

API Buttress Connections

Scope

These guidelines apply specifically to the use of API Buttress connections. This document is based on API 5C1 standard which is the main document applicable for this connection.

References

- API RP 5C1: Recommended practice for care and use of casing and tubing.
- API RP 5A3: Recommended practice on thread compounds for casing, tubing and line pipe.
- ISO 13678: Petroleum and natural gas industries -Evaluation and testing of thread compounds for use with casing, tubing, line pipe and drill stem elements
- API RP 5A5: Field inspection of new casing, tubing, and plain-end drill pipe.
- API RP 5B1: Gauging and inspection of casing, tubing and line pipe threads.
- API 5B: Specification for Threading, Gauging and Thread Inspection of Casing, Tubing and Line Pipe Threads.

Equipment, Material & Documents

1. Verify API modified thread compound is available.
2. If other compound is to be used, ensure it provides adequate lubrication and sealability. Refer to API RP 5A3 or ISO 13678 for further details.

Pre-Running

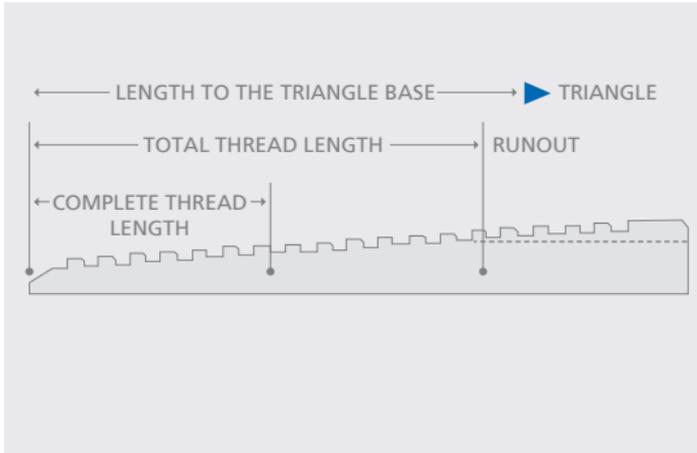
1. If drifting the connections at the rig site it is recommended to do so from box to pin end.
2. Ensure connections are cleaned and free of all debris and / or contaminants.
3. Use high pressure water with detergent to clean the connections, it is not advisable to use an oil based solvent which may leave a residue on the threads.
4. Never move or handle pipe without the correct thread protectors securely in place.
5. Visually inspect threads prior to running, ensuring no damage is evident.
6. Verify compatibility of the API Buttress pipe with any accessories such as pup joints.
7. Verify material grade of all accessories ensuring compatibility with main string.

Inspection

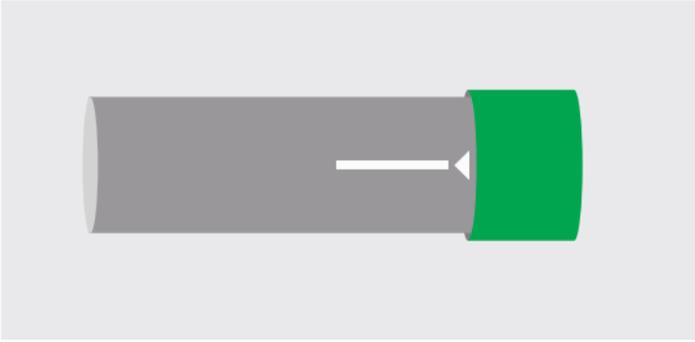
1. Inspection criteria for all API connections is as outlined in API RP 5A5.
2. Ensure the complete thread area has no tears, gouges or raised metal.
3. Black crested threads within the complete thread area must not exceed 25% of the circumference of two (2) threads.
4. Complete thread length is indicated in API RP 5B1.

5. Ensure the pin and box have no dents, tears or raised material which would interfere with correct assembly.
6. Any gouge or tear which traverses from the coupling OD to the face is cause for rejection.

API Buttress Configuration



1. The triangle is located at the base of a 1" by 24" white stripe for ease of identification.



Thread Compound Application

1. Apply a thin coating of thread compound on pin and box connections, fully covering all threads.
2. The thread form should be fully visible.



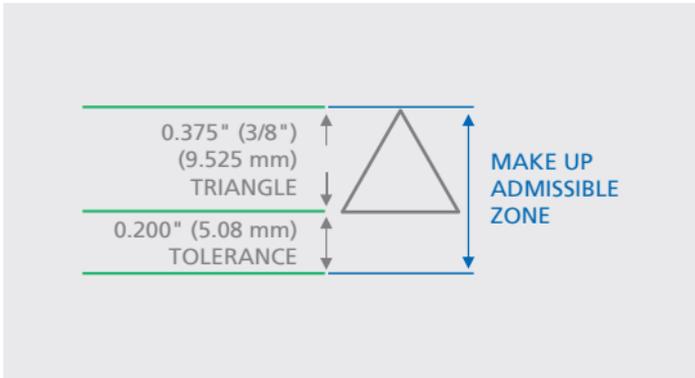
Thread Lock Application



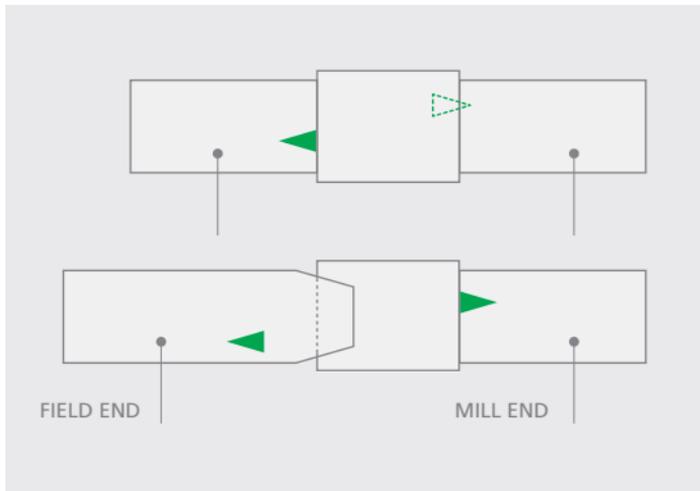
1. Connections must be clean and dry when applying thread lock.
2. Apply a thin coating of thread lock on 50% of the pin threads furthest from the pipe body.
3. Do not apply thread compound to pin or box.

Make Up

1. API Buttress connection is designed to be made up to a final position, there is no final torque specified.
2. Make up acceptance criteria is defined based on the relative position of the coupling face compared to the triangle stamped on the pin end:
 - **Minimum Make up:** One full thread turn before triangle base.
 - **Maximum Make up:** Triangle apex.



3. There is no torque specification for API Buttress however torque values required to reach an acceptable make up tend to be similar within the same batch of pipe.
4. In order to determine make up torque for the string to be run:
 - Make up the first 15 joints to the base of the stamped triangle, taking note of the required torque for each joint.
 - Calculate the average torque.
 - Use the average torque to make up the string.
 - Ensure all make ups are acceptable by checking the coupling face position within the triangle.
5. It may occur that during the make up, the coupling rotates on the mill end. This can be allowed provided the coupling face on the mill end does not exceed the apex of the triangle stamped on the mill end pin.



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 stabilise 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 spin in speed should not exceed 15 RPM.

Pulling

1. Automatic stabbing system or stabber is highly recommended to maintain the pipe in a vertical position.
2. Apply the back up tong jaw on the lower part, over mill end, of the coupling.
3. Apply power tong in low RPM (3-5 RPM) to break out the connection, ensuring the pipe is stabilised during the break and spin out process.
4. Visual inspection is recommended to classify the thread condition. Any rejected connections should be clearly marked and segregated for further investigation.
5. Apply clean, dry thread protectors after applying storage compound on clean, dry connections.
6. 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. This manual supersedes Version 03 / March 2018. ©Tenaris 2019. All rights reserved.