

1.1.11. STATIONARY AND MOBILE MAGNETIC PARTICLE TESTING BY THE EXAMPLE OF PIPES AND RAILWAY WHEELS INSPECTION

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Magnetic particle testing (MT) is one of the oldest and simplest Non Destructive Testing (NDT) methods but at the same time the most sensitive, reliable and effective one for the surface inspection of ferromagnetic objects. By parts production and routine maintenance both stationary and mobile MT equipment is needed. The subject of this paper is the application of different magnetic particle testing techniques by the example of pipes and railway wheels inspection. By stationary equipment application the contactless magnetization of surfaces under test is being performed by means of special solenoidal coils, what allows to detect surface defects of any direction. The new hand yokes or cross yokes with integrated UV or white light sources are being used for mobile inspection. The tangential field strength on the test surfaces is more than 24 A/cm. This equipment application allows to detect fast and reliably surface defects with a width less than 2 μm .