TenarisHydril Wedge 667® Connection

Scope

These guidelines apply specifically to the use of TenarisHydril Wedge 667®, all variants.

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 Services 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".
- GDL23355 - Wedge™ Series Make up Acceptance.
- GDL23349 - Pre-Running Preparation
- GDL23356 - Dopeless® Technology.
- GDL23358 - Chrome / CRA

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 Tenaris web site. In case this is unavailable, request the data sheet to the local Technical Sales representative.

3. The use of a torque-turn computer monitoring system is recommended for carbon steel pipe.

4. The use of a torque-turn computer monitoring system is strongly recommended for chrome / CRA pipe (see definition in GDL23358).

5. Slip type elevators are strongly recommended due to slimness of coupling OD.

Pre-Running

1. Never move or handle pipe without the correct thread protectors securely in place.

2. Ensure connections are clean 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, internal and intermediate seal areas prior to running, ensuring no damage is evident.

4. Verify all pipe and accessories have genuine TenarisHydril manufactured connections.

5. Verify the compatibility of pipe connections with any 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 condition of both pin and box coating ensuring no peel off or degradation has occurred.

Inspection

1. Inspection criteria are outlined in GDL31457 - Recommended Guidelines for the Field Inspection of TenarisHydril Connections.

2. Pay particular attention to seal areas.

3. Ensure the pin seal saver has no deformation or dents which could cause material to protrude.

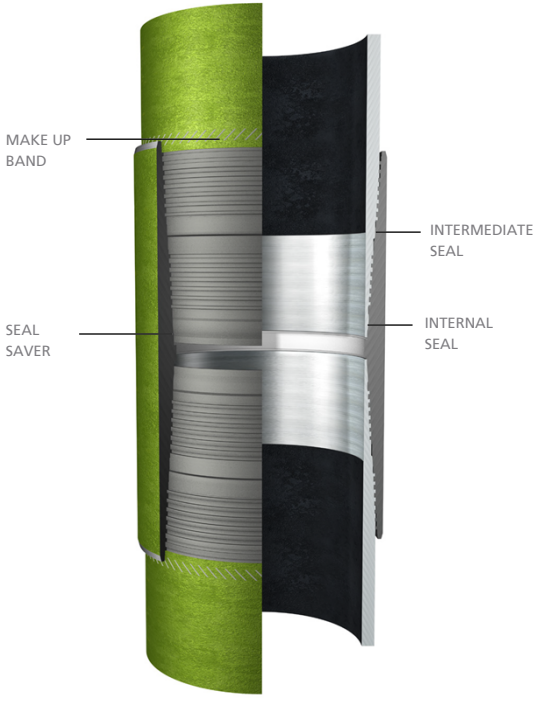
4. Ensure Dopeless® coatings are not damaged or peeling off.

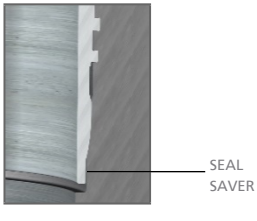
5. Ensure the cylindrical area between the last thread of smaller thread step and the intermediate seal of the pin has no tearing or raised areas which may contact the corresponding box intermediate seal during make up.

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

TenarisHydril Wedge 667® Configuration

Designed with Dopeless® Technology





Thread Compound Application

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

2. If for whatever reason dope has to be applied to TenarisHydril Wedge 667® Dopeless® connections, whether both pin and box are Dopeless® or when mixing a doped connection with a Dopeless® one, apply thread compound as indicated below. Refer to FTD29356 “Premium Connection Approved Thread Compounds" for thread compounds to use on this connection.

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

Thread Lock Application

1. Ideally, when running a Dopeless® string the connections to be thread locked should be the doped variant, with the connections free of thread compound and completely dried. Then, thread lock and dope should be applied as follows:

- Thread lock should be applied to the full thread step furthest from the pin nose.
- Running compound should then be applied to the small step of the box connection including both internal and mid-located, intermediate external seal.

2. When thread locking TenarisHydril Wedge 667® Dopeless® connections, remove the Dopeless® coating from the large step threads of the pin connection prior to application of thread lock.

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

4. Leave the Dopeless® coating on the remainder of the pin end threads and seals.

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

6. Thread lock should be applied to the large step of the pin connection where the Dopeless® coating has been removed. Do not apply thread lock to the seal areas.

7. The application of running compound is not required when thread locking Dopeless® connections.

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 the pipe body.

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

4. If thread compound is to be applied to Dopeless® connections, ‘double bump’ the first connection make up as follows:

- Apply Dopeless® torques as per appropriate data sheet. Do not apply the thread compound manufacturers friction correction factor.

- Once optimum torque has been attained relax the tong and re-apply optimum torque.
- If movement over ½" is witnessed, re-apply optimum torque.
- Repeat process until no movement over ½" is witnessed, 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 torque.
- For connections ≥ 10 ¾" double bump every make up when thread compound is applied.

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

6. For thread locking, do not apply thread lock manufacturers friction factor, apply optimum torque +20% then double bump the connection.

7. TenarisHydril Wedge 667® Dopeless® has limited same size/weight interchange capability, if mixing weight / grade ensure compatibility of design and apply the higher torque values of the two connections.

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

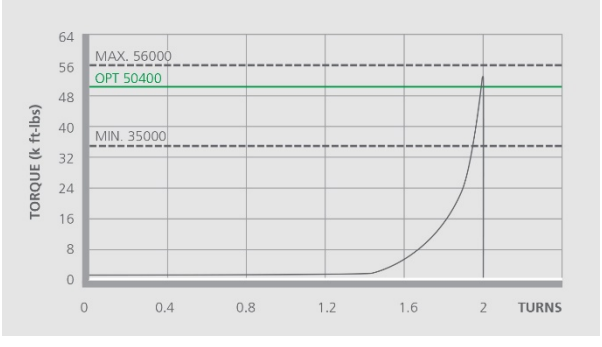
9. Tenaris recommends the use of torque turn measurement for accurate graph interpretation. The use of torque-time is not recommended.

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

11. The dump valve should be set at optimum torque, verify correct operation on the pipe body prior to first make up.

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

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



14. Refer to GDL23355; Wedge™ Series Make up Acceptance, for further detail on make-up acceptance.

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

16. The make up band can be used as an additional verification of correct final position after assembly, visually checking that box face finishes within the make up band lines.

17. Frequency of the visual check of make up band should be agreed with Tenaris Field Services representative and documented in 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 elevator 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. 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. For chrome material pipe spin in by hand with the use of a strap wrench.

7. 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 slowly.

8. Maximum spin in speed should not exceed 15 RPM.

9. Apply power tong at low rpm (do not exceed 5 rpm), for final make up.

10. 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 a stabbing guide is recommended to assist in centralizing the pin to prevent hang up.

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

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

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

6. Place the back-up tong jaw on the pipe body below the coupling. If gripping over the coupling cannot be avoided, the back-up jaws should be set on the mill side of the coupling, leaving the field side free to disengage.

7. Apply power tong in low rpm (3-5 rpm) to break out the connection, ensuring the pipe is stabilized during the break out process.

8. Once the connection is broken release back up jaws and spin out below 10 RPM.

9. For Chrome material pipe, once the connection is broken spin out by hand with the use of a strap wrench.

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 on clean dry connections.

12. Ensure the rubber anti corrosion protection rings are in place on the protectors prior to installation.

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

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

15. 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.