

RAW MATERIAL SPECIFICATION FOR ALUMINUM RODS

1. Scope

This specification covers the requirement of aluminum wire rods to be used to strand overhead conductors with or without steel reinforcement.

2. Quality requirement

The wire rods shall be smooth and round. The surface shall not have any flows, scratches, twists seams, scales and splits. It shall have no cavity and blow holes. There shall be no joint in the coil.

3. Material

The wire shall be from electrical conductor grade containing 99.5% aluminum.

The aluminum should conform to IEC -28 and ASTM B 233 standard

Total impurities of all metal shall not exceed 0.5 % in accordance with the following table:

Si	0.25 %	Mg	0.05 %	Fe	0.4 %
Zn	0.07 %	Cu	0.05 %	Ti	0.05 %
Mn	0.05 %	Others : 0.03 % (individually)			

The material shall be continuous cast and rolled Aluminum rods

Sr. No.	Parameter	Test method	Requirement
1	Purity	ASTM B-233-92	99.5% min.
2	Appearance	Visual	The surface shall be smooth
3	Diameter	Micrometer	9.5 mm \pm 0.5 mm
4	Ovality	Micrometer	0.4 mm max.
5	Resistivity at 20 °C	IEC 228	0.02801 Ω mm ² /m max.
6	Tensile strength	ASTM B-233-92	105 -130 N/ mm ²
7	Elongation	ASTM B-233-92	10 -15 % min. at length 200 mm

4. Packing

The rods shall be delivered in tightly- wound coils each secured by means of minimum six hoop iron strips to prevent displacement during transport, and wrapped with polyethylene or suitable wrapping material and put with vertical axis on wooden pallets consisting of minimum four timber battens for easy handling and storage. Coil net weight: 1500-2000 kg

Each coil should have a metal tag indicating:

- Rod diameter
- Net and gross weight
- Serial number of coil
- Manufacture and packing dates

5. Test certificate

The supplier shall submit test results of each shipment indicating:

- Elongation
- Tensile strength
- Conductivity

6. Criteria of acceptance/ rejection

The material shall be subjected to inspection and the tests shall be carried out for acceptance/ rejection on part or whole lot.

7. Sample

25 kg of aluminum wire rods to reach our company before closing dates by express delivery. Sample shall be the basis for accepting or rejecting the offer.