Thread protector field inspection procedure

Rev.: 0

voestalpine Tubulars GmbH & Co KG
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Thread protector field inspection

TP-FIP-1 Rev.0: New procedure

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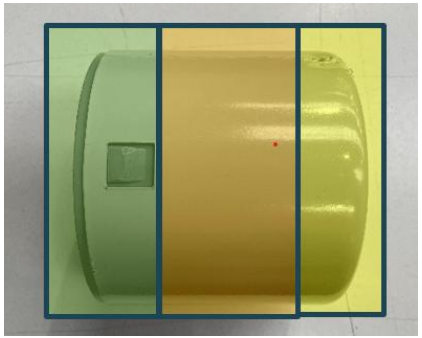
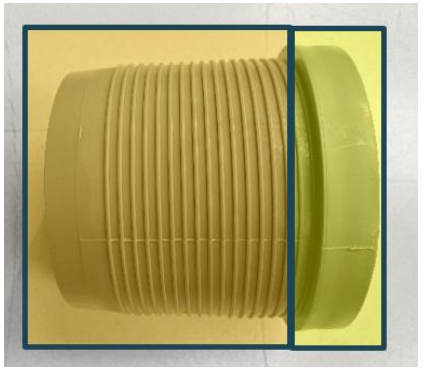
Objective

The basic function of the thread protectors is to guard the threaded pipe ends from mechanical damage during transportation and handling activities. Design validation and testing procedure for OCTG protectors are given as per API 5 CT.
Even when all API requirements are met, protectors may show damage from rough condition during sea freight, port handling, and/or during delivery to final destination. However, field experience shows, that damage of protectors is not always indicative of damage of the subjacent pipe ends. This procedure is meant as a guideline for incoming inspection to avoid excessive inspection work while minimizing the risk of mashed connections.

Terms and definitions

For the purpose of this document, the term “Bumper area” describes the first 35 mm (1.4 in) from nose end on pin protectors, and the overhanging bumper ring on the box protectors. These areas are shown in the yellow shaded sections.
The term “Run out area” describes the back end 20 mm (0.8 in) of the pin protectors. This are is shown in the green section.
The term “Thread area” describes everything between Bumper area and Run our area on pin protectors and everything apart the Bumper area on box protectors. These areas are shown in the orange section.





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Pin end protector – Bumper area

- No part of the connection is located under this area
  - damage shall be considered uncritical
- If deformation is more than 15 mm (0.6 in) in axial direction or more than 10 mm (0.4 in) in radial direction (radial out of roundness):
  - Protector shall be removed
  - Thread shall be inspected for indication of mechanical damage
    - If damaged, mark pipe as damaged
    - If thread is okay, replace protector

Intact protector

Damaged protector

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Pin end protector – Run out area

- Damages in this area shall be considered as uncritical as long as:
  - Pipe body doesn't show mechanical damage
    - If deformation, the gap between pipe body and protector shall be less than 5 mm (0.2 in)
    - If more than 5 mm (0.2 in), protector shall be removed
    - Thread shall be inspected for any indication of mechanical damage
    - If damage is found, pipe shall be marked accordingly
    - Thread Protector shall be replaced, independent of the outcome of the thread inspection

Intact protector

Damaged protector

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Pin end protector – Thread area

- Deformation of protectors in this area shall be considered as uncritical as long as:
  - Radial out of roundness is less than 2 mm (0.08 in)
  - Heavier deformation, protector shall be removed
  - Thread shall be inspected for any indication of mechanical damage
    - If damage is found, pipe shall be marked accordingly
    - Thread Protector shall be replaced, independent of the outcome of the thread inspection

Intact protector

Damaged protector

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Box end protector – Bumper area

- Damage of the bumper area is acceptable as long as:
  - No indication of mashed coupling
  - Box face is still covered
- If thread protector is damaged in a manner that the box face is partially or full exposed
  - Protector shall be replaced

Intact protector

Damaged protector

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Box end protector – Thread area

- Possible cause of damage
  - Improper use of hooks during handling operations
- Actions if damage is observed
  - Remove the protector
  - Inspect the underlying thread for signs of mechanical damage
- Follow-up regardless of inspection outcome
  - Replace the damaged protector

Intact protector

Damaged protector

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Thank you

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