



Eddy Current Test (ECT)

Are you using conductive materials that are subject to forces, vibrations, voltages, leading to defects? Or do you expect corrosion? Vinçotte helps you do everything required for the inspection of your conductive parts.

Your tailor-made solution

Thanks to these various inspections, various targets can be achieved: the detection of defects in the surface or near the surface, the sorting of materials and derivatives, thickness measurement of non-magnetic materials, thickness measurement of covering layers (cladding), etc.

As regards the detection of defects close to the surface, the eddy current penetration depth and therefore the testing depth directly depends on the electrical and magnetic properties of the material to be tested (from a few hundred microns for steel, to a few millimetres for aluminium), and also on the excitation coil frequency.

The various tests with eddy currents can be carried out using various techniques: the tests can be carried out manually, semi-automatically or fully automatically (through which an accurate mapping of any indications can be made).

Examples

- Inspecting welding seams
- Inspection for corrosion
- Characterisation of the material
- Inspection of tubes, pipes, bars or profiles
- Inspection of rivets
- Measurement of thickness of steel plate
- Measurement of thickness of coating
- Crack detection

This service offers you the following benefits:

- The use of products is unnecessary (no couplant, no chemicals, etc.)
- Possibility of substituting tests with a penetrant test (PT) in the zones that cannot be accessed
- No contact required
- Possibility of dimensioning cracks (up to a few millimetres for conventional eddy current tests and 10 mm for ACFM/TECA tests)
- Possibility of working under water
- Inspection of the finished product without surface degradation (no need to strip the surface to be inspected);
- High detection sensitivity
- Productivity (possibility of high flow rates and/or a broad coverage of the multi-element probe = ECA)
- Recordings for an accurate mapping of the indications and a computerised treatment;
- Possibility of combining this technique with other inspection techniques that use automated ultrasounds (for example, in nuclear power plants);
- High mobility (portable equipment and autonomous operation)

Vinçotte can also carry out advanced, tailor-made checks, in which connection, the equipment if any required can also be developed (scanner and probes), and specific procedures can also be implemented.

Your result

Please note

The development and production activities are covered under our ISO 17020 and ISO 17025 accreditations. Thereafter, work can be done in accordance with all international standards. EN ISO 17643 (old EN 1711), EN ISO 2360, ASME V, etc.

In which situation?

This service can be applied in various sectors:

- The mechanical manufacturing sector;
- Aerospace and aeronautical sector;
- Petrochemical sector;
- Energy generation sector (nuclear and conventional);
- Automobile sector;
- R&D departments and consultancy firms