

MANUFACTURER'S NAME AND ADDRESS		QUALITY PLAN					PROJECT						
BHEL	VENDOR'S NAME	ITEM	TITANIUM CLAD PLATES	QP NO.	QA/F/QP/035	PACKAGE							
		DRG. NO.			REV. - 00	CONTRACT NO.							
		SPEC.	AA14001			CONTRACTOR	BHEL						
		REV	AS PER P.O.		Page 1 of 2								
	SUB-SYSTEM												
SL. NO.	COMPONENT & OPERATIONS	CHARACTERISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK	REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORDS		AGENCY			REMARKS
1	2	3	4	5	6	7	8	9	D	10			11

1.	BASE MATERIAL (SINGLE PIECE WITHOUT JOINT)	REVIEW OF TCs FOR (i)DIMENSIONAL CHECK (ii)CHEMICAL COMPOSITION (iii)MECHANICAL PROPERTIES (iv)ULTRASONIC TESTING (v)HEAT TREATMENT	MAJOR	VISUAL CHEMICAL MECHANICAL UT HT CYCLE	100%	ASME SA-516 Gr.70.	ASME SA-516 Gr. 70	TC	√	P	V		
2.	CLAD MATERIAL	REVIEW OF TCs FOR (i)CHEMICAL COMPOSITION (ii)MECHANICAL PROPERTIES (iii)DIMENSIONAL CHECK	MAJOR	VISUAL CHEMICAL MECHANICAL	100%	ASME SB-265 Gr.1	ASME SB-265 Gr.1	TC	√	P	V		
3.	SEAM WELDING OF CLAD PLATE	SEAM WELDING	MAJOR	(i)RADIOGRAPH IC TEST (ii)DPT (iii)REVIEW OF WPS/PQR	100%	ASME SEC.VIII Div. 1 ASME SEC.IX	ASME SEC.VIII Div. 1 ASME SEC.IX	I.R.	√	P	V		
4.	BONDING	BONDING PROCESS*	MAJOR	VISUAL	100%	VENDOR STANDARD*	VENDOR STANDARD*	I.R.		P	V		* BHEL AGREED
5.	STRESS RELIEVING	STRESS RELIEF	MAJOR	TIME-TEMP CHART	100%	VENDOR STANDARD	VENDOR STANDARD	TC	√	P	V		
6.	FLATTENING	FLATNESS	MINOR	STRAIGHT EDGE	100%	AA 14001	AA 14001	I.R.	√	P	V		
7.	MACHINING	MACHINING TO FINAL DIMENSION	MAJOR	DIMENSION	100%	BHEL PO AND STANDARD	BHEL PO AND STANDARD	I.R		P	V		
8.	TENSILE TEST	TENSILE TEST	MAJOR	MECHANICAL	100%	AA14001	AA14001	TC	√	P	W		

MANUFACTURER/SUB CONTRACTOR	CONTRACTOR	LEGEND: ! D: √RECORDS IDENTIFIED WITH 'TICK' SHALL BE ESSENTIALLY INCLUDED BY CONTRACTOR IN QA DOCUMENTATION. !! M: MANUFACTURER / SUBCONTRACTORC: THIRD PARTY INSPECTION AGENCY (LRS/TUV/BV) N: CUSTOMER INDICATE 'P' PERFORM 'W' WITNESS AND 'V' VERIFICATION ALL 'W' INDICATED IN COLUMN 'N' SHALL BE 'CHP' OF NTPC	REVIEWED BY	APPROVED BY
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9.	DUCTILITY TEST	DUCTILITY BEND TEST	MAJOR	(i)CLADDING MATERIAL IN TENSION (ii)CLADDING MATERIAL IN COMPRESSION	100%	AA 14001	AA 14001	TC.	√	P	W		
10.	SHEAR STRENGTH TEST	SHEAR TEST	MAJOR	MECHANICAL	100%	AA 14001	AA 14001	TC.	√	P	W		
11.	BEND TEST	THREE BEND TEST	MAJOR	CLADDER IN COMPRESSION	100%	AA 14001	AA14001	TC.	√	P	W		
12.	ULTRASONIC TEST	UT	MAJOR	NDT	100% SCAN	AA14001	AA14001	TC	√	P	W		
13.	DIMENSIONAL INSPECTION	LENGTH, WIDTH, THICKNESS, FLATNESS	MAJOR	DIMENSIONAL	100%	AA 14001 & BHEL PO	AA 14001 & BHEL PO	TC	√	P	W		
14.	MAKING AND PACKING	VISUAL	MAJOR	VISUAL	100%	AA 14001 & BHEL PO	AA 14001 & BHEL PO	I.R.		P			

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