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Time-of-flight diffraction (ToFD) Ultrasonic Testing

TOFD ultrasonic testing (UT) is typically used in conjunction with a a phased-array application as a rapid screening tool for the detection and sizing of circumferential- and axial-weld imperfections. In ToFD ultrasonic testing, the ToFD NDT setup involves placing two transducers on opposite sides of the area to be inspected. Sound waves are then refracted into the specimen at angles appropriate to component thickness.

THE Applus+ SOLUTION

Applus+ has developed proven procedures for ToFD ultrasonic testing and inspections in accordance with applicable codes. Our technicians are rigorously trained and assessed, on data acquisition and interpretation, both internal and external assessment.

Target customers

Applus+ can deploy ToFD NDT and ultrasonic testing for a variety of equipment and across a vast range of asset integrity inspection programmes, including:

- Upstream
- Midstream
- Downstream
- Transport pipelines
- Refining
- New construction
- Power
- Aerospace
- Nuclear
- Offshore

- Maintenance

Key customer benefits

Time-of-flight diffraction technique is highly sensitive and can detect multi-oriented indications not typically or easily detected by conventional means. ToFD ultrasonic testing is also considered one of the fastest methods of non-destructive testing available for the level of information obtained.