SPECIFICATION

FOR

ALUMINUM ALLOY ROD

1. SCOPE

This specification covers aluminum Alloy drawing stock 9.52 mm to 12.00 mm in diameter, in the temper T4, for drawing into wire for electrical conductors.

2. REQUIREMENTS

2.1. CHEMICAL COMPOSITION

2.1.1. The stock shall conform to the requirements of table 1 as to chemical composition.The determination of chemical composition shall be made in accordance with suitable chemical (Test Method E 34), spectrochemical (Test Method E 227), or other methods.

Element	Composition, %	
	6101	6201
Silicon	0.30-0.70	0.50-0.90
Iron, max	0.50	0.50
Copper, max	0.10	0.10
Manganese, max	0.03	0.03
Magnesium	0.35-0.80	0.60-0.90
Chromium, max	0.03	0.03
Zinc, max	0.10	0.10
Vanadium plus titanium, total, max	0.03	0.03
Other elements, each, max	0.03	0.05
Other elements, total, max	0.10	0.15
Aluminum, min	97.80	97.70

Table 1

2.2. TENSILE

Tension tests shall be made in accordance with Test Methods B 557. When tested in full section, the free length between jaws of the testing machine shall be at least 250 mm.

2.2.1. Limits:

2.2.1.1. STOCK

The tensile strength of respective tempers of stock shall conform to the requirements specified in table 2. All tensile test results shall be reported.

Alloy	Temper	Tensile Strength MPa	Elongation %	Equivalent Volume Conductivity, %IACS, min
6101	T4	165-200	≥8.0	≥50.0
6201	T4	175-225	≥7.0	≥49.0

Table 2

2.3. RESISTIVITY

2.3.1. The electrical resistivity of the stock in the temper supplied shall conform to the requirements specified in table 2 .

2.4. DIAMETER AND PERMISSIBLE VARIATIONS

2.4.1. The diameter of the stock shall be specified in decimal fractions of an inch using three places of decimals or in millimeters using two places of decimals. The diameter of the stock shall be determined on at 10% of the coils in a lot. The diameter shall not vary from that specified by more than the permissible variation specified in table 3.

Specified Diameter, in. (mm)	Tolerance, in. (mm). Plus or Minus	
	Deviation of Mean Diameter from Specified Diameter	Deviation at Any Point from Specified Diameter
0.375-0.500 (9.52-12.70)	0.020 (0.51)	0.030 (0.76)

Table 3

3. INSPECTION, TEST

3.1. Inspections and tests required by this Specification, shall be made by the manufacturer to purchaser

4. PACKAGING,MARKING AND SHIPPING

4.1. The material shall be shipped in coils.

4.2. Each coil shall bear a tag showing the manufacturer's name or trademark, size, aluminum number, and temper of material. If additional information is to be required on the tags, it shall be arranged with the manufacturer at the time of purchase.

4.3. SIZE OF COIL

4.3.1. Weight of coil

- ✓ 2250 Kg (about 2 ton)