

PROPERTIES OF ALUMINUM

Posted on July 22,2014 by Admin

As Used for Electrical Conductors

Electical Conductivity	61% IACS‡ at 68°F (20°C)
Electrical Resistivity	17.00 ohms (mil. ft.) at 68°F (20°C)
Density	0.098 lbs/in ³
Melting Point	1216°F
Thermal Conductivity	126 Btu/ft ² /ft/hr/°F at 68°F (20°C)
Linear Coefficient of Thermal Expansion	0.0000131 per °F (average from 68°F to 212°F)
Tensile Strength- Hard	27,000 lbs/in ²
Tensile Strength- Soft	12,000 lbs/in ²
†Yield Strength-Hard	24,000 lbs/in ²
†Yield Strength-Soft	4,000 lbs/in ²
Elongation-Hard	1.5% in 10 in.
Elongation-Soft	23% in 10 in.
Modulus of elasticity	17,000,000 lbs/in ²

* 99.45% minimum aluminum purity †Yield strength is assumed to be that stress which causes 0.5% extension. ‡ By IACS is meant the "International Annealed Copper Standard" which is the internationally accepted value for the resistivity or annealed copper of 100% conductivity. The Value is 10.371 ohms per mil foot or 20°C and was adopted by the International Electro-Technical Committee in 1913.

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