



TECHNICAL DATA SHEET

MTD

Magnetic Thickness Detector

The Magnetic Thickness Detector (MTD) measures variations in the thickness of tubing, casing and liner through the application of Pulsed Eddy Current (PEC) sensor technology. Four discrete sensors are housed within a slim tool body to simultaneously quantify metal loss in the primary, secondary and tertiary well barriers.

A broadband pulse of electromagnetic energy emitted from the tool permeates into the surrounding tubing, casings or liners. The magnitudes of the resulting eddy currents induced within each barrier are measured independently and used to compute the individual average metal thickness of the primary (inner), and secondary and tertiary (outer) barriers.

Four individual electromagnetic sensors are used to discriminate general metal loss, pitting and fractures in both the axial and circumferential planes.

APPLICATIONS:

- Simultaneous quantitative evaluation of the integrity of primary, secondary and tertiary barriers (up to 18 $\frac{5}{8}$ in)
- P&A - identification of casing collars in multiple strings to assist with cut and retrieval operations
- Time-lapse evaluation of well integrity

BENEFITS

- Evaluation of secondary barrier integrity with primary barrier still in place
- Operates in all well fluid types
- Tool flexibility permits passage through small restrictions and varying casing/tubing
- Deployable on Slickline, Electric line, Coil Tubing and Tractor
- Suitable for all well deviations, including horizontal



Specifications

	First Pipe Measurement	Second Pipe Measurement	Third Pipe Measurement
Temperature rating	350°F (177°C)		
Pressure rating	15,000 psi (103 MPa)		
Tool diameter	1 11/16 in (43 mm)		
Tool length	44.3 in (1.125 m)		
Tool weight	12 lb (5 Kg)		
Nominal tubing/Casing range	2.36 - 18 5/8 in (60 - 473.1 mm)		
Logging speed	30 ft/min (10 m/min)	8 ft/min (2.5 m/min)	6 ft/min (1.8 m/min)
Maximum pipe wall thickness	0.9 in (22.86 mm)	0.98 in (25.0 mm)	0.98 in (25.0 mm)
Measuring accuracy	±0.0075 in (0.19 mm)	±0.01 in (0.254 mm)	±0.06 in (1.254 mm)
Minimum aperture	0.5 in (12.7 mm)	1.5 in (38.1 mm)	3.0 in (76.05 mm)
Rotation accuracy / sensitivity	±5 / ±0.1° (Deviation ≥5°)		
Deviation accuracy / sensitivity	±5 / ±0.1°		
Materials	Corrosion resistant throughout		