



Tangential Eddy Current Array (TECA)

This is an alternative to conventional methods like Magnetic Testing (MT), Penetrant testing (PT), Alternating Current Field Measurement (ACFM) and conventional eddy current testing (ET) for the purpose of detection and dimensioning of surface cracks (fatigue cracks and SCC (stress corrosion cracks)) in the length as well as in the depth.

Carbon still remains a challenge in the field of non-destructive testing. Carbon steel (CS) is widely used in industry. It is relatively cheap, easy to weld and has good mechanical properties. On the other hand, carbon steel welds tend to crack, and these cracks sometimes remain well hidden under layers of paint and coatings. Conventional methods have their limitations as regards surface preparation, low inspection speeds and limited scope for data recording and interpretation. In addition, carbon steel is ferromagnetic, which means less to no penetration by conventionally generated eddy currents.

Your tailor-made solution

The new design of the coils in this patented technology enables the detection and dimensioning of surface cracks on carbon steel welds, in which covering/coating (paint or coatings) up to 3 mm is permitted. A probe in a coded matrix configuration (Array/Multi elements) extends the coverage of the test, by simultaneously scanning the weld as well as the zone affected by heat. The user-friendly software enables the real time measurement and compensation of lift-off (coating). Cracks up to a depth of 10 mm can be assessed with high precision.

Your result

This technology offers you the following advantages:

- Limited surface preparation required;
- This is a non-contact method that enables the investigation on coated surfaces (lift-off of up to 2 to 3 mm permitted);
- Live Lift-off measurements and compensation;
- Assessment of dimensioning of cracks in the length and the depth (up to 10 mm in the depth);
- Detection sensitivity is similar - if not better - than conventional methods;
- Productivity (possibility of high flow rates and/or a wide coverage with multi-element probes);
- Recordings for an accurate mapping of the indications and a computerised treatment.

Please note

Thereafter, work can be done in accordance with all international standards.

In which situation?

This service is relevant to the following sectors:

- The mechanical manufacturing sector
- Petrochemical sector
- Energy producing sector
- Off-Shore structures
- Piping companies