# Gamma Ray – Casing Collar Locator – Neutron – Inclinometer – Temperature Tool

Provides correlation and formation evaluation information

# Applications

- Through casing porosity
- Gas identification
- Wellbore directional survey

## **Features and Benefits**

- Slim profile for maximum wellbore access
- Compact array of sensors for evaluation of wellbore and reservoir uncertainty

## **Tool Description**

The Weatherford gamma ray – casing collar locator (CCL) – neutron – inclinometer – temperature tool is a compact tool for through-casing evaluation of certain reservoir parameters that can be accurately correlated and understood together with the well geometry.

# **Specifications**

Ratings and dimensions

Maximum temperature	350°F (177°C) for 4 hours
Maximum pressure	20,000 psi (138 MPa)
Outer diameter	1.69 in. (42.93 mm)
Length	96.46 in. (2450.084 mm)   (M/U length 94.67 in. (2404.62 mm)
Weight	35.0 lb (15.9 kg)
Minimum casing/tubing OD	2.38 in. (60.45 mm)
Maximum casing/tubing OD	7.0 in. (178.0 mm)
Tensile strength*	Tension: 65,000 lb Compression: 130,000 lb Torque:150 ft-lb
Measure points	GR: 84.79 in. (2,153.67 mm) CCL: 42.37 in. (1,076.2 mm) NEU: 14.67 in. (372.62 mm) INC: 57.54 in. (1,461.52 cm) TEMP: 51.48 in. (1,461.52 cm)

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





# Gamma Ray – Casing Collar Locator – Neutron – Inclinometer – Temperature Tool

## Specifications, continued

Borehole conditions

Borehole Fluids	Salt, fresh and oil
Logging Speed	Recommended: 60 ft/min (18.2 m/min) Maximum: 100 ft/min (30.5 m/min) at 0.08 ft (.02 m) sample rate

### **Electrical specifications**

Operating V / Current	130V DC at 45 mA
-----------------------	------------------

#### Hardware characteristics

	Gamma Ray	Casing Collar Locator	Neutron	Inclinometer
Sensor Type	Thallium activated sodium iodide crystal	Dual magnet, center coil	Helium-3 filled neutron detector	3-axis accelerometer
Transmission Type	Digital telemetry	Line wobble or telemetry	Digital telemetry	Digital telemetry
Data Rate		20 frames / sec at 20 kHz		
Combinability	RADII and CBT (bottom only)			
Connections	GO top, Source sub bottom (no feedthrough)			
Temp Specs	Sensor: RTD (1000)   Trans Type: Digital telemetry   Prim Curve: Temp (°F/C)   Calibration: 2pt linear			

#### Measurements

Principle	Natural Gamma Radiation	Magnetic Flux Lines	Thermal Neutron Detector	Gravity Vector
Range	0 to 10,000 cps	2.38 to 7.0 in. (60.452 to 178.0 mm)	200 to 2,000 cps	± 2 g
Vert resolution	6.0 in. (152.5 mm)	NA	NA	NA
Accuracy (1SD)	± 5%	NA	± 0.07%	± 0.5 degrees
Sensitivity	~0.998 cps/API unit	NA	15 cps/nv	900 lsb/g
Primary curves	GR (API)	CCL (mV)	NEU (API)	Inclination
Secondary Head voltage, Internal temperature (telemetry o		perature (telemetry only)		

### Temperature measurements

Accuracy (+/-)	0.898°F (0.5°C)
Response time	0.5 seconds
Resolution	0.0018°F (0.001°C)



#### weatherford.com

© 2024 Weatherford. All rights reserved. 13778.00

Weatherford products and services are subject to the Company's standard terms and conditions, available on request or at weatherford com. For more information contact an authorized Weatherford representative. Unless noted otherwise, trademarks and service marks herein are the properly of Weatherford and may be registered in. the United States and/or other countries. Weatherford products named herein may be protected by one or more U.S. and/or foreign patents. Specifications are subject to change without notice. Weatherford sells its products and services in accordance with the terms and conditions set forth in. the applicable contract between Weatherford and the client.