

## Annexure - 1

Technical Specification of Ultrasonic Testing Probe

## PART - 1 : Technical Requirement :

Quantity Required		Probe & Connecting cable detail	Qualifying Criteria	
Probe	Connecting Cable			
2 Nos.	8 Nos.	<b>For Probe :-</b> [1] Dual Crystal [2] Longitudinal sound wave propagation at an angle of 70 degree in steel [3] 2 MHz Frequency [4] Element Dimension of ( 3 to 10 mm) X ( 10 to 20 mm) or higher [5] Focal length of 6 to 8 mm depth from examination surface [6] Purpose of detection of underclad cracking in Nuclear application  <b>For Connecting Cable :-</b> [1] Length of Connecting Cable will be 2 meter [2] Lemo type connector at Ultrasonic Flaw Detector End	[1]	Able to detect an edge of side drilled 2 mm diameter flat bottom hole made at a junction of carbon steel material & incoloy cladding material at a depth of 6 mm from examination surface
			[2]	In a full skip ( full 'Vee' ) path travel of transducer, it should be able to detect a defect of 2.5 mm diameter side drilled hole at a depth of 5 mm, 10 mm & 15 mm from examination surface in a 19 mm thick Austenitic Stainless steel welded flat test piece
			[3]	In a half to full skip ( half to full 'Vee' ) path travel of transducer, it should be able to detect a defect of a notch of 0.4 mm depth, 6 mm width & 25 mm length in a 19 mm thick Austenitic Stainless steel welded flat test piece
			[4]	Grass echo height should be less than 20 % of defect echo height in all cases mentioned above

## PART - 2 : General Requirement :

[1]	Probe technical data sheet & compliance certificate with the latest edition of EN 12668-2 or ASTM E 1065 shall be furnished.
[2]	Following list of information shall be provided :-
2.1	Manufacture's Name
2.2	Material of transducers element
2.3	Wear allowance
2.4	Working Temperatures
2.5	Central Frequency, Band width of frequency, Relative bandwidth at 6dB
2.6	Focal Length
2.7	Element size ( D or a X b)
2.8	Beam angle (angle between the main angle and normal axis of the test surface (equivalent to steel)

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