

## Design and Testing of the Novel Split Sleeve for Branch Connection Repairs Based on Internal Pressure

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Presented article deals with designing of the novel technology for repairing of the defects in branch connections of the gas pipelines. Until now, defects of the branch connections could be repaired mainly by replacing of the damaged area, especially those allied with gas leakage. The most important requirement of new type of repairing technology is maximal allowable operational pressure, which has to be the same as for repaired pipeline. Dimensions of the split sleeve should be thus designed according to required pressure value. In the case of split sleeve for branch connections, dimensions were determined by the static analysis in ANSYS software. Designed sleeve was after manufacturing process subjected to pressure testing by standardised test to confirm requirements of the standards. Pressure test to destruction was performed in order to determine the weakest place of construction. Proposed repairing solution might lead to reducing of the costs for performing of the branch connections repairs.

**Keywords:** Pipeline repair, Branch connection defects, Finite element analysis, Internal Pressure

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