

1 11/16" Radial Bond Tool

The Radial Bond Tool (RBT) facilitates a detailed, qualitative analysis of the zonal isolation achieved by cementing services.

Effective hydraulic isolation from water-bearing formations is crucial to maximise the productivity of hydrocarbon-bearing reservoirs. Poor cementing allows unwanted fluid transfers between zones resulting in the potential for lost or unwanted production.

The RBT allows the detection of poor cement conditions before perforating, enabling productive measures to be taken. Additionally, its small size, rigid isolator and powerful transmitter allow through-tubing operations after the completion string is in place. In addition to the traditional 3ft amplitude and 5ft VDL, the RBT has a radially segmented, calibrated amplitude measurement. This focuses the transmitted sonic pulse circumferentially, allowing the differentiation of small axial channels as opposed to poor or contaminated cement.

Applications

- Evaluation of cement bond behind casing
- Evaluation of cement to formation bond
- Determination of zonal isolation
- Identification of cement top
- Micro-annulus detection
- Channel identification from cement map

Features and benefits

- Single transmitter, 3ft (near) and 5ft (far) receivers
- 6-segmented radial receiver array for radial imaging
- Variable sampling rates to maximise data acquisition
- Interchangeable telemetry cartridge
- Slotted sleeve design for improved rigidity, strength and acoustic isolation
- Can be deployed through small completions and tubing restrictions to log the liner below (minimum clearance +0.25 inches above tool diameter)
- Fully combinable with other UltraWire and UltraMemory tools
- Memory/Surface Read Out (SRO) capable



Technical specifications		
Temperature	177 Deg C	350 Deg F
Pressure	138 MPa	20000 psi
Tool diameter	43 mm	1 11/16 in
Tool length (make-up)	3.03 m	9.93 ft
Tool length (transport)	3.13 m	10.27 ft
Tool weight	18.1 kg	40 lbs
Supply voltage	18 VDC	
Power/current	50 mA	
Receivers	Piezoelectric crystal	
Signal output	3 ft amplitude, 5 ft VDL and a cement quality map generated by the calibrated 6-segment receiver array	
Measure point		
3-ft Amp	153.9 cm	60.6 in
5-ft VDL	123.4 cm	48.6 in
Logging speed		
@50 Kbps	21 m/min	70 ft/min
@100 Kbps	30 m/min	100 ft/min
Borehole environment	Fluid media (i.e., brine, oil, fresh water, drilling mud)	
Maximum casing/tubing ID	19 cm (7.5 in)	