Technical Specification Sheet

RADii® Cement Bond Tool - 1 $^{11}/_{16}$ in.

The small/medium diameter RADii® Segmented Cement Bond Tool uses a single ceramic transmitter, an eight segment receiver at 3 ft. and a single receiver at 5 ft. spacing. The segmented receiver generates a cement map which enables identification of cement channeling while the single receiver generates the traditional cement bond log (CBL) and a variable-density log (VDL).

Ratings & Dimensions

Max Temperature	350°F (177°C)
Maximum Pressure	20,000 psi (138 MPa)
Outer Diameter	1.69 in (43.0 mm)
Length	8.60 ft (2.62 m)
Weight	41 lb (18.60 kg)
Tensile Strength	**Tension & Compression:** 15,000 lb **Torque:** 150 ft-lb
Materials	Corrosion resistant materials used throughout
Measure Points	**Amplitude, TT:** 4.3 ft (1.3 m) **VDL, Signature:** 3.3 ft (1.0 m)

Borehole Conditions

Borehole Fluids	Salt, Fresh and Oil
Tool Positioning	Centralized with one each centralizer above and below
Logging Speed	**Recommended:** 60 ft (18.2 m) /min **Max:** 100ft (30.5m) /min @ 0.08 ft (.02 m) sample rate

Hardware Characteristics

Source Type:	One piezoelectric crystal fired at 20 kHz, 50 msec intervals
Sensor Type	**Omni Receiver:** One 20 kHz piezoelectric **Radial Receiver:** One 8 segment 20 kHz piezoelectric
Fire Rate	20/sec
Waveform	**Analog:** 3 ft (.9 m), 5 ft (1.5 m), **Digital:** Telemetry Data
Record Time	1300µs for each receiver, 250 µs for each sector
Connections	**Top:** 1 $^{3}/_{16}$" 12P type "A" GO box **Bottom:** 1 $^{3}/_{16}$" 12P type "A" GO box
Combinability	GR, CCL, ProMac, iQ, Temperature

Electrical Specification

Current	38 mA @ 130V

Measurements

	E_1 Peak Amplitude	Sonic Waveform
Principle	Sonic Wavetrain Attenuation	
Range	200 to 1500µs	
Resolution	3 ft (.9 m)	5 ft (1.5 m)
Precision (1 SD)	< 1mV	NA
Primary Curves	Amplitude 3ft (.9 m); Individual Sector Amplitudes (3 ft) (.9 m) TT 3 ft (.9m); VDL 5 ft (1.5 m)	
Secondary Curves	Head Voltage, Internal Temperature	

Calibration

Primary	5.5in. (13.97 cm) Pressurized calibration tank
Wellsite Verifier	Free Pipe, Stored Calibration Tank Waveforms on Demand

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