THANKI ENGINEERING SOLUTIONS

Delivering Excellence in NDT

TF – 28, Suner Complex, Harinagar Crossing, Gotri Road, Vadodara - 390 007, tesndt@gmail.com, 9428173351

Ultrasonic Testing Cables

We offers a complete line of quality probe cables at affordable prices , We also offer customized cables made to your specifications.

Cable	Connectors
	**Lemo00 to Lemo00 - MiniLemo to MiniLemo**
	**Lemo00 to Lemo01 - MiniLemo to BIGLemo**
	**Lemo00 to Microdot - MiniLemo to Microdot**
	**Lemo00 to BNC - MiniLemo to BNC**
	**Lemo01 to Lemo01 - BIGLemo to BIGLemo**
	**Lemo01 to Microdot - BIGLemo to Microdot**
	**Lemo01 to BNC - BIGLemo to BNC**
	**BNC to Microdot**
	**BNC to BNC**
	**Dual Lemo00 to Dual Lemo00** **Dual MiniLemo to Dual MiniLemo**
	**Dual Lemo00 to Dual Lemo01** **Dual MiniLemo to Dual BIGLemo**
	**Dual Lemo00 to Dual Microdot** **Dual MiniLemo to Dual Microdot**
	**Dual Lemo00 to Dual BNC** **Dual MiniLemo to Dual BNC**
	**Dual Lemo01 to Dual Microdot** **Dual BIGLemo to Dual Microdot**
	**Dual BNC to Dual Microdot**

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Ultrasonic Testing Probes

Ultrasonic Probe is used as an important part of ultrasonic sensor for flaw detection purpose. This probe is also required for measuring wall thickness level and corrosion prevention performance of specific surface. This probe has been designed under qualified personnel by using standard grade raw materials. Made of stainless steel, this probe is abrasion proof and its manufacturing standard conforms to industry specified norms. High sensitivity level, low scattered noise level, precise diameter, solid structure, laser marked surface, anti slippery characteristics and application specific design are the main features of this probe. We are an eminent supplier and manufacturer of excellent grade **Ultrasonic Probe**.

Single Crystal - Normal Probe 	For detecting defects which are oriented parallel to the test surface. e.g.Plates, Forgings,Castings, Bars, Flats etc**.** Available in 1. 5mm Dia. - 4 MHz to 10 MHz. 2. 10mm Dia. - 0.5 MHz to 10 MHz 3. 24 MM Dia. - 0.5 MHz to 10 MHz
Dual Crystal - TR Probe 	**DUAL CRYSTAL NORMAL BEAM PROBES** – For detecting defects oriented very near to the test surface (subsurface), wall thickness measurement of new components or remaining wall thickness of eroded/corroded components. e.g. Thin Plates, Pipes, Tubes etc. Available in 1. 5mm Dia. - 4 MHz to 10 MHz. 2. 10mm Dia. - 2 MHz to 10 MHz 3. 24 MM Dia. - 2 MHz to 6 MHz
Angle Beam Probe 	**ANGLE BEAM PROBE (38,45,60,70,80,90 DEGREE) -** For detecting defects which are oriented at an angle to the last surface & to scan in accessible areas or parts with complicated geometry e.g. Welds, Pipes, Tubes, Bars, Gears etc. Available in 1. 5x4 MM. - 2 MHz to 4 MHz. 2. 8x9 MM. - 1 MHz to 4 MHz 3. 14X14 MM - 2 MHz to 4 MHz 4. 20X22 MM - 2 MHz to 4 MHz

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Ultrasonic Testing Probes

Ultrasonic Thickness Gauge Probe 	Suitable for Modsonic , EEC , Samsonic , Samruddhi Industries , Accuplus Make Digital Ultrasonic Thickness Gagues. Available in 1. 6mm Dia. - 7 MHz 2. 12mm Dia. - 5 MHz
Ultrasonic Testing System T/R Probe 	**DUAL CRYSTAL ARRAY PROBES –** Array Probe T/R PROBE - 56X4 Mm With Potted Co-Axial Cable (Imported) 3 Mtr. Long With Minilemo / BNC or LEMO Connector as per the requirement suitable for Ultrasonic System.
Ultrasonic Testing System T/R Probe 	**DUAL CRYSTAL PROBES –** Immersion Dual Crystal (T/R) probe 5mhz / 25 mm dia for plate testing with micro dot Socket.
Ultrasonic Testing System Angle Probe 	**WELD UT ANGLE PROBE -** Element Size 8X9 MM, Angle-45 degree / 60 degree / 70 degree housing 1" OD with 35 mm dia X 5.0 mm Thick, Lemo 1E Connector (ERA.1.E.275.CTL) , frequency : 4 Mhz.

In addition to above we can manufacture Ultrasonic Testing Probe for Manual Probe as well Ultrasonic Testing System Probe as per the Customer requirement , Sample need to be provided by customer.

Our custom probes and transducers come in many varieties, including immersion, matrix, contact, and integrated wedge versions. If you have parts or components with complex geometries, we can also custom design probes and wedges to fit many area and size constraints.

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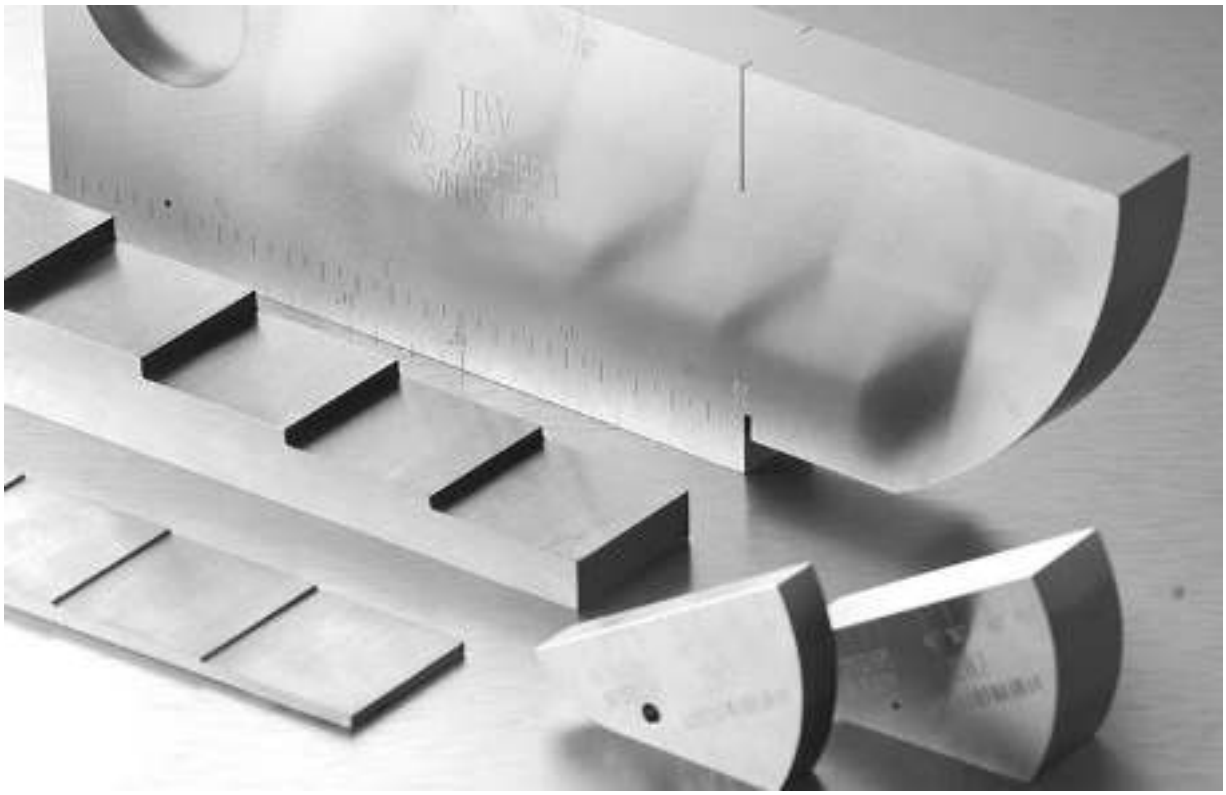
Ultrasonic Testing Calibration Blocks



Calibration and reference standards for ultrasonic testing come in many shapes and sizes. The type of standard used is dependent on the NDE application and the form and shape of the object being evaluated. The material of the reference standard should be the same as the material being inspected and the artificially induced flaw should closely resemble that of the actual flaw. This second requirement is a major limitation of most standard reference samples. Most use drilled holes and notches that do not closely represent real flaws. In most cases the artificially induced defects in reference standards are better reflectors of sound energy (due to their flatter and smoother surfaces) and produce indications that are larger than those that a similar sized flaw would produce. Producing more "realistic" defects is cost prohibitive in most cases and, therefore, the inspector can only make an estimate of the flaw size.

This section will discuss some of the more common calibration and reference specimen that are used in ultrasonic inspection. Some of these specimens are shown in the figure above. Be aware that there are other standards available and that specially designed standards may be required for many applications. The information provided here is intended to serve a general introduction to the standards and not to be instruction on the proper use of the standards.

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1. STEP BLOCK : -

Specifications: ASTM E797

Calibration Function: Thickness and Linearity Calibration, Thickness Gauging.

Certified Step Wedges for Ultrasonic Thickness Testing. Calibration step wedges are available in Stainless Steel, Carbon Steel or Aluminum, with 2, 4, 5, 7, 9, 10 steps

2 STEPS TEST BLOCK

2A type steps thickness: 5mm,15mm

4 STEPS TEST BLOCK

4A type steps thickness: 6.25mm,12.5mm,18.75mm,25mm
4B type steps thickness: 5mm,10mm,15mm,20mm

5 STEPS TEST BLOCK

5A type steps thickness: 2.5mm,5mm,7.5mm,10mm,12.5mm
5B type steps thickness: 2mm,4mm,6mm,8mm,10mm

7 STEPS TEST BLOCK

7A type steps thickness: 3mm,12.5mm,24mm,30mm,36mm,42mm, 48mm
7B type steps thickness: 1mm,1.5mm,2mm,4mm,6mm,8mm,10mm

9 STEPS TEST BLOCK

9A type steps thickness: 2mm, 3mm, 4mm, 5mm, 6mm, 7mm, 8mm, 9mm, 10mm

10 STEPS TEST BLOCK

10A type steps thickness: 2.5mm, 5mm, 7.5mm, 10mm, 12.5mm, 15mm, 17.5mm, 20mm, 22.5mm, 25mm
10B type steps thickness: 2mm, 4mm, 6mm, 8mm, 10mm, 12mm,14mm, 16mm, 18mm, 20mm
10C type steps thickness: 1mm, 2mm, 3mm, 4mm, 5mm, 6mm, 7mm, 8mm, 9mm, 10mm

2. Calibration block No.1(V1) : -

Specifications:

EN12223, BS2704, ASTM E164 and ISO 2400

Calibration Function: Calibration of shear and compression wave probes. Checking beam angle, emergent point and resolution. Calibration of time base and gain settings.

3. Calibration Block No.2 (V2) : -

Specifications: EN27963, BS2704 and ISO 7963

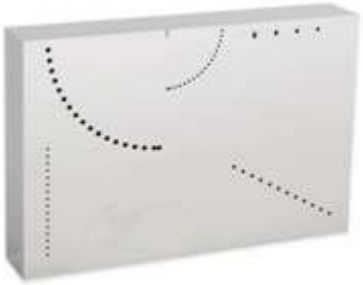
Calibration Function: Small calibration block for on-site checking of miniature shear wave probe index, time base, beam angle and gain, engraved reference mark scales from 35 to 75 degrees.

4. Phased Array Test Block Type A : -

Specifications: ASME Code Cases 2541, 2557, 2558

Calibration Functions: The Phased Array “Type A” Calibration Block is used during the initial setup and calibration of a phased array ultrasonic unit. It can be used to perform tasks such as beam angle verification, calibration for wedge delay, sensitivity calibration, performing DAC/TCG for thickness up to 50 mm, and crack sizing.

5. Phased Array Test Block Type B :-



Specifications: ASME Code Cases 2541, 2557, 2558

Calibration Functions: The Phased Array "Type B" Calibration Block is used as baseline block to determine long-term instrument performance changes, generate DAC curves, and evaluate linear/ angular resolution, focusing ability and beam steering capability.

6. Miniature Angle Beam (ROMPAS) Calibration Block : -

Specifications: ASTM E164

Calibration Function: Straight Beam: distance angle beam, index point, sound path angle (30°-70°).

7. DSC Distance/ Sensitivity Calibration Block : -

Specifications: ASTM E164, AWS D1.1/D1.1M

Calibration Function: Straight Beam: distance, amplitude. Angle Beam: index point, sound path angle (45°-70°),distance, sensitivity.

8. DC Distance Calibration Block : -

Specifications: ASTM E164,AWS D1.1/D1.1M

Calibration Function: Straight Beam: distance, amplitude. Angle Beam: index point, distance.

9. SC Sensitivity Calibration Block : -

Specifications: ASTM E164, AWS D1.1/D1.1M

Calibration Function: Angle Beam: sound path angle (45°, 60°, 75°), sensitivity.

10. DS Distance/ Sensitivity Calibration Block:-

Specifications: AWS D1.1/D1.1M

Calibration Function: Straight Beam: distance, horizontal linearity, sensitivity.

11. RC (AWS) Resolution Calibration Block :-

Specifications: AWS D1.1/D1.1M

Calibration Function: Angle Beam: resolution (45°, 60°, 70°).

12. IOW Beam Profile Block:-

Specifications: API RP 2X

Calibration Function: Angle Beam: beam profile (45°, 60°, 70°), probe angle.

13. ASME Basic Calibration Blocks : -

Specifications: ASME BPVC-V (2010)

Calibration Function: Used for establishment of primary reference responses for UT examination of welds.

14. ASME Basic Calibration Blocks for Pipe : -

Specifications: ASME SEC V Ariticles 4 Fig.T-434.3

Calibration Functions: The basic calibration block fabricated for customer supplied section of pipe of the same diameter, schedule, heat treatment and material type as the material being examined.

15. ASTM Area/ Amplitude (Set of 8) : -

Specifications: ASME-E-127or ASTM-E-428

Calibration Functions: Determining relationship comparisons of flaw size and echo amplitude.

16. ASTM Distance/ Area Amplitude (Set of 10) : -

Specifications: ASME-E-127or ASTM-E-428

Calibration Functions: Determining relationship comparisons of flaw size and echo amplitude.

17. ASTM Distance Amplitude (Set of 19) : -

Specifications: ASME-E-127or ASTM-E-428

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Ultrasonic Testing Calibration Blocks

		
STEP BLOCK	IIW V1	IIW V2
		
SC Sensitivity Block	Phased Array Test Block Type A	Phased Array Test Block Type B
		
DS Distance/ Sensitivity Block	DC Distance Calibration Block	DSC Distance/ Sensitivity BLOCK
		
RC (AWS) Resolution Block	IOW Beam Profile Block	ASME BASIC DAC BLOCK
		
DAC BLOCK FOR PIPING	ASTM Area/ Amplitude	ASTM Distance/ Area Amplitude