Ultrasonic Thickness Gauge

5-Year Warranty NIST TRACEABLE

The new PHASE II UTG-1500 is a hand held microprocessor controlled ultrasonic thickness gauge specifically designed for measuring the thickness of metallic and non-metallic materials such as aluminum, titanium, plastics, ceramics, glass and any other good ultrasonic wave-conductor as long as it has parallel top and bottom surfaces. With uses in many areas of industry, the UTG-1500 ultrasonic thickness gauge can perform precise thickness measurements on various types of raw materials, component parts and assembled machinery. It can also be used to monitor all types of pipes and pressure vessels for loss of thickness due to corrosion or erosion.

The UTG-1500 ultrasonic thickness gauge is extremely easy to use. After a simple calibration to a known thickness or sound velocity, the gauge will give accurate readings in inches or millimeters.

Ultrasonic Wall Thickness Gauge Measurement

The use of Ultrasonic non-destructive testing (NDT) to check material properties such as thickness measurement, is now extensively used in all facets of industry. The ability to gauge thickness measurement without requiring access to both sides of the test piece, offers this technology a multitude of possible applications. Metals, plastics, ceramics, glass and other materials can easily be measured by portable ultrasonic thickness gauges with a common accuracy of.001".

Ultrasonic thickness gauges measure the thickness of a part by measuring the time sound travels from the transducer through the material to the back end of a part, and then measures the time of reflection back to the transducer. The gauge then calculates the thickness based on the velocity of sound through the material being tested.

A broad variety of piezoelectric transducers, operating at given frequencies are utilized to generate sound when excited. Typically, a 5mhz frequency is standard on all Phase II Ultrasonic Thickness Gauges. Optional transducers are always available for a myriad of applications.

The direct contact method of pulse/echo type ultrasonic thickness gauges requires use of a couplant. Propylene Glycol is common, but many other substances can be used.

Easy to configure and use, many gauges today have the ability to retain memory, output to printers, PC's, and handheld portable devices. With the combination of an easy menu driven gauge and the data in memory, technician/operators have a world of technology at their fingertips to obtain highly accurate and cost effective measurements for all types of thickness applications.

Technical Specifications

Display type	Large 4-digit LCD
Minimum display unit	0.001" / 0.1mm
Measuring range:	0.040" - 8in. (0.1mm-200mm) in steel w/standard probe(other values depending on material)
Lower limit steel pipes	Min. dia. 0.8in. x 0.1in. (20mm x 3mm)
Display accuracy:	+-0.1mm
Sound velocity range	1640 - 29,527 ft/s (500 - 9000m/s)
Operating temperature	32-122 degrees F (-5 - 40 degrees C)
Frequency	5MHz
Update range	4Hz
Power supply	1.5v AA alkaline batteries (4pc)
Battery life	Approx. 250 hours / battery set
Dimensions	4.9 x 2.6 x 0.9in. (161x 69 x 32mm)
Weight	0.7lbs (300g)
Operating current	<20mA (3V)

Table of basic sound velocity of various materials

Material	**Sound velocity (m/s)**
Aluminum	6260
Iron	**5900**
Copper	4700
Brass	4640
Zinc	4170
Silver	3600
Gold	3240
Tin	3230
Glass	2350

The UTG-1500 Ultrasonic Thickness Gauge comes complete with compact durable carry case, 5MHz probe, coupling gel and operation manual.

ULTRASONIC WALL THICKNESS GAUGE RESOURCES

- ULTRASONIC THICKNESS GAUGE ACCESSORIES
- PRINCIPLES OF ULTRASONIC THICKNESS GAUGE MEASUREMENT
- ULTRASONIC THICKNESS GAUGE APPLICATION PAGE
- ULTRASONIC THICKNESS GAUGE UTG-2000/2020 CALIBRATION GUIDE
- ULTRASONIC VELOCITY CHART
- PHASE II SAMPLE EVALUATION SHEET
- NIST LINKS
- ASTM LINKS