MME your reliable partner in TOFD examination

TOFD is the abbreviation of Time of Flight Diffraction, currently the most promising ultrasonic technique for the detection of defects in materials. Conventional ultrasonic examination, also called Pulse Echo Technique, is based on the processing of reflected signals. By applying TOFD, the signals diffracted from the flaw’s extremities are detected and processed using dedicated software. The application of TOFD allows for better weld defect identification, location and more accurate sizing resulting in a higher reliability of the inspection results. Due to these advantages the application of TOFD as a stand alone NDT Technique has increased rapidly – The European code EN583-6 calls it the “the tool of the 21st century”

Multifunctional
MME has the ability to use TOFD in combination with various other non destructive disciplines (radiographic inspection, conventional ultrasonic, MPI, dye penetrant, eddy current). TOFD is used in many areas. In the marine industry for example as well as for pressure equipment and in civil engineering such as bridges etc. The components to be tested could be: welds, forgings, castings etc. The TOFD equipment used by MME has been especially designed to be used in combination with rope access climbing techniques so that testing in remote areas can be carried out. TOFD is safer than radiation and therefore the evacuation of working areas is not necessary. This means less interruption in the production process during pre-service as well as in-service inspections causing fewer logistical problems during manufacturing. TOFD is an environment friendly way of working.

Why choose the MME Group?
The MME Group is fully committed to Quality, from the laboratory testing of materials to the non destructive testing of installations or the inspection of ships, our experienced specialists, having access to the latest equipment and multifunctional disciplines, guarantee the highest standards of reliability. MME has over 200 experienced inspectors working world wide daily. – A longer Life – MME’s mission purpose, is practiced daily by our dedicated staff.
Advantages of TOFD in a nutshell

- TOFD defect detection capabilities do not depend on the defect orientation like pulse echo techniques do;
- In addition to the radiographic methods, planar defects and cracks, not perpendicular to the tested surface, can also be detected;
- TOFD has a higher Probability of Detection (POD) and a better accuracy in sizing defects than other stand alone techniques;
- The evacuation of areas due to the risk of radiation is not necessary;
- The inspection results are immediately available as a permanent record which can be printed, providing both longitudinal and transversal projections of a weld or component;
- It can be used in a wide range of thicknesses (from 8 mm to 200 mm);
- When applied in-service TOFD saves costs, as it is possible to differentiate pre-service and in-service defects allowing the unit to stay in production safely and for a longer time.