

MSIL™ Multistring Isolation Logging Tool

Evaluates the isolation behind casing without the need to remove production tubing from the well

Applications

- Through-tubing cement evaluation
- Tubing-anomaly identification

Features and Benefits

- Quantify zonal isolation behind casing without removing the production tubing from the well.
- Plan plug and abandonment (P&A) operations on a platform before deploying a rig.
- Eliminate rig standby costs by logging in memory mode on slickline.
- Identify tubing anomalies through frequency analysis while simultaneously logging casing isolation.

Tool Description

The Weatherford MSIL cased-hole multistring isolation logging tool evaluates the isolation behind casing without removing production tubing from the well.

Specifications

Ratings and Dimensions

Maximum temperature	350°F (177°C)
Maximum pressure	20,000 psi (138 MPa)
Outside diameter	3.5 in. (88.9 mm)
Tubular range	Tubing OD: ≥4.5 in. (114.3 mm) Casing OD: ≤13.375 in. (339.7 mm)
Length ¹	8.92 ft (272 cm)
Weight	100 lb (45.5 kg)
Tensile strength ²	Joints and compression: 60,000 lb Torque: 150 ft-lb
Materials	Corrosion-resistant materials throughout

¹The length does not include centralizers. A minimum of two in-line centralizers is required when running the MSIL tool. One centralizer is placed at each end. Add approx. 2.2 ft. (67 cm) for each centralizer.

²Strengths apply to new tools at 70°F (21°C) and 0 psi.



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Specifications (continued)

Borehole Conditions

Borehole fluids	Salt, fresh and oil
Logging speed	Recommended: 20 ft/min (6.1 m/min) Maximum: 60 ft/min (18.28 m/min)
Tool positioning	Centralized and eccentricized

Hardware Characteristics

Source type	Piezoelectric
Sensor type	Omni-directional: Piezoelectric Radial: Piezoelectric with azimuthal sensitivity
Sensor spacings	Receivers: 5 ft (152.4 cm) 3 ft. (91.44 cm)
Firing rate	300 – 1000 ms variable via down-link
Waveform	3ft (91.44 cm), 5ft (152.4 cm), 4 Sectors
Recording time	1280 μ s for each receiver
Connections	Inverted GO (GOI) and 1-3/16-12 UN threads on top and bottom
Acquisition mode	Surface readout or memory

Electrical

Voltage	50 V
Wattage	5 W

Measurement

Radial resolution	90 (4 sectors)
Output	Primary: MSIL curve and 4 sector MSIL map Secondary: Head voltage, internal temperature, and relative bearing (Recommended running in combination with GR/CCL)

