



Cadmium Copper (C162) - High Performance Copper Alloy

IWG High Performance Conductors' Cadmium Copper Alloy (C162) system has provided decades of reliability in a wide variety of applications for the wire and cable industry. C162 performance characteristics such as tensile strength, flex life, thermal stability, and high electrical conductivity make it an excellent choice for a variety of applications such as aerospace, geophysical exploration, and medical equipment applications.

MATERIAL PROPERTIES		
Composition	99% Cu; Balance Cd	
Unified Number	C16200	
Density	0.321 lbs/in ³ @68F (8.885 gm/cm ³ @20C)	
Thermal Conductivity	208 BTU-ft/(h-ft ² -F) [(360 watt/meter-K)]	
PHYSICAL PROPERTIES		
	<i>Soft Temper</i>	<i>Hard Temper</i>
Elongation, min	8%	1%
Tensile, min	55,000 PSI (379 MPa)	100,000 PSI (690 MPa)
ELECTRICAL PROPERTIES		
	<i>Soft Temper</i>	<i>Hard Temper</i>
Resistivity, max	12.20 cmil-Ω/ft (2.03 mΩ-cm)	12.96 cmil-Ω/ft (2.15 μΩ-cm)
Conductivity	85 % IACS	80 % IACS
Temp. Coeff. of Resist.	0.00319 / °C	0.00319 / °C
AVAILABILITY		
Coatings ^{1,2}	Silver - ASTM B298, Nickel - ASTM B355, Tin - ASTM B33	
Constructions ^{3,4,5}	Solid: 24 - 44 AWG Stranded: 16 - 36 AWG (7 Wire, 19 Wire Unilay and Conc.) Flat: 30 - 38 (Equivalent round AWG size)	

1 – Strand sizes less than 44 AWG will not meet 40 micro-inches per ASTM B298

2 - Tin plating availability for hard temper only.

3 - Solid construction may not meet stated properties.

4 – Some sizes do not apply to nickel and tin plated C162

5 – Alternative constructions available for quote upon request

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