs.
- GDL23356 - Dopeless® technology.
- GDL23352 - Torque Application.
- GDL23355 - Wedge™ Series Make up Acceptance.
- GDL23349 - Pre-Running Preparation.

Equipment, Material & Documents

1. Identify the product to be run including the version of Dopeless® technology if applicable, and the connections of all accessories.

2. Latest version of the specific Product Data Sheet can be obtained from the Tenaris web site. In case this is not available, request the data sheet from the local Technical Sales representative.

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 GDL23349 - Pre-Running Preparation.

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 connections with accessories such as cement heads, safety valves, cross-overs, etc. Connection interchange compatibility is indicated in the connection data sheet.

6. Verify material grade of all accessories ensuring compatibility with main string.

7. On Dopeless® connections check the condition of both pin and box ® coating ensuring no peel off or degradation has occurred.

8. Tenaris recommends slip type elevators are used to run and pull Wedge 625®.

9. Check the extension plate of the slip type elevators actuates on the connection upset, ensuring the slips are set on the pipe body below the connection.

10. Check availability of handling plugs, minimum of 3 to ensure efficiency of running process.

11. Check the handling plugs are genuine TenarisHydril threads.

12. Ensure handling plug OD / weight is compatible with the pipe connections. Interchange capability is indicated in the product data sheet.

13. Check the handling plugs are in good condition and fit correctly on the pipe.

14. Make up the plug by hand and then snug up tight with the assistance of a bar inserted into the holes of the flange. When correctly installed there should be no threads visible on the handling / lift plug nor should the box face contact the flange.

15. Check single joint elevator has sufficient clearance to slide over the box expanded area and seat against the handling plug.

16. Verify handling plug number and maximum lift capacity.

17. Never exceed the maximum lift capacity.

18. Refer to GDL23351; Handling / Lift plugs, for the care and use of handling & lift plugs.

Inspection

1. Inspection criteria for all Wedge™ Series 600 connections are outlined in GDL31457 - Recommended Guidelines for the Field Inspection of TenarisHydril Connections.

2. Pay particular attention to seal area.

3. Ensure there are no gouges, tears or raised material on the lead-in areas from final thread to seal.

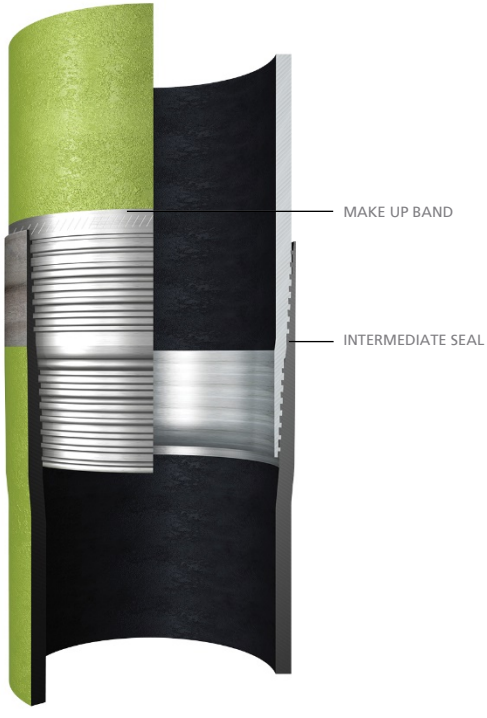
4. Check box connections for mashes or ovality caused by transportation, handling or storage.

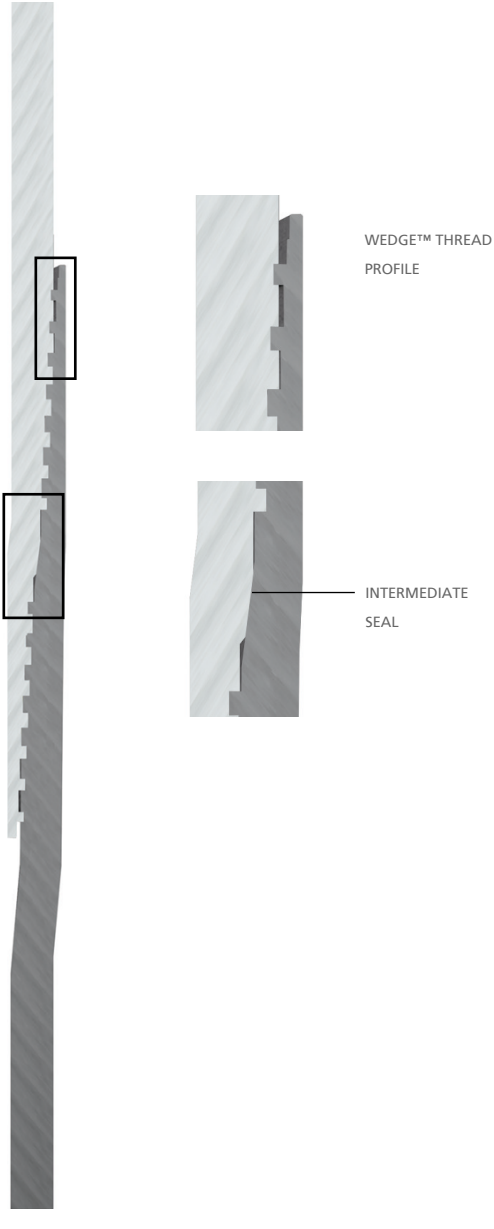
5. Ensure Dopeless® coatings are not damaged or peeling off.

6. For further information on Dopeless® connections refer to GDL23356 - Dopeless® technology.

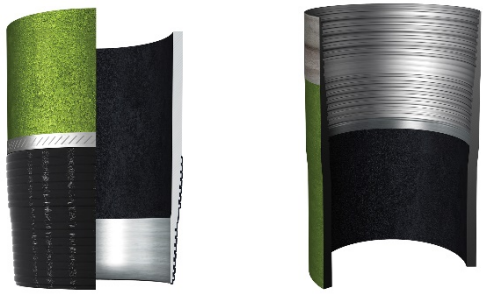
Wedge 625® Configuration

The diagram below is applicable to doped and Dopeless® variants.




WEDGE™ THREAD
PROFILE
INTERMEDIATE
SEAL

Wedge 625® Doped Variant 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. Refer to FTD29356 - Premium Connection Approved Thread Compounds

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™ with thread compound already applied, no additional cleaning or compound application is required prior to running. Remove thread protectors, redistribute thread compound on the pin with a clean brush to ensure homogeneous coverage of threads, seal and pin nose.

Wedge 625® Doped Variant Thread Lock Application

1. Connections should be clean and dry when applying thread lock.

2. Thread lock should be applied to 50% of the threads at the back of the pin connection (large step).

3. Do not apply thread lock to the intermediate seal.

4. Running compound should then be applied to the threads and seal at the back of the box connection (small step).

5. When assembling the doped variant of the connection with thread lock use the doped variant torque values +20%.

Wedge 625® Dopeless® Thread Compound Application

1. Dopeless® connections do not require the application of thread compound for make up.

2. If for whatever reason thread compound has to be applied to Dopeless® connections, whether both pin and box are Dopeless® or when mixing a doped variant connection with a Dopeless® one, proceed as indicated below:

- Apply a very thin coating of thread compound on the full pin end, threads and seal.
- Do not dope any part of the box connection.

Wedge 625® Dopeless® Thread Lock Application

1. Ideally when running a Dopeless® string the connections to be thread locked should be the doped variant with the connections cleaned of thread compound and completely dried, then thread lock and dope applied as per page 8.

2. When thread locking Dopeless® connections remove the Dopeless® coating from the threads on the pin connection where the thread lock is to be applied (large step).

3. Use a hand or rotary brass wire wheel to remove the Dopeless® coating from the threads on the large step ensuring no contact is made with the seal.

4. Leave the Dopeless® coating on the pin seal and threads where no thread lock is to be applied (small step).

5. Dopeless® boxes should be washed with hot water then dried prior to thread locking.

6. Thread lock should be applied to the threads of the large step of the pin connection where the Dopeless® coating has been removed.

7. The application of thread compound is not required.

8. Do not apply thread lock to seal area.

9. Do not apply thread lock manufacturers friction factor, apply optimum torque +20% then double bump the connection.

Torque Application

1. Set tong dump valve at optimum torque then test on the pipe body.

2. For Dopeless® connections apply the specified torques as indicated on the Dopeless® variant data sheet.

3. For doped connections, apply the specified torques indicated on the doped variant data sheet.

4. Do not apply thread compound manufacturer's friction factor.

5. Doped variant, first connection make up:

- Once optimum torque has been attained relax the tong and re-apply optimum torque.
- If movement over ½" is witnessed re-apply optimum torque +20%.

- Repeat process, checking to ensure no other factors are absorbing the applied torque.
- Often the issue is caused by excessive application of thread compound.
- Continue making up further joints applying optimum or a higher torque if required.
- Refer to GDL23352; Torque Application.

6. For doped variant, double bump (as in point 5 above) every connection with an OD of 10 ¾" or larger.

7. For Dopeless® connections applying optimum torque twice (double bump) is not necessary.

8. When applying thread lock to doped variant connections, doped variant torque values +20% should be used then double bump the connection.

9. When applying thread lock to Dopeless® connections, Dopeless® torque values + 20% should be used then double bump the connection.

10. When any doped variant is made up to a Dopeless® connection, double bump the connection on the first connection make up, as in point 5 above.

11. Torque values of mixed assemblies can be obtained from the tool available at https://dcp.tenaris.com/Mixed_Assemblies.

12. Wedge 625® connections have limited same size / weight interchange capability, if mixing weight / grade ensure compatibility of design. Interchange capability is indicated in the product data sheet.

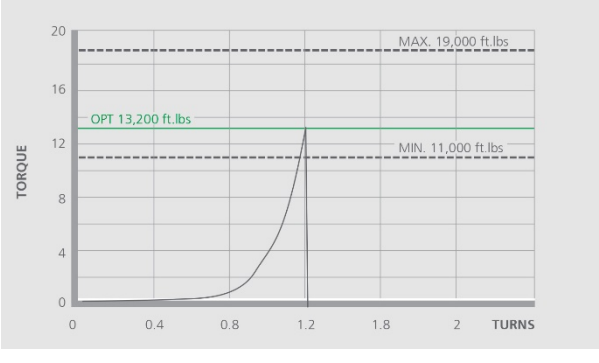
13. Computer make up equipment is recommended for Wedge 625® connections.

14. Computer make up equipment is strongly recommended for Wedge 625® connections in chrome steel.

15. When computer equipment is used, reference torque should be set at 5% of optimum torque.

16. Set the computer turns to 2 initially, then adjust as necessary to attain good graph depiction.

17. Graph profile should be similar to the one below.



18. Refer to GDL23355; Wedge™ Series Make up Acceptance, for further explanation.

19. Upon attainment of optimum torque the box face should be within the oblique lines of the make up band.

20. The make up band can be used as an additional verification of correct final assembly position.

21. Frequency of the visual check of the make up band should be agreed with the Tenaris Field Services Representative and documented in the running report. It is suggested to visually check the first 5 joints, then every 20 joints during the job.

Running

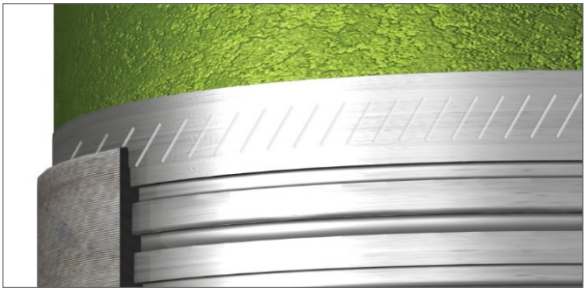
1. The use of a stabbing guide is strongly recommended.

2. The use of slip type elevators are recommended.

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

4. The use of a weight compensator is strongly recommended for chrome, pipe with an OD ≥ 14" and stands of three joints ≥ 7".

5. To avoid cross threading stab pipe in a smooth controlled fashion ensuring the pipe is vertical when doing so. Continue to support and stabilize the pipe throughout the stabbing and make up operation.



6. Upon commencement of initial rotation use low RPM (5 RPM or below) in order to ensure the pipe has not cross threaded during stabbing. 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 in singles with tong or CRT and assuming ideal conditions.

8. Conditions may dictate lower assembly speeds than the maximums indicated. High winds or excessive pipe movement among other variables will necessitate a lower RPM to be used.

TSH W625		OD	SPIN IN RPM	FINAL M/U RPM
Carbon Steel	Doped variant	4 1/2" - 5"	25	10
	Dopeless® connections	4 1/2" - 5"	30	10

9. Walk chrome pipe all the way in to hand-tight position, then apply tong only for final make up. Apply power tong at low RPM (do not exceed 5 RPM) for final make up.

10. Apply the back up tong on the pipe body, below the connection upset.

11. Never apply either tong over the connection area.

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

Pulling

1. Automatic stabbing system or stabber is highly recommended to maintain the pipe in a vertical position.

2. The use of slip type elevators is strongly recommended.

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

4. The use of a weight compensator is strongly recommended for chrome, pipe with an OD ≥ 14" and stands of three joints ≥ 7".

5. Apply the back up tong on the pipe body, below the connection upset. Never apply either tong over the connection area.

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. It is recommended the stabbing guide is used when lifting the pin from the box to prevent hang up of the threads.

10. Visual inspection is recommended to classify the thread condition, any rejected connections should be clearly marked and segregated for further investigation.

11. Apply clean, dry thread protectors after applying storage compound on clean, dry connections.

12. Storage / thread compound should always be applied to connections post job, even rejects.

13. Do not apply storage compound to Dopeless® connections.

14. Ensure clean, dry Dopeless® protectors with the seal rings in place are installed.

15. For long term storage of Dopeless® connections, refurbishment by qualified personnel is recommended.

16. If refurbishment cannot be done prior to storage, storage compound may be applied to Dopeless® connections. In this case remove the rubber rings from the Dopeless® thread protectors prior to installation. Storage compound must be removed prior to re-run.