TenarisHydril TBG1™ Connection

Scope

These guidelines apply specifically to the use of TenarisHydril TBG1™ connection. This document should be used in conjunction with the TenarisHydril Running Manual, which is the main document applicable to the running of 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

- FTD29356 - Premium Connection Approved Thread Compounds
- GDL31457 - Recommended guidelines for the field inspection of TenarisHydril connections.
- GDL23353 –Blue® and Legacy Series Make up Acceptance.
- GDL23349 - Pre Running Preparation

Equipment, Material & Documents

1. 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.

2. Verify the appropriate thread compound is available for this connection.

3. Refer to document FTD29356 for a list of thread 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 TenarisHydril Running Manual (GDL23349 - Pre Running Preparation).

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

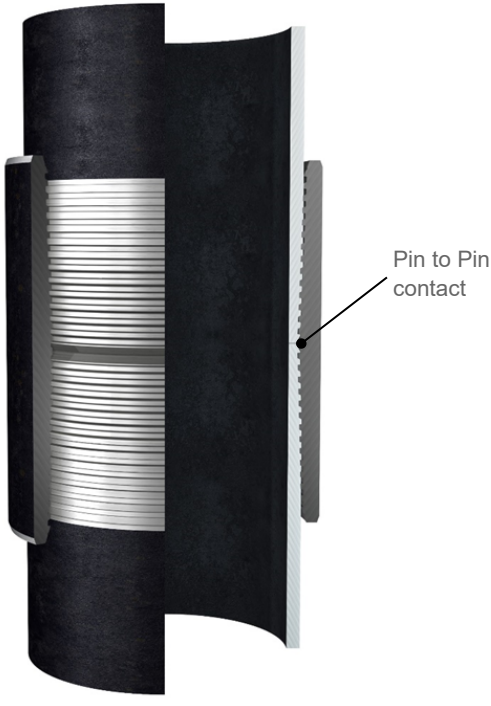
4. Visually inspect thread, pin nose and couplings ensuring no damage is evident.

5. Verify the compatibility of the TenarisHydril TBG1™ pipe with accessories such as cement heads, safety valves, cross overs, etc.

6. Connection weight interchange compatibility is indicated in the Product Data Sheet.

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

TenarisHydril TBG1™ Configuration



Inspection

1. Inspection criteria for all TenarisHydril connections is as outlined in GDL31457.

2. Ensure the pin nose has no tears, gouges or raised metal which could interfere with correct assembly.

3. Repair of connections is limited to Tenaris Field Services Representative.

Thread Compound Application,

1. Apply thread running compound to both pin and box ends, covering all threads and pin nose areas.

2. The compound should be applied as a continuous even film round the entire circumference of the connection, the thread form should be clearly visible

Torque Application

1. Torques for TenarisHydril TBG1™ connection should always be taken from the latest product data sheet.

2. For Tenaris approved thread compounds, apply the torque factor indicated in FTD29356.

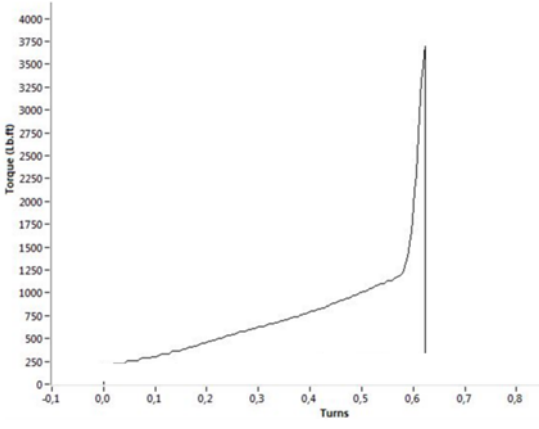
3. Although the use of torque turn computer equipment is not required to make up TenarisHydril TBG1™ connection, it assists in keeping records on connection behavior during assembly for subsequent quality control purposes.

4. Check calibration certificates of the torque gauge and computer equipment (if used).

5. If torque turn computer equipment is used the guidelines indicated in GDL23353 – “Blue® and Legacy Series Make up Acceptance” are applicable with exception of delta turn criteria which is not applicable for TSH TBG1.

- Reference torque should initially be set at 5% of optimum.
- The dump valve should be set at optimum, verify correct operation on the pipe body prior to first make up.

- Set the computer turns to 2 initially then adjust as necessary to attain good graph depiction. The computer make-up profile should look like the one below. Shoulder point should be clearly observed on the torque turn graph.



6. If different weights or grades of TenarisHydril TBG1™ connections are to be mixed apply the lowest of the indicated make up torques.

Running

1. 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 make up operation.

2. Upon commencement of initial rotation use low RPM (5 RPM or below) to ensure the pipe has not cross-threaded during stabbing.

3. If cross-threading is evident, immediately reverse rotate the pipe, completely disassemble, clean and inspect both connections.

4. Maximum assembly speeds are indicated in the table below. These are applicable for running in singles with a tong or CRT and assuming ideal conditions. Conditions may dictate lower assembly speeds than the maximum indicated values. High winds or excessive pipe movement among other variables will necessitate a lower RPM to be used.

TSH TBG1	OD	SPIN IN RPM	FINAL M/U RPM
Carbon Steel	2 7/8" – 3 1/2"	40	5

5. The make-up criteria for TenarisHydril TBG1™ connection is the attainment of optimum torque along with the final position.

6. When correctly assembled, no exposed threads are visible. It is recommended to mark the make-up loss on the pin for the first 5 joints then visually check for correct final position after make-up. Thereafter, frequency of the visual check for final position should be agreed with Tenaris Field Services representative and documented in running report. It is suggested to do it every 20 joints during the job.

7. Rotation of the mill-end coupling may be observed during make up. It can be accepted if it does not rotate more than 1/4 of a turn. If excessive rotation is witnessed, break out connections, clean and inspect both ends for damage. If no damage is found, re-apply thread compound and re-run.

Pulling

1. Automatic stabbing system or stabber is strongly 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. Apply the back-up tong jaw low on the coupling (over the mill end section of the coupling), leaving the field end free.
4. Apply power tong in low rpm (3-5 RPM) to break the connection, ensuring the pipe is stabilised during the break and spin out process.

5. Maximum spin out speed should not exceed 15 RPM.

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

7. Apply clean dry thread protectors after applying storage / thread compound on the connections.

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