



ARCOTECH

AL-102(Cu-OF) EXTRUDED PRODUCTS

CHEMICAL COMPOSITION(%)

Cu	≥99.95
O	≤10 PPM

ALLOY DESIGNATIONS

UNS	C10200
EN	Cu-OF
JIS	C1020
BS	C103

SPECIFICATION FOR ROD/FLAT/PROFILE

SPECIFICATIONS FOR ROD

Diameter of as cast (mm)	12.0-20.0
Diameter of Extruded (mm)	8.0-26.0
Diameter of Extruded and Drawn (mm)	8.0-26.0

SPECIFICATION FOR FLAT*

Thickness of Extruded & Drawn(mm)	3.0 - 10.0
Width of Extruded & Drawn(mm)	25.0-70.0

SPECIFICATION FOR PROFILE

Total Cross section	≤600 mm ²
LENGTH FOR ROD/FLAT (mm)	≤3300

*NOTE: 1. Edge condition as per customer requirement.
2. Coil can be provided in as cast and as extruded with soft or quarter hard temper.

CHARACTERISTICS

AL-102 is oxygen free copper with high purity and absence of deoxidizers accounts for high conductivity.

This grade of copper is free from hydrogen embrittlement when heated in reduced atmosphere.

MECHANICAL PROPERTIES

Temper		Hardness , HV	Tensile Strength MPa	Yield Stress MPa	Elongation %
Ann.	O	40-60	200-250	≤100	≥45
1/4 Hard	H01	55-75	220-260	≤140	≥35
1/2 Hard	H02	70-90	240-290	≥180	≥10
Hard	H04	90-110	290-360	≥250	≥4

ARCOTECH LTD

181, Sector-3, Industrial growth Centre, Rewari, Haryana, India. Ph: 01284-264160/161, Website :www.arcotech.in



PHYSICAL PROPERTIES

TYPICAL VALUES IN ANNEALED TEMPER AT 20 °C

Density	Electrical Conductivity	Thermal conductivity	Modulus of Elasticity	Specific Heat
(g/cm ³)	(% IACS)	(W/m.K)	(Gpa)	(J/kg.K)
8.94	≥100	391	115	385

Fabrication Properties

Capacity for being cold worked	Excellent
Machinability	Less suitable
Capacity for being electroplated	Excellent
Capacity for being hot dip tinned	Excellent
Soft soldering	Excellent
Resistance welding	Less suitable
Gas shielded arc welding	Excellent
Laser welding	Fair

Corrosion Resistance

AL-102 generally less subject to corrosion than other engineering metals.

Resistant to industrial atmosphere (formation of dark resp. protective layers) , industrial and drinking water(max. flow rate 4.5 to 6.0 ft/s), pure water vapor, non oxidizing acids, alkalis (except for ammonia and cyanide containing compounds), neutral saline solutions

Non resistant to oxidizing acids, hydrous ammonia and halogenated gases, halogen sulfide, sea water especially with high flow rates.

Packaging

Standard seaworthy packaging or as per specific requirements of customer.

TYPICAL APPLICATIONS

- Power substations
- Electrical & electronic conductors
- Super conducting material

AL-102 conform ROHS Directive

This data is general technical product information. Binding technical features are subject to the contract.

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