

1) Cleaning

Before inspection, the connections should be cleaned by using one of the following methods:

- A nonmetallic brush and cleaning solvent.
- Steam clean with water and cleaning solvent.
- A rotary bristle brush with jetted water and / or cleaning solvents.

The use of wire brushes or other abrasive methods is forbidden as this will damage the anti-galling surface treatment (phosphate for low-alloy materials and glass bead blasting and copper plating if required).

Note: Diesel is not recommended as a cleaning solvent.

2) Inspection

All inspections shall be carried out by trained personnel with satisfactory visual acuity to detect surface imperfection. The minimum illumination level at the inspection surface shall be min. 500 lux.

Connection inspection will only be visual. Perform a thorough visual inspection of each connection.

Pipes should be situated so that the joints may be rolled 360 degrees to facilitate complete cleaning and inspection.

Inspect all connections for damage such as out-of-round, handling damage, dents, mashed areas, rust and scale. Seal areas must be free of longitudinal or transverse cuts, scratches, corrosion pitting, rust and scale.

3) Connection classification

After inspection, pipe can be classified under one of the following categories:

- With thread and seal in perfect condition. These products can be run / re-run without any further repair work (the surface treatment shall be in perfect condition).
- With thread that must be hand repaired. Seal shall be in perfect condition.
- With connections that must be re-cut at a TPS MULTISEAL licensed workshop.

4) Connections to be hand repaired

Identify rejected pipe end using a permanent marker and/or unique label. Perform the repair work in accordance to Attachment 1.

Unless the pipe will be used immediately apply a new layer of storage compound and re-install clean and dry thread protector.

5) Connections to be re-cut

Identify rejected pipe end using a permanent marker and/or unique label. Send the damaged product to the nearest TPS MULTISEAL licensed workshop. If one of the two threaded ends is acceptable, apply a new layer of storage compound and re-install clean and dry thread protector.

Note: You will find our licensed workshops on our website: www.tpsd.de "TPS Licencee Network"

6) Hand repair operation

Any hand repair operation must be done by a TPS MULTISEAL specialist.

7) Hand repair evaluation

Any connection which has been hand repaired, will only be considered acceptable if the damage has been completely removed and hand repair has not significantly changed the shape of the repaired area.

If after repairing, the connection is not acceptable, the product shall be classified as "Connection to be re-cut" and shall be sent to the nearest TPS MULTISEAL licensed workshop.

If after repairing, the connection is acceptable, apply a new layer of storage compound and reinstall clean and dry protector.

TPS suggests performing a new thread surface treatment if it possible to see the material's base color. All products subject to hand repair shall be properly identified with the legend "Repaired".

8) Deformation due to over-torque

If the torque tong has not been set to the required parameters of the connection, then deformations due to over-torque might occur.

Depending on the intensity of the over-torque, the following deformations might occur:

The box is crowned, the OD on the pin side above the 30° sealing area is widened to the outside, the 30° sealing area on the box is crowned, the pin end is crowned and constricted in direction of the bore.

All those characteristics can be measured with a straight edge in case of doubt. Connections with such damages shall not be released for re-use.

9) Straightness

A sufficient straightness of the connection to the base tube can be secured by rolling the tubes on the rack and by sliding the required drift easily through the tube.

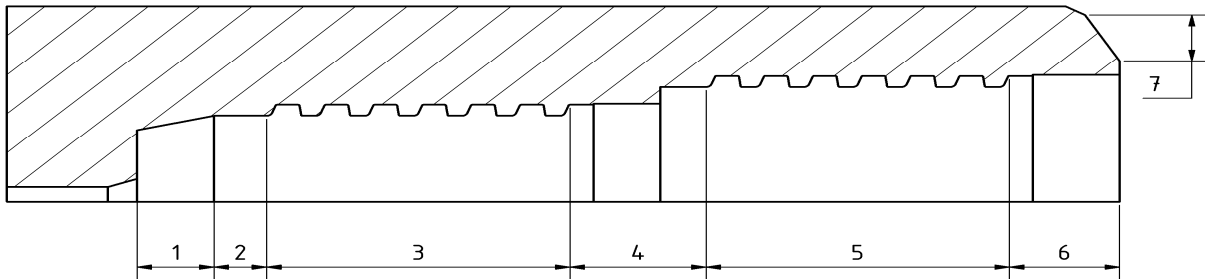
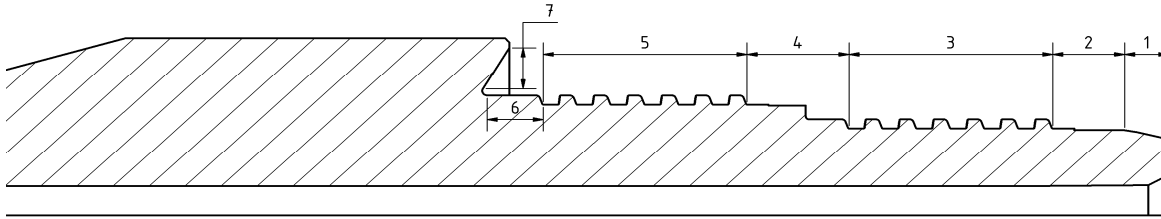
Remarks:

Revision No. 5 => complete revision

Established and released on 12 November, 2014 by:

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Attachement 1:



Pin & Box End element	Zone	Rust / Friction marks	Pitting (1) / Dent	Scratch	Galling
14° Seal shoulder (3)	1	Re-cut the thread	Re-cut the thread	Re-cut the thread	Re-cut the thread
Cylindrical Section	2	Remove by file or emery paper	Remove by file or emery paper	Accepted	Re-cut the thread (2)
Thread	3	Remove by file or emery paper	Re-cut the thread	Accepted	Re-cut the thread (2)
Cylindrical Section	4	Remove by file or emery paper	Remove by file or emery paper	Accepted	Re-cut the thread (2)
Thread	5	Remove by file or emery paper	Re-cut the thread	Accepted	Re-cut the thread (2)
Cylindrical Section	6	Remove by file or emery paper	Remove by file or emery paper	Accepted	Re-cut the thread (2)
30° Seal & Torque Shoulder (3)	7	Re-cut the thread	Re-cut the thread	Re-cut the thread	Re-cut the thread

(1) Minor pitting may be accepted subject to TPS - MULTISEAL Specialist approval.

(2) Depending on damage severity and extension, repair is allowed only if performed by a TPS - MULTISEAL specialist.

(3) Minor imperfections may be accepted by a TPS - MULTISEAL specialist.

Note: After any field repair the application of Moly-disulfide spray, prior to applying the thread compound, is recommended.