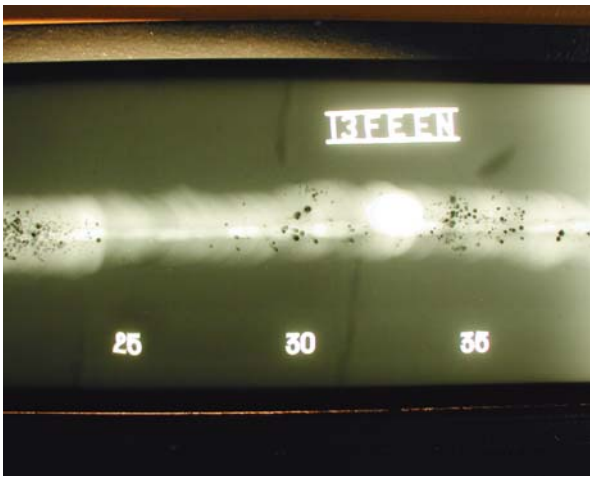
BTW INSTYTUT GAMMA

RADIOGRAPHIC TESTING

- Evaluating conditions of welds, brazing and adhesive joints of different metals and materials
- Heated materials up to 400°C
- Materials and joints covered by insolation
- Angle joints, branches and tube sheets



- Evaluation level of erosion and corrosion in the bends of pipes, storage tanks and vessels with non-metallic coatings
- Castings and forgings of Stainless Steel, Carbon Steel and all kinds of metal alloys
- Plastics, rubber, composites, wood and ceramic components
- Detecting non-metallic inclusion in pipes, valves and fittings
- Determination of residual thickness using Gamma or X-rays and location of defects in heavy density materials
- Macro radiography of electronic elements
- Examining sculptures and works of art
- Vehicle identification number

ULTRASONIC TESTING

Ultrasonic inspection using both longitudinal and shear wave probes is a cost-effective way to insure product conformance. Collaboration with the highly specialized manufacturer of probes assures a high quality technique of testing. Digital instrumentation assists in producing results that are both accurate and fast. All calibrations are stored in the instrument to allow for quick changes of probes. Our highly skilled team of engineers and technicians gives our clients the confidence needed to assure them that accurate test results are achieved.
Some of the commonly inspected items are:

- Welded, brazing and adhesive joints
- Castings and forgings
- Quality of multi-layered coatings
- Shafts and bars for internal defects
- Plate lamination checks
- Steel thickness measurement
- Evaluation of material degradation
- Ultrasonic testing in temperatures above 250°C

MAGNETIC PARTICLE TESTING

BTW Instytut Gamma performs Magnetic Particle Inspection on a broad range of applications, both in-house and in-the-field locations using a variety of equipment and techniques. Ideal for locating discontinuities at or near the surface of ferromagnetic materials, MT can find cracks and other flaws that are not detectable by visual inspection. Using yokes, prods or coils or a permanent magnet to magnetize material in multiple directions, we inspect surfaces to find any discontinuities - defects. Testing can be performed in visible or UV light. With this highly sensitive and cost-effective inspection method, customers are assured of an adherence to industry quality standards. MT is a one of three surface non-destructive testing methods used for welds, castings, forgings but only for ferromagnetic materials.

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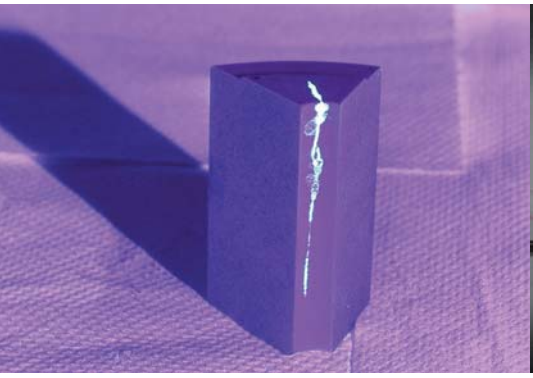

MT method uses:

- Color contrast in visible light
- Fluorescent particles in ultraviolet light
- Current or flux magnetization
- Permament or electro magnets

DYE PENETRANT TESTING

Our laboratory performs Liquid Penetrant Inspection on a wide range of materials and applications, both in-house and on-the-field locations. Penetrant testing is used to test ferrous and non-ferrous materials such as aluminum and stainless steel. Liquid penetrant inspection has been an industrial testing standard and it is one of the most reliable, efficient, and cost-effective methods for detecting surface flaws in non-porous materials that may not be detected by standard visual inspection methods. As in the magnetic method, PT testing can be perform in visible or ultraviolet light.

Different testing methods are available ranging from visible red/water washable penetrant systems to complex emulsifier penetrant systems. Various sensitivities are selected based on the product and customer requirements. The most important limits for using PT is a temperature below 5°C and bad weather. Surfaces for testing should be very clean. We are experts in setting up specific testing programs for our clients.

Common uses would be:

- Welds, castings and forgings from ferrous materials
- Non-ferrous parts can readily be tested using this method
- Aircraft components
- Non-ferrous castings
- Finished machined components

VISUAL TESTING - VT

Visual inspection with or without optical aids is the original method of non-destructive testing. Many defects are cracks and can be detected by careful direct examination.

Optical aids include magnifiers, microscopes, mirrors or telescopes and also specialized devices such as borescopes, endoscopes or videoscopes for the inspection of restricted access areas. A fully registered VHS or digital recording system is very convenient for precise analysis and comparisons. Much of the success of visual inspection depends on the surface condition and the lighting arrangements. Remote photography and video, may be used for various applications such as the internal inspection of pipes, pressure vessels or valves.

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