

2.3 Non-destructive and destructive testing



Fig. 2.3_1: Dye-penetrant test



Fig. 2.3_2: Tensile test as one possible destructive test

Non-destructive tests

At BUTTING we use all the modern testing procedures:

- X-ray tests
- Radioscopy (supported by image conversion)
- Digital X-ray testing
- Eddy-current testing
- Ultrasonic testing for longitudinal welds and steel plates
- Water pressure testing
- Endoscopy
- X-ray fluorescence analysis
- Surface roughness measurements
- Crack testing using helium leakage tests, dye-penetrant tests and magnetic powder inspection tests

Ultrasonic testing system for steel plates at BUTTING

Test range of the system: 100 % surface test
 Lengths of steel plate: 2 000 mm – 13 000 mm
 Widths of steel plate: 500 mm – 3 800 mm
 Thicknesses of steel plate: 10 mm – 50 mm
 Maximum weight of steel plate: 12 t

Ultrasonic testing system for longitudinal welds at BUTTING

Test range of the system: longitudinal welds
 Pipe-lengths: maximum 12 500 mm
 Diameter: 150 mm – 600 mm
 Wall thickness range: 10 mm – 50 mm

Destructive tests

Our materials testing laboratory is the center of competence in the production process. We perform the following tests:

- Corrosion tests
- Hardness tests
- Ferrite determination
- Tensile tests with fine-scale deformation measurement
- Hot tensile tests
- Bend tests
- Charpy impact tests (including at low temperatures)
- Technological tests
- Metallographic examinations
- Spectral analysis



Fig. 2.3_3: Ultrasonic testing already during goods inwards inspection