

# TenarisHydril Wedge 613™ /623®/624® Dopeless® 3.0/3.1 Connection

## Scope

These guidelines apply specifically to the use of TenarisHydril Wedge 613™, Wedge 623® and Wedge 624® connections with Dopeless® 3.0 / 3.1 technologies. 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 and fully documented in the running report.

## References

- GDL00337 - TenarisHydril Running Manual
- FTD29356 - Premium Connection Approved Thread Compounds
- GDL31457 - Recommended guidelines for the field inspection of TenarisHydril connections

## Equipment, Material & Documents

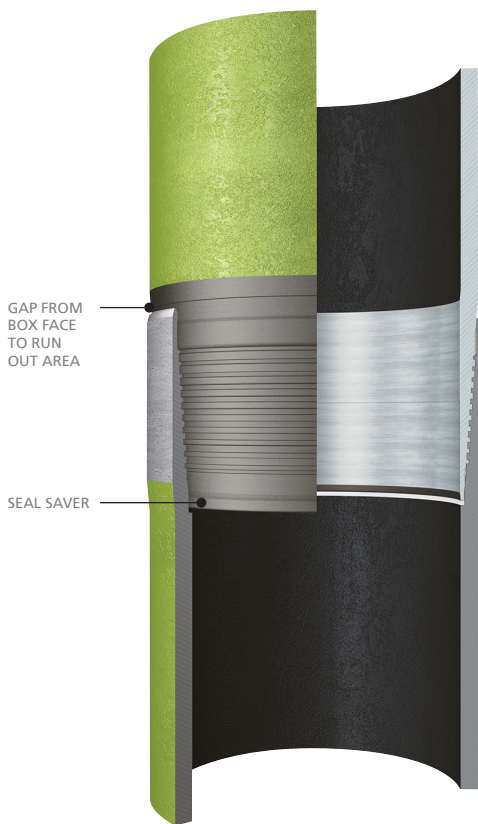
1. Identify the product involved including the version of Dope-free technology and all accessories connections.
2. Latest version of the specific Product Data Sheet can be obtained from Tenaris website. In case this is unavailable, request the data sheet from the local Technical Sales representative or [contact-tenarishydril@tenaris.com](mailto:contact-tenarishydril@tenaris.com).
3. The use of torque-turn computer monitoring system is recommended to make up TenarisHydril Wedge 613™, Wedge 623® and Wedge 624® connections with Dopeless® 3.0 / 3.1 technologies.
4. In case of mixed assemblies if the job demands the use of thread compounds, refer to document FTD29356 for a list of compounds approved by Tenaris.

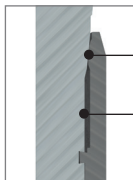
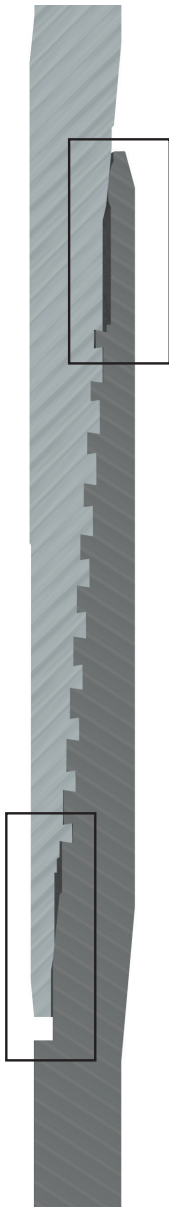
## Pre-Running

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 the TenarisHydril Running Manual.
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 compatibility of the TenarisHydril Wedge 613™ / 623® / 624® connection with any accessories such as pup joints, cross overs, cement heads etc.

6. Check condition of both pin and box Dopeless® 3.0 / 3.1 technologies coating ensuring no peel off or degradation has occurred.
7. 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's datasheet.
8. Verify material grade of all accessories ensuring compatibility with main string.
9. Check availability, compatibility and conditions of handling plugs, minimum of 3 to ensure efficiency of running process.
10. Ensure handling plugs are genuine TenarisHydril connections and are marked as TenarisHydril Wedge 613™ or Wedge 623® or Wedge 624®.
11. Wedge 523® / 513® handling plugs cannot be used.
12. Note part number and maximum load rating stamped on flange.
13. Never exceed the maximum lift capacity.
14. Ensure handling plug OD / weight is compatible with the pipe connections, Wedge 613™ / 623® / 624® have limited same OD / weight interchange capability.
15. 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.
16. Refer to the TenarisHydril running manual for the care and use of handling / lift plugs.

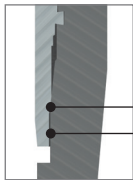
## Wedge 613™ / 623® / 624® Dopeless® 3.0/3.1 Configuration





EXTERNAL SEAL

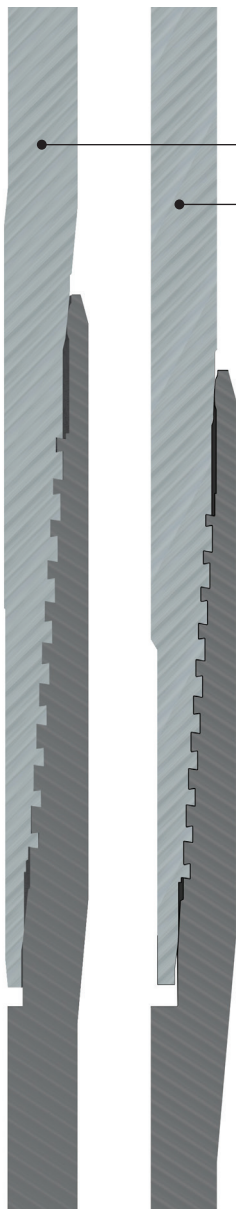
CYLINDRICAL AREA



INTERNAL SEAL

SEAL SAVER

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



Wedge 623®

Wedge 624®

TENARISHYDRIL WEDGE 624® IS AN IMPROVED VERSION OF THE WEDGE 623® CONNECTION DESIGN FEATURING GREATER RESISTANCE TO WEAR. SHIFTED UP TO ACCOMMODATE MORE TOOL JOINT ID WEAR WHILE MAINTAINING CONNECTION PERFORMANCE.

## Inspection

1. Inspection criteria for all Wedge Series 600™ connections is as outlined in GDL31457.
2. Pay particular attention to seal areas.
3. Check box and pin for signs of mashes or deformation caused during transportation / handling.
4. Connections come with Dopeless® 3.0 / 3.1 technologies and will have a distinctive dark grey appearance in the full thread and seals areas of both pin and box ends.
5. Minor rust or discolouration can be removed with the use of a non abrasive plastic scouring pad and a clean, dry rag ensuring the Dopeless® 3.0 / 3.1 coating remains intact. Refer to Tenaris Field Services representative in case of further assistance needed when inspecting Dopeless® 3.0 / 3.1 technologies connections.
6. Ensure there are no gouges, tears or raised material on seal saver area.

## Running Compound Application

1. Dopeless® 3.0 / 3.1 technologies connections do not require the application of running compound for makeup.
2. If for whatever reason dope has to be applied to Wedge 613™ / 623® / 624® with Dopeless® 3.0 / 3.1 technologies, whether both pin and box are Dopeless® 3.0 / 3.1 or when mixing a doped connection with a Dopeless® 3.0 / 3.1 connection, proceed as indicated below:

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

## Thread Lock Application Non-Dopeless® 3.0 / 3.1 Technologies connections

1. Ideally the connections to be thread locked should be non-Dopeless® 3.0 / 3.1 technologies, with the connections cleaned of running or storage compound and completely dried, then thread lock compound applied as indicated below:

- Connections must be clean and dry when applying thread lock.
- Thread lock compound should be applied to 50% of the threads at the back of the pin connection.
- Running compound should then be applied to the threads and seal at the back of the box.
- Do not apply thread lock compound to seal area.

## Thread Lock Application Dopeless® 3.0 / 3.1 Technologies connections

1. When thread locking Dopeless® 3.0 / 3.1 connections follow indications below:

- Remove the Dopeless® 3.0 / 3.1 coating from the threads on the pin connection where the thread lock compound is to be applied. Use a hand held wire brush or a rotary brass wire brush and suitable rotary device.
- Leave the Dopeless® 3.0 / 3.1 coating on the pin seal and threads where no thread lock compound is to be applied.



- Dopeless® 3.0 / 3.1 boxes should be washed with hot water then dried prior to thread locking.
- Thread lock compound should be applied to the threads furthest from the pin nose, approximately 50% of the threads should have thread lock compound applied.
- The application of running compound is not required.
- Do not apply thread lock compound to seal area.

## 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. For Dopeless® 3.0 / 3.1 connections apply the specified torques as indicated on the data sheet. Do not apply running compound.
  4. For Dopeless® 3.0 / 3.1 connections, applying optimum torque twice (double bump) is not necessary.
  5. If dope is applied to a Wedge 613™ / 623® / 624® Dopeless® 3.0 / 3.1 connection, apply 'Double Bump' to the first connection make up:
- Apply Dopeless® 3.0 / 3.1 technologies torques as per appropriate data sheet. Do not apply thread compound manufacturers friction factor correction.
  - 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 running compound.
- Continue making up further joints applying higher torque if required.
- Double bump (as above) every connection with an OD of 10 ¾" or larger if dope is applied.

6. When applying thread lock compound to Dopeless® 3.0 / 3.1 connections, Dopeless® 3.0 / 3.1 torque values +20% should be used then double bump the connection.

7. Computer make up equipment is not mandatory for TenarisHydril Wedge 613™ / 623® / 624® Dopeless® 3.0 / 3.1 connections in carbon steel, but is recommended.

8. Computer make up equipment is highly recommended for Wedge 613™ / 623® / 624® Dopeless® 3.0 / 3.1 connections in chrome material.

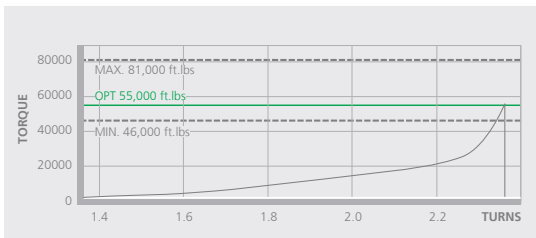
9. Graph analysis for Wedge 623® / 624® / 613™ Dopeless® 3.0 / 3.1 is similar to that for all Wedge Series 500™. Refer to the TenarisHydril running manual make up acceptance section for further explanation.

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. TenarisHydril Wedge 613™ / 623® / 624® connection 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.

15. Wedge 623®, Wedge 624® and Wedge 613™ are not interchangeable between each other, nor with any other Wedge connection.

## Combining connections

When assembling together two interchangeable Wedge 623® or Wedge 624® or Wedge 613® connections with different weight and/or grade and/or lubrication technology (Dopeless® 3.0 / 3.1 – doped), follow the recommendations below.

### RUNNING COMPOUND APPLICATION:

- In case one of the ends is Dopeless® 3.0 / 3.1, apply a very thin coating of running compound on the full pin end, threads and seal. Do not dope any part of the box connection.
- In case both ends are Dopeless® 3.0 / 3.1 there is no need to apply running compound. If for whatever reason dope has to be applied anyway, follow indications from previous bullet as well.

## TORQUE APPLICATION

- Apply the higher of the two optimum torques, regardless of the specific combination weight / grade / lubrication technology.
- If running compound was utilized for the make up, apply 'Double bump' as indicated in section 10, point 5.

## 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 when running TenarisHydril Wedge 613™ / 623® / 624® connections.
4. The use of a weight compensator is strongly recommended for chrome, large OD or heavy weight pipe.
5. Prior to stabbing ensure the rubber anti corrosion protection rings have been removed with the protectors and are not on the connection.
6. 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 make-up operation.
7. For chrome material pipe spin in by hand with the use of a strap wrench.

8. 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.
9. Apply power tong at low RPM (do not exceed 5 RPM) for final make up.
10. Do not exceed 15 RPM during spin in.
11. Ensure the back-up tong is located well below the box to prevent damage.
12. 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 highly recommended to maintain the pipe in a vertical position
2. The use of a stabbing guide is strongly recommended to assist in centralizing the pin to prevent hang up.
3. Apply the back-up tong jaw well below the box.
4. Apply power tong in low rpm (3-5 RPM) to break out the connection, ensuring the pipe is stabilised during the break out process.
5. Once the connection is broken release back up jaws and spin out below 15 RPM.
6. For chrome material pipe, once connection is broken spin out by hand with the use of a strap wrench.

7. It is recommended the stabbing guide is used when lifting the pin from the box to prevent hang up of the threads.
8. Visual inspection is recommended to classify the thread condition. Any rejected connections should be clearly marked and segregated for further investigation.
9. For long term storage of Dopeless® 3.0 / 3.1 connections, refurbishment by qualified personnel is recommended.
10. Ensure clean, dry, undamaged Dopeless® protectors with seal rings correctly in place are installed on connections.
11. Do not apply storage compound to Dopeless® 3.0 / 3.1 connections.

Tenaris has produced this manual for general information only. While every effort has been made to ensure the accuracy of the information contained within this publication, Tenaris does not assume any responsibility or liability for any loss, damage, injury resulting from the use of information and data herein. Tenaris products and services are only subject to the Company's standard terms and Conditions or otherwise to the terms resulting from the respective contracts of sale, services or license, as the case may be. The information in this publication is subject to change or modification without notice. For more complete information please contact a Tenaris's representative or visit our website at [www.tenaris.com](http://www.tenaris.com).

©Tenaris 2022. All rights reserved.