



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 both the primary and secondary 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 both the primary (inner) and secondary (outer) barriers.

Four individual electromagnetic sensors are used to discriminate general metal loss, pitting and fractures in both the axial and circumferential planes. Integrated high sensitivity fluid temperature and gamma ray sensors are used to locate leak paths and assist in depth correlation.

APPLICATIONS:

- Simultaneous quantitative evaluation of the integrity of primary and secondary barriers (up to 12 ³/₄ in).
- Quantitative evaluation of the integrity of the primary barrier
- Leak detection
- 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
Temperature rating	350°F (177°C)	
Pressure rating	14,503 psi (100 MPa)	
Tool diameter	1 11/16 in (43 mm)	
Tool length*	193.31 in (4.91 m)	
Tool weight*	63.7 lb (28.9 kg)	
Logging speed	12 ft/min (4 m/min)	
Nominal tubing/Casing range	2.36 - 12 3/4 in (60 - 324 mm)	
Pipe wall thickness range	≤0.472 in (12.0 mm)	≤0.98 in (25.0 mm)
Measuring accuracy	±0.0197 in (0.5 mm)	±0.059 in (1.5 mm)
Resolution	0.0059 in (0.15 mm)	0.0118 in (0.3 mm)
Temperature accuracy	±1.80°F (±1.0C°)	
Temperature resolution	0.018°F (0.01°C)	
Temperature response time	≤2 sec	
Materials	Corrosion resistant throughout	

* Includes 2 centralisers, memory module & battery sub