



Magnetic particle inspection (MPI)

Is the material in your equipment and your products of sufficiently high quality to be launched on the market? Can you guarantee the safety and longevity of your products? Our specialists will carry out the necessary checks to detect errors in magnetisable materials such as iron and steel, in order thereby to ensure a higher quality product.

Your tailor-made solution

Magnetic testing is used to visualise defects on the surface of magnetisable materials. In new structures, magnetic particle inspection can be used to detect cracks, metal overlaps, bonding defects, etc. during the various stages of manufacturing, in raw materials as well as in preparations for welding, and in welding joints. Magnetic particle inspection can also be used to detect fatigue cracks (caused by metal fatigue) in systems that are in use.

Magnetic particle inspection makes it possible to visualise defects that are located on the surface as well as just under the surface. This can only be done in case of magnetisable materials such as iron and steel. A magnetic field is generated in the object to be tested.

In welding inspection, this is usually done using an electromagnet or Yoke, but also through magnetising cables (e.g. for turbine rotor blades) or prefabricated coils (e.g. for bolts or shafts). The magnetic field is disturbed at places where the material contains cracks and other damage. These disturbances are visualised with the help of magnetic coloured or fluorescent ink applied during the magnetisation process.

Your result

This inspection is essential for your materials and can offer you numerous advantages:

- Inspection of ferromagnetic pieces: this method takes less time than penetrant testing.
- Low-cost
- On site measurement is possible (testing therefore need not be carried out in a laboratory.)
- It allows investigation on relatively rough surfaces, provided the effectiveness of the method was proved through a demonstration test (special cases).
- Can only detect defects on and just below the surface.
- Can be used on painted pieces, provided a demonstration test is carried out

Please note

Norms and Standards

ASME, EN and ISO standards

In which situation?

Vinçotte would be happy to deploy its specialists for industrial projects as well as for SMEs and the government.