

# TenarisHydril Wedge 513<sup>®</sup>/511<sup>®</sup> Dopeless<sup>®</sup> 3.0/3.1 Connections

## Scope

These guidelines apply specifically to the use of TenarisHydril Wedge 513<sup>®</sup> and Wedge 511<sup>®</sup> connections with Dopeless<sup>®</sup> 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,
- Wedge 513<sup>®</sup> Handling Plugs TSH-BD-34.0002
- Wedge 511<sup>®</sup> Handling Plugs TSH-BD-33.0002

## 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 be used to make up TenarisHydril Wedge 513<sup>®</sup> and Wedge 511<sup>®</sup> connections with Dopeless<sup>®</sup> 3.0 / 3.1 technologies.
4. In case of mixed assemblies if the job demands the use of running compound, refer to document FTD29356 for a list of compounds approved by Tenaris.

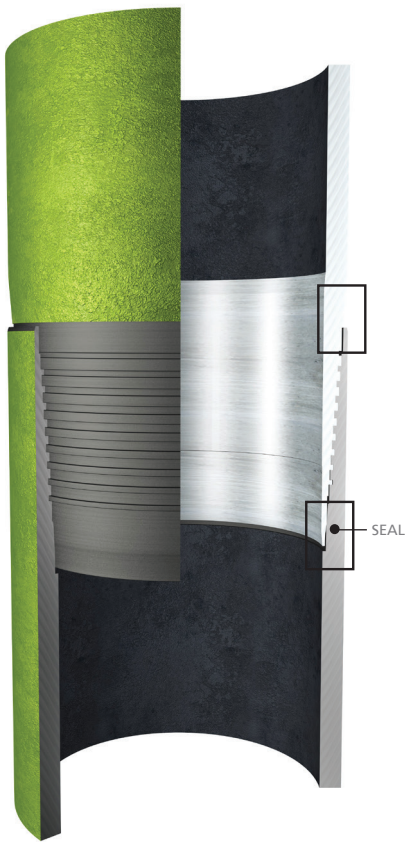
## Pre-Running

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. Verify the connections to be assembled are genuine TenarisHydril manufactured connections.
4. Visually inspect threads and seal areas prior to running, ensuring no damage is evident.
5. On Dopeless<sup>®</sup> 3.0 / 3.1 Technologies connections check condition of both pin and box coating ensuring no peel off or degradation has occurred.

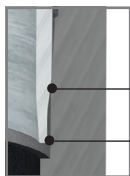
6. Verify compatibility of the Wedge 513® / 511® connection with any accessories such as pup joints, cross overs, cement heads etc.
7. Verify material grade of all accessories ensuring compatibility with main string.
8. Check availability of handling plugs, minimum of 3 to ensure efficiency of running process.
9. Check the handling plugs are in good condition and fit correctly onto pipe.
10. Check the handling plugs are genuine TenarisHydril threads.
11. Verify handling plug number and maximum lift capacity.
12. Never exceed the maximum lift capacity.
13. Ensure handling plug OD / weight is compatible with the pipe connections, Wedge 513® / 511® have limited same OD / weight interchange capability.
14. Refer to the TenarisHydril running manual for the care and use of handling / lift plugs.

## Wedge 513®/511® Dopeless® 3.0/3.1 Configuration

No metal to metal seal on Wedge 511®.



MACHINED  
CYLINDRICAL  
AREA



SEAL  
SEAL SAVER

## Inspection

1. Inspection criteria for all Wedge Series 500™ connections is as outlined in GDL31457.
2. Pay particular attention to seal areas of Wedge 513®.
3. Check box and pin for signs of mashes or deformation caused during transportation / handling.
4. Connections with Dopeless® 3.0 / 3.1 technologies 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 from Wedge 513® / 511® Dopeless® 3.0 / 3.1 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 of Wedge 513®.

## Running Compound Application

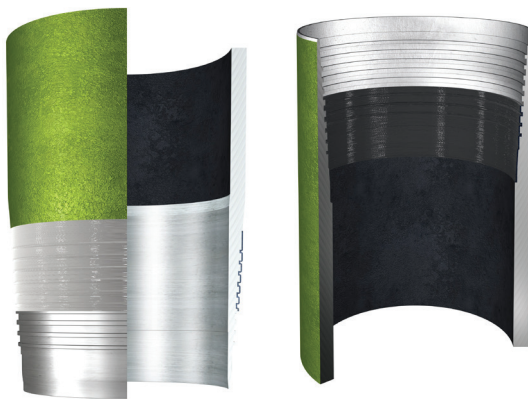
1. Dopeless® 3.0 / 3.1 connections do not require the application of running compound for makeup.
2. If for whatever reason dope has to be applied to Wedge 513® / 511® Dopeless® 3.0 / 3.1 connections, whether both pin and box are Dopeless® 3.0 / 3.1 or when mixing a standard connection with a Dopeless® 3.0 / 3.1 connection, apply running compound as 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 Compound Application

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

- 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.

Connections must be clean and dry when applying thread lock compound



2. 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.

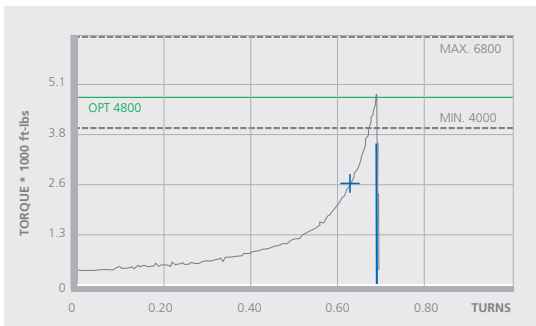
## Torque Application

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 Dopeless® 3.0 / 3.1 connection apply 'Double Bump' to the first connection:
  - 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 standard doped connections, doped version torque values +20% should be used then double bump the connection.
  7. 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.
  8. Computer make up equipment is not mandatory for Wedge 513® / 511® Dopeless® 3.0 / 3.1 connections in carbon steel, but is recommended.
  9. Computer make up equipment is strongly recommended for Wedge 513® / 511® Dopeless® 3.0 / 3.1 connections in chrome steel.
  10. Graph analysis for Wedge 513® / 511® 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.
  11. When computer equipment is used, reference torque should be initially set at 5% of optimum torque.
  12. The dump valve should be set at optimum torque, verify correct operation on the pipe body prior to first make up.



13. Set the computer turns to 2 initially, then adjust as necessary to attain good graph depiction.
14. Graph profile should be similar to the one below.



15. Wedge 513<sup>®</sup> connection has limited same size / weight interchange capability, if mixing weight / grade ensure compatibility of design and apply the higher torque value of the two connections.
16. Wedge 511<sup>®</sup> connection has limited same size / weight interchange capability, if mixing weight / grade ensure compatibility of design and apply the higher torque value of the two connections.
17. Wedge 513<sup>®</sup> and 511<sup>®</sup> connections are not interchangeable.
18. Wedge 513<sup>®</sup> and 523<sup>®</sup> connections are compatible in the same size / weight combination. For other weight combinations check the TenarisHydril premium connections catalogue.

## Combining connections

When assembling together two interchangeable Wedge 513® or 513® 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 are recommended.
3. The use of a safety clamp is strongly recommended when running Wedge 513® / 511® connections.

4. The use of a weight compensator is strongly recommended for chrome, large OD or heavy weight pipe.
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 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.
7. If cross threading is evident, immediately reverse rotate the pipe, completely disassemble, clean and inspect both connections.
8. Maximum assembly speeds are indicated in the tables on next page. These are applicable for running in singles with tong or CRT and assuming ideal conditions
9. 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 W513		OD	SPIN IN RPM	FINAL M/U RPM
Carbon Steel	Dopeless® 3.0/3.1 Technology	4 1/2" and above	30	10

TSH W511		OD	SPIN IN RPM	FINAL M/U RPM
Carbon Steel	Dopeless® 3.0/3.1 Technology	4 1/2" - 7 5/8"	40	15
		Above 7 5/8"	30	10

10. Walk chrome pipe all the way in to hand tight, then apply tong only for final make up.
11. Ensure the back-up tong is located well below the box to prevent damage.
12. A factor which may preclude complete assembly is excessive running compound applied to the connection, reduce the quantity applied if this is found to be the case.

## Pulling

1. The use of a stabbing guide is strongly recommended to prevent hang up.
2. A single joint compensator is strongly recommended for chrome, large OD or heavy pipe.
3. The use of a safety clamp is strongly recommended.
4. Apply the back-up tong jaw well below the box.
5. Apply power tong in low rpm (3-5 RPM) to break out the connection, ensuring the pipe is stabilised during the break out process.
6. Do not exceed 15 RPM during spin out.
7. Walk chrome pipe all the way out by hand after initial break out.
8. Visual inspection is recommended to classify the thread condition, any rejected connections should be clearly marked and segregated for further investigation.
9. Storage / running compound should always be applied to clean, dry connections post job, even rejects. Do not apply storage compound to Dopeless® 3.0 / 3.1 technologies connections.

10. Apply clean, dry thread protectors on connections.
11. For long term storage of Dopeless® 3.0 / 3.1 connections, refurbishment by qualified personnel is recommended.
12. Ensure clean, dry, undamaged Dopeless® protectors with seal rings correctly in place are installed.
13. Do not apply storage compound to Dopeless® 3.0 / 3.1 connections.

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