



HPC-35EF® - Environmentally Friendly Copper Alloy

IWG High Performance Conductors, in response to global concerns, has taken a leadership role in developing high performance and environmentally friendly alloy systems. These alloys have been specifically designed to be free of heavy metal elements such as cadmium, mercury, and lead.

HPC-35EF® was designed for RoHS applications and offers comparable conductivity, tensile strength, and thermal stability to Tensile Flex®. Utilizing the same precipitation-hardening strengthening mechanism as Tensile Flex®, HPC-35EF® meets requirements of industry specifications such as SAE AS22759, MIL-W-29606, NEMA WC67, and ASTM B624.

MATERIAL PROPERTIES		
Composition	99% Cu; Balance Cr, Ag, Si	
Density	0.323 lbs/in ³ @68F (8.941 gm/cm ³ @20C)	
Thermal Conductivity	200 BTU-ft/(h-ft ² -F) [(346 watt/meter-K)]	
PHYSICAL PROPERTIES		
	<i>Soft Temper</i>	<i>Hard Temper</i>
Elongation, min	8%	1%
Tensile, min	60,000 PSI (414 MPa)	100,000 PSI (690 MPa)
ELECTRICAL PROPERTIES		
	<i>Soft Temper</i>	<i>Hard Temper</i>
Resistivity, max	11.52 cmil-Ω/ft (1.92 mΩ-cm)	12.20 cmil-Ω/ft (2.03 μΩ-cm)
Conductivity	90 % IACS	85% IACS
Temp. Coeff. of Resist.	0.00342 / °C	0.00342 / °C
AVAILABILITY		
Coatings ¹	Silver - Per ASTM B298, Nickel - per ASTM B355	
Constructions ^{2, 3, 4}	Solid: 24 - 52 AWG Stranded: 16 - 42 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 - Solid construction may not meet stated properties.

3 – Some sizes do not apply to nickel plated HPC-35EF®

4 – Alternative constructions available for quote upon request

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