

## New Inspection Technologies for Identification of Failure in the Materials and Welded Joints for Area of Gas Industry

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**Contribution presents new principles of inspection technology for examination of integrity of the gas pipelines material and its welded joints. Information is linked with real output from measuring on gas pipelines and results are compared to conventional NDT methods. Visual control is done as a first non-destructive test in 100% extent for all welds. It must be executed well in advance before all the other tests in order to remove superficial defects and irregularities, which could prevent correct application and evaluation of other tests. It is used to detect superficial defects and geometrical irregularities, especially cracks on the surface of weld or in the heat affected area, elevation of weld, undercuts in transitions to base material, defects in the root of weld, if it is accessible from pipe's inner side, including inadmissible offset of weld surfaces from pipe's outer side and their continuity of transition to the weld. The following are the tests to detect internal defects radiographically, respectively by an ultrasound and tests to detect superficial cracks for branches, necks and fillet welds.**

**Keywords:** Gas industry, NDT, Phased Array, OmniScan

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