TenarisHydril Wedge 613™ / 623® / 624® Connections

Scope

These guidelines apply specifically to the use of TenarisHydril Wedge 613™, Wedge 623® and Wedge 624® 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 - Recomended Guidelines for the Field Inspection of TenarisHydril Connections.
- GDL23356 - Dopeless® Technology.
- GDL23352 - Torque application.
- GDL23355 - Wedge™ Series Make up Acceptance.
- GDL23351 - Handling / Lift Plugs.
- 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 Tenaris web site. In case this is unavailable, 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 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 thread and seal areas prior to running, ensuring no damage is evident.

4. Verify the connections to be assembled have genuine TenarisHydril manufactured connections.

5. Verify the compatibility of the Wedge 613™ / 623® / 624® connection with any accessories such as cement heads, safety valves, cross-overs, etc.

6. Wedge 623®, Wedge 613™ and Wedge 624® are not interchangeable between each other, nor with any other Wedge™ connection. Connection weight interchange compatibility is indicated in the product data sheet.

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

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

9. Tenaris recommends slip type elevators are used to run and pull Wedge 613™, Wedge 623® and Wedge 624® connections.

10. Check the setting plate of the slip type elevators actuates on the connection upset or plug flange, ensuring the slips are set on the pipe body below the connection.

11. Check availability, compatibility and condition of handling plugs, minimum of 3 to ensure efficiency of process.

12. Ensure handling plugs are genuine TenarisHydril connections and are marked as Wedge 613™, Wedge 623® or Wedge 624®. Wedge 523® / 513® handling plugs cannot be used.

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

14. Check the handling plugs are in good condition and fit correctly onto the pipe.

15. 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.

16. Ensure the single joint elevators to be used with the handling plugs have adequate clearance to move over the expanded box connection and fit securely against the plug flange.
17. Note part number and maximum load rating stamped on flange.

18. Never exceed maximum load rating.

19. For further information on the care and use of handling and lift plugs refer to GDL23351, 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 areas.

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

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

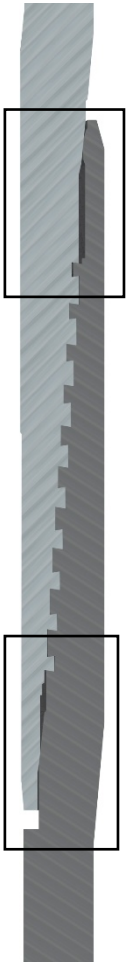
5. Ensure the cylindrical area between the last thread and the external seal of the pin has no tearing or raised areas which may contact the corresponding box external seal during make up.

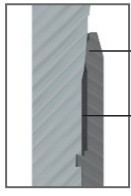
6. Check box connections for mashes or ovality caused by transportation, handling or storage.

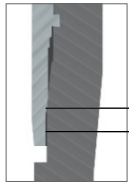
7. For further information on Dopeless® connections refer to GDL23356 - Dopeless® technology

Wedge 613™ / 623® / 624® Configuration

Designed with Dopeless® Technology







THE OD FOR WEDGE 613™ IS LESS THAN OR EQUAL TO THE API PIPE OD TOLERANCE OF +1%.

TENARISHYDRIL WEDGE 624® IS AN IMPROVED VERSION OF THE WEDGE 623® CONNECTION DESIGN FEATURING GREATER RESISTANCE TO ID WEAR.

Thread Compound Application Wedge 613™ / 623® / 624® Dopeless®

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

2. If for whatever reason dope has to be applied to Wedge 613™ / 623® / 624® Dopeless® connections, whether both pin and box are Dopeless® or when mixing a doped 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.

3. Refer to FTD29356 for a list of compounds approved by Tenaris.

Wedge 613™ / 623® / 624® Dopeless® Thread Lock Application

1. When thread locking Dopeless® connections remove the Dopeless® coating from the threads on the pin connection where the thread lock is to be applied prior to the application of thread lock.

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

3. Leave the Dopeless® coating on the pin seals and threads where no thread lock is to be applied.

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

5. Thread lock should be applied to the threads furthest from the pin nose, approximately 50% of the threads should have thread lock applied.

6. Do not apply thread lock to seal areas.

7. The application of thread compound is not required.

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

Torque Application

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

2. Dopeless® connections do not require 'double bump' unless dope or thread lock has been applied.

3. If dope is to be applied to Dopeless®, ‘double bump’ the first connection make up:

- Apply Dopeless® torques as per appropriate data sheet. Do not apply the thread compound manufacturer’s 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 +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 higher torque if required.
- For connections ≥ 10 ¾” double bump every make up when dope is applied.
- Refer to GDL23352, Torque Application.

4. Wedge 613™ / 623® / 624® connections have limited same size /weight interchange capability, if mixing weight / grade ensure compatibility of design and apply the higher torque values of the two connections.

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

6. Computer make up equipment is recommended for Wedge 613™ / 623® / 624® connections in carbon steel.

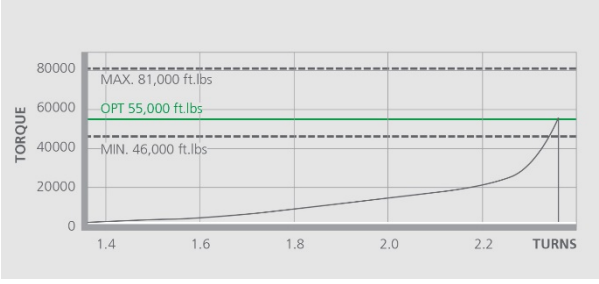
7. Computer make up equipment is strongly recommended for Wedge 613™ / 623® / 624® connections in chrome material.

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

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

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

11. Graph profile should be similar to the one on next page.



12. Graph analysis for Wedge 613™ / 623® / 624® is similar to that of Wedge 625® and Wedge™ Series 500, refer to GDL23355, Wedge™ Series Make up Acceptance for further explanation.

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 stabilise the pipe throughout the stabbing and make up operation.

6. Ensure back up tong is located below the box expanded area to prevent distortion of the connection.

7. On chrome material, walk pipe all the way in to hand tight position, then apply tong only for final make up.

8. On carbon steel, 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.

9. Do not exceed 15 RPM during spin in.

10. Apply power tong at low RPM (do not exceed 5 RPM) for final make up.

11. Upon attainment of optimum torque there should be a slight gap between the box face and the start of the machined run out area.

Pulling

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

2. The use of slip type elevators is strongly recommended

3. The use of a stabbing guide is recommended to assist in centralising the pin to prevent hang up.

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 expanded area of the box. 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 stabilized during the break out process.

7. Once the connection is broken release back up jaws and spin out below 15 RPM.

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

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

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