

PSGSG/22-23/004	Product Specifications for He-30 Aluminum Rods and Tubes		Drg.No.	
			Date	18.07.2022
			Product	GSM-400
S.NO	BHEL Specification			
1.0	Material: high conductivity HE-30 grade Aluminum			
2.0	Compliance with National/International standards: The material shall comply with the requirements of the following national standard and also meet the requirements of this specification. INDIAN : IS : 733 : Alloy 64430 (WP), [HE 30 (WP)]			
3.0	Dimensions and Tolerances:			
	Item description	Quantity	Dimensions and tolerance	
	HE-30 Aluminium rods as per dimensions DIA 125MM X 125 MM Long	4	DIA:125±1MM, LENGTH:125±1MM	
	HE-30 Aluminium rods as per dimensions DIA 125MM X 190 MM Long	5	DIA:125±1MM, LENGTH:190±1MM	
	HE-30 Aluminium tubes as per dimensions OD 125MM X ID 93 X 3600 MM Long	7	OD:125±1MM, ID:93±1MM LENGTH: 3600±20MM	
	HE-30 Aluminium rods as per dimensions DIA 65MM X 490 MM Long	5	DIA:65±1MM, LENGTH:490±1MM	
	HE-30 Aluminium rods as per dimensions DIA 125MM X 480 MM Long	5	DIA:125±1MM, LENGTH:480±1MM	
4.0	Finish: a) The component shall be free from dirt, grease and loose particles. b) Any sharp corners shall be removed as per the drawing. Wherever not specified in the drawing, a radius of R1 shall be provided at the sharp corners and edges. c) Parallelism of the tube must be maintained within 0.1 degree and any deviation shall be subjected to rejection in supply.			
5.0	Properties:			
5.1	Parameter	Test method	Value (Minimum)	
	Chemical a) Aluminum b) Copper c) Magnesium d) Silicon e) Iron f) Manganese g) Zinc h) Titanium and/or other grain refining elements i) Chromium	IS 504	Remainder 0.1 max 0.4-1.2 0.6-1.3 0.6 max 0.4-1.0 0.1 max 0.2 max 0.25 max	
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	Parameter	Test method	Value (Minimum)	
5.2	Density, minimum	IS 5802	2.7	
5.3	Tensile strength, Minimum	IS 1816	275-300	
5.4	Brinell Hardness	IS 1500	84-91	
5.5	Elongation	IS 1608	6-9	
5.6	0.2 percent Proof-Stress	IS 1816	240-255	
5.7	Electrical Conductivity at 20°C (Minimum)	IS 5802	45	
6.0	Tests & Inspection: <ol style="list-style-type: none"> 1) The supplied material shall be subjected to conductivity measurement. The sample shall exhibit IACS conductivity of about 45%. 2) The components shall be physically inspected for cracks and blow holes. No blow holes are permitted. 3) Material shall be inspected for dimensional checkups. 4) Results of Chemical composition as per clause 5.1. 			
7.0	Packing: The component shall be packed in polyethylene after machining. The component shall be guaranteed against all material and manufacturing defects for at least one year.			
8.0	Acceptance criteria: <ol style="list-style-type: none"> 1) Dimensional report as per clause no. 3.0. 2) Finish as per clause 4.0 3) Chemical test report as per clause no. 5.1. 4) Electrical conductivity report as per clause no. 5.7 5) Packing as per clause 7.0 			
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