Copper-Clad Steel Type E Messenger

Concentric-Lay Stranded Copper and Copper-Clad Steel Composite Conductor

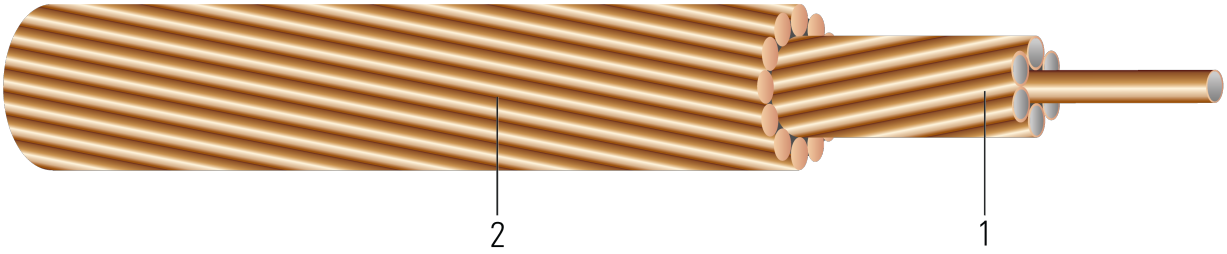


Image not to scale. See Table 1 for dimensions.

CONSTRUCTION:

1. **Core:** 30% conductivity copper-clad steel wire stranded core
2. **Stranding:** Hard-drawn bare copper wires per ASTM B1

APPLICATIONS AND FEATURES:

Copper-Clad Composite Type E conductors are designed for use as neutral messengers for aerial cables, catenary messengers, and ground and power conductors for electrified railroads. Features higher tensile strength with minimal sag compared to solid copper. Resistant to permanent stretch caused by seasonal changes in temperature and less susceptible to cracking from repeated flexing and mechanical vibration.

SPECIFICATIONS:

- ASTM B1 Hard-Drawn Copper
- ASTM B227 Standard for Hard-Drawn Copper-Clad Steel Wire
- ASTM B229 Concentric-Lay-Stranded Copper and Copper-Clad Steel Composite Conductors

Stock Number	Conductor Size	Diameter Over Conductor	Conductor Area	Number & Diameter of EHS 30% CCS Wire	Number & Diameter of Hard Drawn Cu Wire	Minimum Breaking Strength	Weight	DC Resistance @ 20°C
	AWG/kcmil	inch	cmil	num x inch	num x inch	lb	lb/1000ft	Ω/1000ft
459401	4/0	0.613	211600	7 x 0.1225	12 x 0.1225	20730	854	0.05199

All dimensions are nominal and subject to normal manufacturing tolerances.

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