

MAGNET PARTICLE TESTING



FOR ALL YOUR INSPECTION NEEDS



The magnetic particle examination method may be applied to detect cracks and other discontinuities on or near the surfaces of ferromagnetic and electrically conductive materials.

Magnetic particle techniques thus allow the detection of surfacebreaking cracks in steel objects of complex geometry, which typically is a challenge for RT methods.

The sensitivity is greatest for surface discontinuities and diminishes rapidly with increasing depth of subsurface discontinuities below the surface. Typical types of discontinuities that can be detected by this method are cracks, seams, laps, cold shuts

Direct current (DC) and alternating current (AC) are both suitable for magnetizing parts for MT. The primary difference between the two currents is the fields generated by DC penetrate the cross section of the part, and the fields generated by the AC are confined to the metal at or near the surface of the part. Therefore, AC should not be used for subsurface discontinuities.

Prior to each magnetic particle examination, the surface to be examined and all adjacent areas within at least 1 in. (25 mm) shall be dry and free of all dirt, grease, lint, scale, welding flux, weld spatter, paint, oil, and other extraneous matter that could obscure surface openings or otherwise interfere with the examination.

