16.FGL and CB **Options**

These guidelines only apply to connections listed in the table below with the Corrosion Barrier (CB) or Fiber Glass Lined (FGL) option.

Compatibility

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The compatibility of connections with CB or FGL with standard connections is indicated below:

CONNECTIONS	Compatible with Standard option
TSH BLUE-FGL	No
TSH BLUE-CB	No
TSH MS-FGL	No
TSH MS-CB	No
TSH WEDGE 563-CB	Yes
TSH WEDGE 553-CB	Yes
TSH WEDGE 533-CB	Yes
TSH PH4-CB	Yes
TSH PH6-CB	Yes
TSH CS-CB	Yes
TSH PJD-CB	Yes

Accessories

Accessories for FGL or CB options are specially designed by Tenaris, the only accessories that should be used are those threaded by Tenaris or one of its licensed repair shop facilities.

Drifting

- 1. The use of a non metallic drift is advisable in order to prevent damage to the coating and / or flanges.
- 2. For FGL lined pipe, the drift diameter is substantially smaller. In certain instances this is also true of internal plastic coated pipe. Check that the drift mandrel is correct for the pipe / connection ID including the coating / liner.

Inspection

The inspection of FGL or CB option type connections is the same as that for the standard variant of the connection. Special attention must however be paid to the coating or end flange for FGL. Never run a pipe with damaged coating or damaged fiberglass lining. Any damage to the coating or lining must be repaired either by the coating company or by certified personnel of a third party company. If either are unavailable the joint must be segregated and clearly identified.

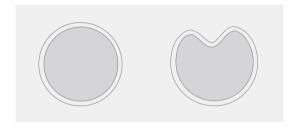
Installation of Seal Rings

- 1. Check the available seal rings are the specific ones for the product to be run. Ensure there are additional seal rings available. Install the seal rings just before running the pipe either at the V-Door or at the rig floor. Do not install them on the pipe racks.
- 2. Make sure seal rings and pipe are at the same temperature before installation. Fully clean and dry box end connection and perform a visual thread inspection.
- 3. Check there are no seal rings already installed on the connection. Any seal rings already installed must be removed and discarded before installing a new one.

4. Make sure the seal ring is in perfect condition before installing, free from cuts, deformation or dents. If the seal ring is not in perfect condition it must be discarded.

Blue® Series and MSTM FGL

1. Take a brand new seal ring and compress it with the fingers so that it partially collapses into the inside diameter of the pipe.

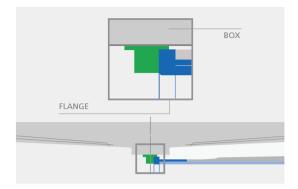


CB AND FGL SEAL RING

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Manually collapse the seal ring.

- 2. Place collapsed seal ring into the box seal ring groove and release it.
- 3. Make sure the "T" end of the seal ring fits into the gap between the flange and the ID of the coupling.
- 4. Manually push the seal ring into place, pressing all around the edge of the ring. You can use a nonmetallic instrument like a wooden hammer handle to nudge it into place.
- **5.** Make sure the seal ring is properly seated between the flange (the front of the pin) and the ID of the coupling. The seal ring must be in contact with the ID of the coupling all the way round and should not stick out at any point. If in doubt, use a straight edge to check whether it is properly aligned.

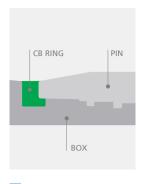


FGL SEAL RING AND FLANGE

Ensure proper installation of both elements.

CB Options

- 1. Take a brand new CB ring and compress it with the fingers so that it partially collapses. Place the collapsed seal ring into the seal ring groove and release it.
- 2. Manually push the seal ring into place, pressing all around the edge of the ring. You can use a nonmetallic instrument like a wooden hammer handle to nudge it into place.
- 3. Make sure the seal ring is properly inserted in the groove. The seal ring must be in contact with the ID of the coupling all the way round and should not stick out at any point. If in doubt, use a straight edge to check whether it is properly aligned.
- 4. If the seal ring will not install correctly check it is the correct size for the connection.





TSH WEDGE 533-CB

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TSH WEDGE 563-CB

Running Compound Application

- 1. Apply the running compound to connections with the CB option as indicated in the specific product running guideline.
- 2. Apply the running compound to connections with the FGL option as indicated in the product specific running guideline, do not however apply running compound on the pin nose and flange.

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