Elcometer 207 Precision Ultrasonic Gauges

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At a glance

- *Robust, easy to use precision ultrasonic thickness gauges, ideal for thin substrates.*
- *Available in basic and memory versions.*
- *Can also measure thicker materials using the interface - echo mode.*

Elcometer 207 Precision Ultrasonic Gauges
The Elcometer 207 series of Precision Ultrasonic Thickness Gauges are designed to provide accurate measurements on thin materials.

Using the latest transducer designs - the single element delay tip transducer - the Elcometer 207 gauges will measure thin materials in "Echo-to-Echo Mode" and then automatically switch to "Interface Echo Mode" when measuring thicker materials and plastics. Furthermore, the Elcometer 207's Echo-to-Echo Mode offers the user the ability to measure the materials' thickness WITHOUT removing the paint or coating.

All Elcometer 207's and 207DL's now have a new operating mode, the PLAS Mode. This mode has been specifically designed to provide accurate readings when measuring thin plastics.

- Two calibration options - Speed of Sound, Calibration to a known thickness.
- Backlight display on both versions.
- Data output available on both versions.
- 1000 reading memory in up to 10 batches (Elcometer 207DL only).
- EDTS+ Excel Link supplied free of charge with the Elcometer 207DL.
- Can be used with EDCS+ Coating Thickness Management Software.

Material Thickness
The thickness of materials cannot always be determined by direct measurement as access to both sides is not always possible.

The effects of corrosion and erosion at the back of a metal panel may reduce its thickness significantly yet not affect the front surface. Pipelines, for example, may appear corrosion free on the outside but can be eroded by the flow of material on the inside.

Machined or cast items may have thin walls that cannot be determined by callipers or other not-destructive tests.

Maximum Measurement Range	0.15-25.4mm (0.006-1.00") steel
Velocity Range	1250 - 10000m/s (0.0492 - 0.3937 in/µs)
Accuracy	±0.002mm (±0.0001") - depends on material and conditions
Resolution	±0.002mm (±0.0001")
Units	millimetres and inches
Operating Temperature	-30 to 50°C (-20 to 120°F)
Keypad type	Sealed Membrane
Display	4½ Digit Liquid Crystal Display with Backlight
Transducer	Each unit is supplied with 15MHz, 6mm (¼") microdot right angle transducer
Power	AA 1.5V Alkaline or 1.2V NiCad cell
Battery Life	200hrs Alkaline (120hrs NiCad)
Weight	295g (10oz)
Size	63.5 x 114.3 x 31.5 mm (2.5 x 4.5 x 1.24")
Case Type	Extruded aluminium

	Elcometer 207	**Elcometer 207DL**
Interface-to-Echo Mode	●	●
Echo-to-Echo Mode	●	●
PLAS† Mode	●	●
High Speed Scan Mode	●	●
Differential Mode	●	●
Alarm Mode	●	●
Data Output	●	●
Data-Logging		●
EDTS+ Excel link Software	**o**	●
EDCS+ Software	**o**	**o**
Part Numbers	C207----1	C207DL----1
Accessories	Transducer Delay Line (for PLAS Mode)	T92016871
	Ultrasonic Couplant (160ml)	T92015701
● = Included **o** = Optional		
†To use the PLAS Mode, a special Graphite Delay Line is required which must be ordered separately, Part Number T92016871		

ELCOMETER 207 AND 207DL PRECISION ULTRASONIC TRANSDUCER																		
Measurement Range (in steel) mm (inches)	**Material**								**Probe Type**							**Part Number**	**Frequency MHz (Colour Code)**	**Crystal Diameter** mm (inches)	**Wearface Diameter** mm (inches)
	Cast Iron	Plastic	Glass Fibre	Thin Glass Fibre	Steels	Glass	Thin Plastic	Aluminium	Potted	Straight Probe	Right Angle Probe	Microdot	High Temp (340°C/650°F)	Extra Resolution	Exxon Specification				
0.15 – 25.4 (0.006 – 1.0)	●	●			●	●	●	●			●	●				T92016526	15.0 (green)	6.35 (¼)	7.42 ($^{5}/_{16}$)

The Elcometer Ultrasonic Thickness Gauge Features Explained

Interface-to-Echo Mode	In interface-to-echo mode, the gauge can take readings on thicker plastics and other materials between 1.65mm and 25.4mm (0.065" to 1")
Echo-to-Echo Mode	Measurements can be taken on materials as thin as 0.15mm (0.006 inches). In echo-to-echo mode, the user can take measurements on pre-coated materials without having to remove the coating prior to measurement i.e. the gauge ignores the coating thickness.
High Speed Scan Mode	Identifies the minimum thickness point over a large area by moving the transducer over the surface. While the transducer is in contact with the material being measured the smallest value is held in memory and displayed when scanning is complete.
PLAS Mode	Specifically for use when measuring thin plastics. Please note that to use this mode, a special Graphite Delay Line must be purchased, Part Number T92016871.
Differential Mode	Displays the positive or negative difference between a pre-set nominal (target) thickness value and the actual measured value.
Alarm Mode	Allows the user to set a target so that an audible and visual alarm operates when taking measurements. If the measurement falls below a pre-set nominal (target) value a red LED will light and the bleeper sounds. A green LED will light to indicate an acceptable thickness.
Data Output	Allows the user to send data direct to a printer or PC.
Data-Logging	A storage capacity of 1000 measurements – 10 files consisting of 100 sequential storage locations. Allows the user to send data direct to a printer or PC.
EDTS+ Excel link Software	PC data transfer utility including generator of ASCII files and “data drop” add in for Microsoft Excel™ spreadsheets.
EDCS+ Software	Stand alone data management program with advance facilities for archiving, reporting, analysis and data export.

Related products

Elcometer 205/206

These robust, hand held instruments are used for measuring the thickness of materials where access to only one side of the test piece is available. Many different materials can be measured including steel, cast iron, plastic, epoxy resin and glass fibre, etc.

Elcometer 208

The Elcometer 208 and 208DL are simple to use hand held Ultrasonic Thickness Gauges with the capability to measure material thickness whilst eliminating the thickness of the coating (on metal substrates only) making these the ideal gauges for measuring the thickness of the metal substrate without worrying about taking into account the thickness of the coating in your measurement.

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