

PSGSG2015-16/002	Specifications for S.S Enclosure	Drg.No	
		Date	06.10.2016
		Product	36kV GIS
1.0	APPLICATION: S.S Enclosures assemblies to drawings nos. RD DG 4 3513050_1110A & 1110B is a part of Gas Insulated Switchgear Equipment. The gas pressure in this metal enclosure is maintained at 1.0-1.5 bar. This leak tight assembly shall meet the following specifications.		
2.0	DRAWINGS: Two Variations of S.S Enclosures with Assembly Drawings RD DG 43513050_1110A, RDDG43513050_1110B, Adapter Enclosure Assembly Dwg No. RDDG43513050_1610 and VT Flange Dwg.No. RDDG43513050_1601.		
	RDDG43513050_1110A (Var-1) Enclosure-2U - RDDG43513050_1111V Flange-1 - RDDG43513050_1112 Extension Pipe - RDDG43513050_1113 RFT - RDDG43513050_1114 Earth and Shaft Support - RDDG43513050_1115	RDDG43513050_1110B (Var-2) Enclosure-2U - RDDG43513050_1111V Flange-1 - RDDG43513050_1112 Extension Pipe - RDDG43513050_1113 RFT - RDDG43513050_1114 Earth and Shaft Support - RDDG43513050_1115	RDDG43513050_1610 Pipe - RDDG43513050_1611 Flange-1 - RDDG43513050_1112
2.1	SPECIFICATIONS:		Vendor Compliance
2.2	Material: Low Carbon Austenitic Stainless Steel confirming to AISI-304L.		
2.3	Standard seamless or ERW (straight/ spiral) tubular sections shall be used for construction, where ever applicable in design. Fabricated (allowing rolled and seam welded) / drawn sections can be used for other areas not conforming to standard pipe schedules.Pull out of pipe only preferable.		
2.4	Drawn profiles, to size, only shall be used for direct welding with the flanges (To be machined to the drawing only after welding). No smithy is allowed for formation/ matching of profiles in view of defect inception. Pipe and flanges shall be MIG/TIG welded with suitable SS electrode.		
2.5	The welded sections shall be sized as per drawing and verified /tested using Dye Penetration (D.P.) technique or x-ray at all stages of welding. Inside edges/weld shall be fused to obtain near smooth weld surface.		
2.6	The flanges shall be manufactured to drawings after welding only. The flanges shall be machined as per instructions and maintaining parallelism of faces and Perpendicularity as prescribed. To ensure parallality, it is must to machine the components after welding all the sections as prescribed.		
2.7	The flange sealing surfaces shall be polished to RA 0.8 or better and the bolting holes shall be machined fine, using CNC milling, and shall have uniform chamfer. The tolerances, wherever not mentioned in the drawing, shall be within 0.1°. Any sharp corners shall be removed as per the drawing. Wherever not specified in the drawing, a chamfer of 0.5x45° shall be provided at the sharp corners and edges.		
2.8	All flanges of different dimensions shall be welded by maintaining parallality as per limits of manufacturing drawing.		
2.9	Weld splatter, if any, shall be removed by chipping or grinding on completion of the weld. Particular care should be taken to avoid any splatter on the inside of the chamber, at the joint or other locations.		
2.10	Dye penetration report shall be generated and submitted to BHEL.		
2.11	The tested assembly should be cleaned, degreased and prepared for pressure test. The assembly shall be tested at 2.0 bar pressure for 4 hours and pressure drop shall be recorded and communicated to BHEL. In case of unallowable pressure drop (>0.5%), a coarse leak check shall be performed. The leak shall be rectified and the test repeated to satisfaction. Components indicating drop in pressure during this test will not be accepted. The arrangement shall be kept at 4 bar for 15 minutes prior to this test to verify pressure withstanding capabilities specified in drawing.		
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2.12	The supplier shall stress relieve tested component to ensure zero post supply deformation.		
2.13	Stress relieved component shall be electro-polished on the inside surface using moderate current densities.		
2.14	The assemblies further shall be sandblasted on the outer surface and powder coated (> 50 Micron) as specified in drawing. During this operation all flanges shall be masked at the sealing surfaces and at the rim.		
2.15	The dimensional checks and the leak test shall be carried out in presence of BHEL inspector. It is preferable to have first stage inspection after assembling the first module at supplier's works.		
2.16	The accepted component shall be packed in wooden boxes with suitable PVC covers on the flanges to prevent transit damages. A thick polyethylene cover shall be used to seal to component from ingress of moisture and water. For transit time higher than 2-weeks, adequate quantity of moisture absorbent shall also be placed with the component.		
2.17	Following certificates shall be furnished for acceptance of the component: 1 Material source certificate, 2 Material test certificate , 3 Stage wise DP tests, 4 Pressure drop test and pressure withstand test report, 5 Electro-polishing schedule. A certified copy of above documents shall be sent along with the delivery note. The components shall be guaranteed against all manufacturing defects.		
2.18	Components/fittings required for pressure test shall be arranged by supplier only.		
3.0	Qualification Requirements : The supplier shall have proven record and should have supplied similar enclosures. Supplies reference list shall be provided along with the offer.		
4.0	Performance Guarantee: Supplier shall provide Guarantee Certificate for equipment to ensure reliability of the equipment for a period of not less than 12 months from the date of acceptance.		
5.0	Any Other Information: In case of doubts, please contact BHEL for clarifications. Supplier can furnish any other additional information considering overall requirements.		
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