

Digital Ultrasonic Thickness Testers

Time TT2110



TT2110 is a hand held microprocessor controlled thickness gauge specifically designed for measuring the thickness of metallic and non-metallic materials e.g. aluminium, titanium, plastics, ceramics, glass and other good ultrasonic wave-conducting as long as the material has parallel top and bottom surfaces.

With uses in many areas of industry TT2110 can perform precise measurements on various types of raw materials, components 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.

TT2110 is very easy to use, after a simple calibration to a known thickness or sound velocity, the gauge will give fast and accurate readings in millimetres. Sound velocities for 5 different materials can be pre-set and 10 thickness readings can be stored in the memory.

Specifications

Material :	Metallic & Non-Metallic	Measuring units :	mm
Range (probe dependant) :	1.2 to 225.0 mm	Frequency :	5 MHz
Accuracy :	+/-1% of Material Thickness + 0.1 mm	Display :	4 digit LCD
Resolution :	0.1 up to 99.9 mm	Memory :	10 readings
Sound velocity range :	1000 to 9999 m/sec	RS232 :	no
Probe Tip diameter :	12 mm	Sound Velocity :	5 Preset Sound Velocities
Pipe Diameter Limits :	20 mm x 3 mm	Auto power off :	yes
Working Temp. :	-5 to 40 deg C	Power Supply :	2 x 1.5 AA Alkaline
Relative Humidity :	< 90%	Alarm limit setting :	no
Surface Temperature :	< 60 deg C	Battery Life :	250 hours per battery set
Non-linear Automatic Compensation		Dimensions :	126 x 68 x 23 mm
Indication of Coupling Status and low Voltage		Weight :	170g

Optional probes

Type of Probe	Working Frequency	Measuring Thickness Range	Minimum Size of Measuring Pipe	Characteristic
5PØ10	5MHz	1.2 - 225	Ø20 x 3	Straight Probe
5PØ10/90°	5MHz	1.2 - 225	Ø20 x 3	Right Angle Probe
7PØ6	7MHz	0.75 - 60	Ø15 x 2	For testing thin materials
SZ2.5P	2.5MHz	3 - 300		For testing thick materials with Rough Surfaces
ZW5P	5MHz	4 - 80		High Temp up to 300 deg C

Standard Package

- Plastic case – foam lined with Combination Lock
- **2 Probes – Straight & Right angle – both 5 MHz**
- Coupling Agent – (Vaseline or Grease Hand Cleaner will also give accurate readings)
- Instruction Manual



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Standard Velocity in Materials

for Ultrasonic Thickness Gauges

Metals		m/s			m/s
A	Aluminium	6 320 - 6 400	M	Molybdenum	6 250 - 6 300
	Aluminium 2024-T4	6 380		Nickel	5 480 - 6 040
	Asbestos Cement	2 200		Platinum	3 960
B	Beryllium	12 890	S	Silver	3 600 - 3 700
	Bismuth	2180		Silver - German	4 750
	Boron Carbide	10 920		Motor Oil (SAE 30)	1 750
	Brass	3 800 - 4 700		Steel, Mild	5 900 - 6 100
C	Cadmium	2 770 - 2 800		Steel, Casting	5 850
	Cast Iron	3 500 - 5 600		Steel, Stainless (Austenitic)	5 660 - 6 120
	Cast Iron (Modular Graphite)	5 600		Stellite	7 050
	Cast Grey Middle	4 600	T	Tin	3 300 - 3 330
	Constantan	5 230		Titanium	5 900 - 6 100
	Copper	4 650 - 4 720		Tungsten Carbon	6 650
	Chromium	6 200		Tungsten	5 180 - 5 400
G	Gold	3 200 - 3 250		Uranium	3380
	Inconel	5 820	W	Water	1 470
	Iron	5 890 - 5 930		Wolfram	5 460
	Lead	1 960 - 2 400		Zinc	4 170 - 4 320
M	Manganese	4 660 - 4 700		Zircaloy 2	4 700
	Magnesium	5 770 - 5 840		Zirconium	4 650
	Mercury	1 450			
Non-Metal					
A	Acrylic	2 870	N	Nylon	2 600 - 2 690
	Acrylic Resin	2 730 - 2 870		Oil (SAE 30)	1 740
	Air	330	P	Paraffin Wax	2 200
	Alum. Oxide	8 700		Perspex	2 860
C	Ceramic (Macor)	5 631		Phenolic	1 400
	Clay	2 600		Plexi Glass	2 700
	Concrete	3 650 - 4 270		Polyamide	2 380
	Diamond	17 500		Polyethylene	1 900 - 2 400
	Diesel Oil	1 250		Polyurethane	1 780 - 1 900
	Epoxy Resin	2 650		Polystyrene	2 340 - 2 400
G	Glass (Flint)	4 260		Porcelain	5 600 - 5 900
	Glass (Crown)	5 260 - 6 120		PVC	2 400
	Glass (Quartz)	5 570	Q	Quartz X Cut	5 740
	Glass (Window)	6 800		Quartz Fused	5 980
	Glycerine	1 920		Quartz Glass	5 640
	Ice	3 980	R	Rubber (Butyl)	1 900
H	Hi-Density Polyethelene (Grey & White Not Black)	2 220 - 2 300		Rubber (Soft)	1 480
M	Methylene-Oxide	9 980		Rubber (Vulc.)	2 300
	Monel	5 360 - 5 400	S	Silicone Rubber	948
	Motor Oil (Sae 30)	1 750		Teflon	1 350 - 1 520
N	Neoprene	1 600		Water	1470

NB Note : This Schedule is only a guide

