

## POSITIVE MATERIAL IDENTIFICATION (PMI) TEST

These procedures describe the method of execution and extend of examination of Stainless Steel components. This test is a physical evaluation of a material which has been or will be placed into service is consistent with the selected or specified alloy material designated by the specification.

This evaluation or test may provide qualitative or quantitative information that is enough to verify the nominal alloy composition

Applicable norm is the API 578

The PMI verification will be carried out only on accessible areas. The inspection is done on each single component: one analysis for each piece tested.

The verification shall be carried out using a portable spectroscopic, optical analyzer. The calibration of instruments is done using a set of materials samples certified 3.1 with a certain chemical composition.

All inspected parts shall be marked immediately after the test with an indelible marker.

The test results shall be recorded on a suitable certificate and is an attachment to the material certifications.

Portable spectroscopic, optical analyzer are considered safe instrument, but the instrument cannot be used with open emission window directed towards the operator or any other person. The instrument cannot be used by pregnant or suckling women.

The operator shall ascertain that an yperson shall be at no less than 1 meter from the location of the instrument during its use. The protection devices shall not be modified or removed.

### Sample preparation

The sample preparation is very important, the accuracy of the analysis depends on it. The surfaces must be free from grease, oil, dirt, oxidation and fingerprints.

### Limits of the PMI test

A considerable deviation in the analysis may be caused by unfavourable shape of the surface at the inspected piece, e.g. a ball or stem of a ball valve of diameter less than 2"

The indication of the carbon content value is limited to 0,02%. For DUPLEX steel 1.4462 (A182 F51) the max content of carbon is 0,03%, thus the indication may be imprecise.

Test on coated surfaces (hard coatings or corrosion resistant coating) may not work