



Hot Sleeves – Remedy for Wall Thinning in Pipelines

A Product Information Sheet by the Plant Engineering Business Unit

Intelligent pigs are increasingly used in pipeline integrity management to assess the integrity of pipeline walls. Depending on their type and size and if safety relevant, the pipe wall defects detected in these assessments need to be repaired.

Previously, pipeline operation had to be interrupted to carry out these repairs. Depending on the pipe's service diameter, repair sometimes involved considerable product losses.

Successful solution: Hot Sleeves

Pipes with defects were generally removed and replaced by a new spool. Alternatively, a split locking ring was welded onto the pipe. This procedure involves considerable efforts, in particular for large diameter pipes, and is not the best method of repair with regard to pipe stress.

In contrast, metal loss or laminations can be efficiently repaired with the „Hot Sleeves“ procedure developed by TÜV SÜD using heat-shrink sleeves.

How does the procedure work?

In the Hot Sleeves procedure, two half shells made of the same material and with the same wall thickness as the pipe to be repaired are fitted around the pipe defect and then evenly heated. The defined heat input causes the shells to expand longitudinally and, after welding of the longitudinal seams, to precisely fit the pipe wall to be repaired.



Subsequent cooling causes the shells to fit snugly around the pipe. Through appropriate dimensioning of the sleeve, any impermissible elongations and stresses up to the permissible upper yield point of the pipe to be repaired can be absorbed.



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Five convincing benefits

- ▶ Repairs are carried out during pipeline operation. Disruptions of operation are avoided.
- ▶ Time and cost-effective repair.
- ▶ Pipe strength lost due to the defect is restored and pipes are returned to the strength of their previous undamaged condition.
- ▶ The procedure can be applied to various defect types and geometries in both the inner and outer pipe wall.
- ▶ Welding is only performed on the sleeves, not on the pipe to be repaired.

TÜV SÜD plant engineering experts boast long-standing experience with national and international pipeline testing and repair projects. Thanks to their intensive participation in the preparation of technical directives and European standards, our engineers are highly familiar with the state of the art and applicable statutory regulations.

Don't hesitate to call us for more information about our procedure. We will be pleased to explain possible forms of cooperation or submit a quotation with no obligation on your part.

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