

# TXP<sup>®</sup> BTC Connection

## Scope

These guidelines apply specifically to the use of TXP<sup>®</sup> BTC connections. This document is part of the TenarisHydril Running Manual, and provides an overview of best practices for this specific product. It should be used in conjunction with the rest of the sections within the TenarisHydril Running Manual.

TXP<sup>®</sup> BTC connection is a Buttress threaded connection with a positive stop torque shoulder, compatible with API Buttress connection (restricted capability, dependent upon what is required of the connections when assembled).

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

- GDL23353 - Blue and Legacy Series Make Up Acceptance.
- FTD29356 - Premium Connections Approved Thread Compounds.
- GDL23349 - Pre-Running Preparation
- GDL23362 - FGL and CB<sup>®</sup> Options.

## Equipment, Material & Documents

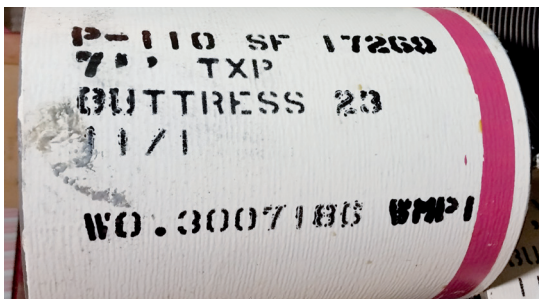
1. Verify the appropriate thread compound is available for this connection.
2. Refer to document FTD29356 for a list of thread compounds approved by Tenaris.
3. Latest version of the specific Product Data Sheet can be obtained from Tenaris web site. In case it is not available, request the data sheet 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 the TenarisHydril Running Manual (GDL23349 - "Pre-Running Preparation").
3. Verify all pipe and accessories have genuine TenarisHydril manufactured connections.
4. Visually inspect threads, pin nose and couplings prior to running, ensuring no damage is evident.
5. Verify the compatibility of the TXP® BTC connection with accessories such as cement heads, safety valves, cross overs, etc.
6. Verify material grade of all accessories ensuring compatibility with main string.
7. If TXP® BTC Seal Ring (SR) variant is being run ensure the correct type and quantity of seal rings are available.

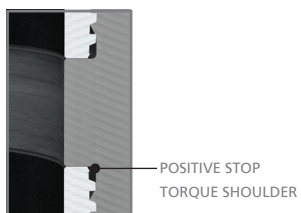
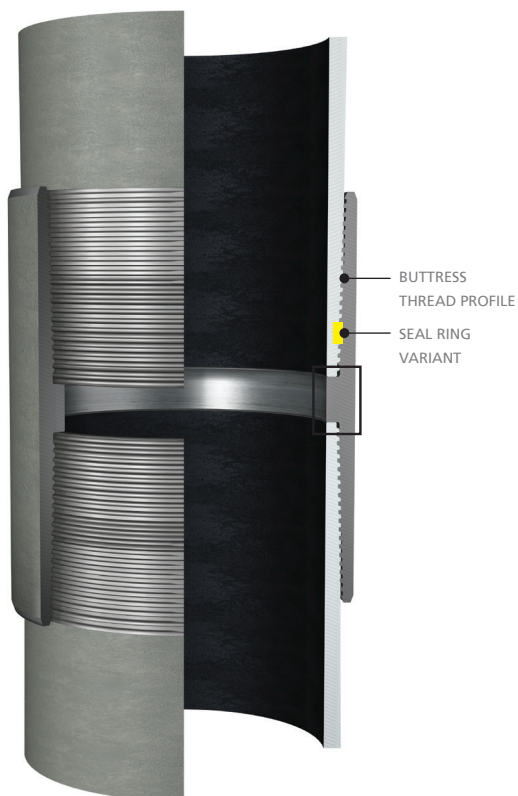
## Inspection

1. Visual inspection guidelines as outlined in API RP 5A5 should be applied.
2. Pay particular attention to pin nose and box torque shoulder ensuring there is no raised material which may preclude correct make up.
3. Ensure threads are clean and free of any debris or contamination.
4. Check the condition of the seal ring of TXP® BTC-SR variant.
5. Ensure the seal ring has no cuts, gouges or tears.
6. Ensure the seal ring is correctly seated with no protruding areas which may cause the ring to be displaced during make up.
7. TXP® BTC connection will be identifiable by a 1" wide Magenta band painted round the coupling OD opposite the grade identification bands.
8. TXP® BTC with a regular API coupling OD will have two magenta paint bands.



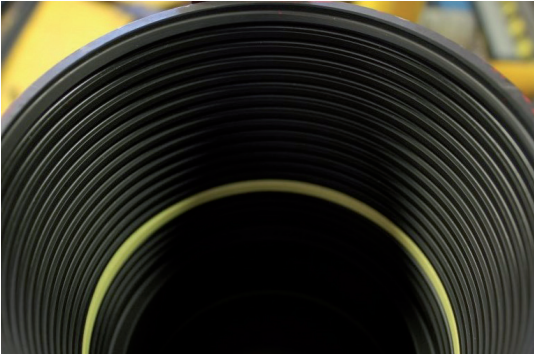
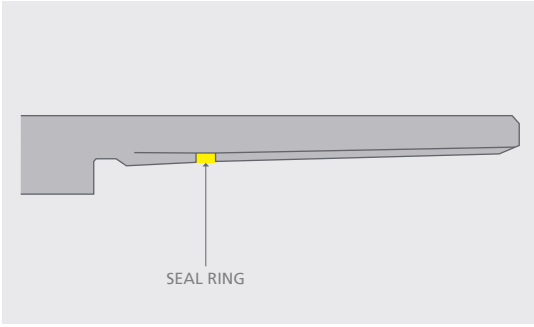
TXP® BTC Coupling.

# TXP® BTC Configuration



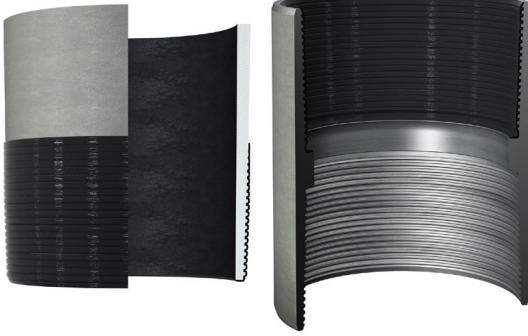
## TXP® BTC Seal Ring Variant

1. The Seal Ring (SR) variant of TXP® BTC connection is designed to enhance the sealing capability of the original connection.
2. If the seal ring variant is ordered they will be delivered directly from the mill with the SR installed.
3. Seal rings are designed to be used once, therefore they should be replaced after every make up.
4. Prior to make up ensure the seal ring is undamaged and securely installed.
5. When replacing a seal ring ensure the groove is undamaged, clean and free of debris.
6. Only seal rings specifically manufactured for TXP® BTC connection can be used, ensure these are not mixed with other types of seal rings, such as corrosion barrier rings.
7. TXP® BTC seal rings are yellow therefore easily identifiable.
8. Install the seal ring as indicated in the TenarisHydril Running Manual FGL and CB® options section (GDL23362 - "FGL and CB® Options").
9. Ensure the seal ring is seated into the groove completely to prevent thread compound extruding the ring as the connection makes up.
10. Seal rings for any given size are compatible with connections of different weight.
11. Protectors specifically designed for the seal ring variant should be used in order to prevent damage and /or displacement of seal ring from the coupling groove.



**12.** As can be seen in the above photograph, when correctly installed the seal ring sits evenly and concentrically within the groove.

## Thread compound application



1. Apply thread running compound to both pin and box ends, covering all threads and shoulder 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.
3. When applying thread compound to the TXP® BTC Seal Ring variant, ensure the seal ring is securely seated to prevent thread compound being pushed under the ring which may cause it to dislodge during assembly.
4. For Tenaris approved thread compounds, apply the friction factor indicated in FTD29356.

## Thread Lock Application



Ensure the connections are clean and dry when applying thread lock.

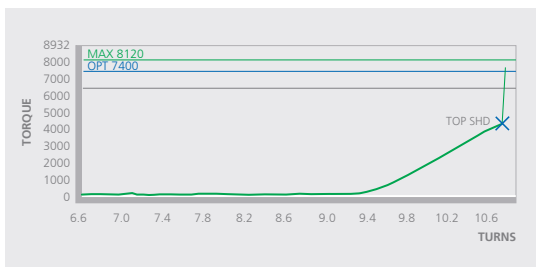
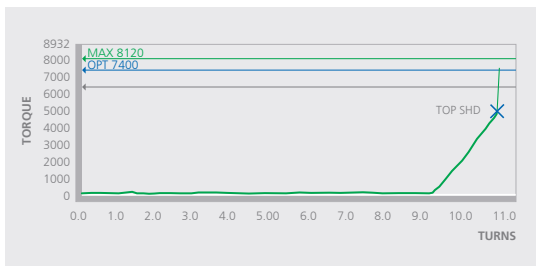
1. Apply thread lock to the 50% of the pin threads furthest from the pipe body.
2. Apply the thread lock manufacturers indicated friction factor.

## Torque Application

1. Torques for TXP® BTC connection should always be taken from the latest TenarisHydril product data sheet.
2. The use of torque turn computer equipment is recommended to make up TXP® BTC connection.
3. Reference torque should be initially set at 5% of optimum torque.
4. The dump valve should be set at optimum torque, verify correct operation on the pipe body prior to first make up.



5. Set the computer turns to 2 initially, then adjust as necessary to attain good graph depiction.
6. The make up graphs should look similar to the ones below.



7. There is no delta turn requirement for make up acceptance for this connection. However, if torque build after shoulder point shows loss of linearity, a full break out and thorough inspection for any signs of damage or connection yield is required.
8. Shoulder point should be clearly observed on the torque turn graph.

Shoulder point should fall between reference torque and minimum make up torque parameters. However, should shoulder torque exceed minimum make up torque then the connection can still be accepted if the

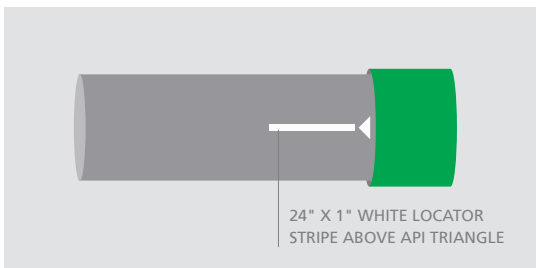
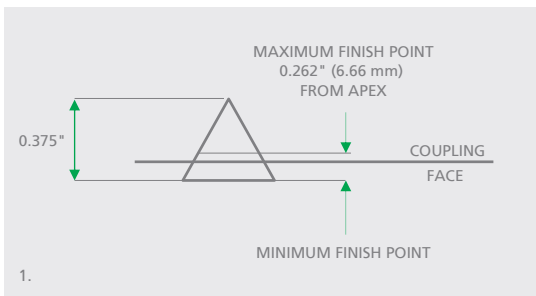
following conditions are met: 1) final make up torque is within minimum and maximum make up torque values, 2) shoulder point is clearly visible, and 3) the graph profile meets the guidelines from GDL23353-Blue and Legacy Series Make Up Acceptance with the exception of the delta turn criteria (not applicable for this connection).

## 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 stabbing and make up operation.
2. Upon commencement of initial rotation use low RPM (5 RPM or below) in order to ensure the pipe has not cross threaded during stabbing.
3. If cross threading is evident, immediately reverse rotate the pipe slowly, break out and inspect both connections.
4. Maximum assembly speeds are indicated in the table below. These are applicable for running in singles with tong or CRT and assuming ideal conditions.
5. 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.

TXP® BTC	OD	SPIN IN RPM	FINAL M/U RPM
Carbon Steel	4 1/2" - 16"	40	5

6. The make up criteria for TXP® BTC connection is the attainment of optimum torque along with the coupling face final position. As in the assembly of API Buttress there is a triangle stamped on the pin end which is used as a visual verification of correct assembly of the connection. Final position of the coupling face after make up should be anywhere from the base of the triangle to 70% below the apex. On average the coupling face should finish 25% of the height of the triangle stamp after application of the recommended make up torque (75% from Apex). The coupling face should never exceed 30% of the triangle height at final make up. If it does, break out the connection and inspect for deformation of pin nose bevel and box torque shoulder, if none is evident repeat doping and make up process. See diagram 1 below:



## Interchange Capability

Compatibility of TXP® BTC connection and API Buttress is completely dependent on what the user requires from any given mix of API and TXP® BTC connections.

The make up criteria with resulting torque and compression capabilities of any given combination are indicated in Table 1.

Table 1

TXP® BTC and API Buttress Interchange Capability			
PIN END	BOX END	ASSEMBLY CRITERIA	TORQUE & COMPRESSION CAPABILITY
TXP® BTC	TXP® BTC	TXP® BTC	TXP® BTC
TXP® BTC	API Buttress	API Buttress	API Buttress
API Buttress	TXP® BTC	API Buttress*	API Buttress

(\*) WHEN ASSEMBLING AN API BUTTRESS PIN INTO A TXP® BTC BOX THE FINISH POINT OF THE COUPLING FACE SHOULD NOT EXCEED THE TRIANGLE BASE.

Certain API Buttress box accessories are manufactured with a shoulder. These are not to TXP® BTC specification. Best practice in each case is to measure the distance from the shoulder of the accessory to the box face and mark this make up loss length alongside the triangle of the TXP® BTC connection to be assembled. Any discrepancy in length of the box to that of the maximum make up point of the TXP® BTC will then be identifiable, thereafter the decision of what make up criteria to apply can be discussed and agreed. The criteria applied will be dependent upon what is required of the application. There may be a situation where, to achieve the torque capability of TXP® BTC, the accessory face will have to finish higher up the TXP® BTC triangle in order to achieve shoulder

contact. However the coupling face should never exceed the triangle apex, even if shoulder contact is not achieved.

## Pulling

1. Automatic stabbing system or stabber is strongly recommended to maintain the pipe in a vertical position.
2. The use of a weight compensator is strongly recommended for stands of 3 pipe  $\geq 7$  " .
3. Apply the back up tong jaw low on the coupling (over mill end section of the coupling), leaving the field end free.
4. Apply power tong in low RPM (3-5 RPM) to break out the connection, ensuring the pipe is stabilized during the break 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. For the Seal Ring variant, it is advisable to remove the seal rings as the connections are pulled.
8. Apply clean dry thread protectors after applying storage compound on the connections.
9. Storage / thread compound should always be applied to connections post job, even rejects.

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 2024. All rights reserved.