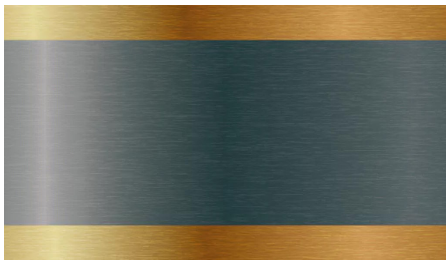


Bronze Clad Low Carbon Steel

Bronze clad low carbon steel combines the strength and formability of steel with the wear properties of bronze. These composites are produced using a wide variety of bronze alloys that are roll bonded to either one or both surfaces and, depending on the end application, over a range of ratios. Typical applications include wheel bearings, gear boxes, and similar applications that require strength combined with good resistance to wear and bearing stresses.



Product Description - Key Attributes

EMS Material Designation

C51900 / G10060

Composition

Clad Layer: C51900; Core Layer: G10060 steel (Other compositions available)

Ratios

10 / 80 / 10 (Other ratios available)

Chemical Composition

UNS

C51900

Grade Eur

CuSn6

Chemistry(%)

Pb 0.05 max., Sn 5.0-7.0, Zn 0.30 max.,

Fe 0.10 max., P 0.03 - 0.35, Cu Bal.

G10060

C4D / 1.0300

C 0.080, Mn 0.25-0.40, P 0.040 max

S 0.050 max Fe 99.43 - 99.75

Physical Properties

ENGLISH

METRIC

Density

0.291 lb /in³

8.05 g/cm³

Electrical Conductivity

12.8 %IACS

0.074 μS / cm

Electrical Resistivity

81.0 cir mil ohm / ft

13.5 μohms-cm

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Mechanical Properties	ENGLISH	METRIC
Yeild Strength 0.2% offset	38.8 Kpsi	268 MPa
Tensile Strength	49.3 Kpsi	340 MPa
Elongation 2" gage length	45 %	45 %
Hardness (Steel Layer)	88 HV	49 Rockwell B

Corrosion Resistance

The external bronze cladding produces a clad composite with excellent corrosion resistance which is comparable to solid bronze.

Formability

The low carbon steel core produces a clad composite with good formabilty and excellent deep drawing properties. The bronze surface layer provide excellent wear properties which also aids most forming operations.

Availability

Gauge	0.0030 - 0.0600" (0.08 - 1.5 mm)
Width	Widths up to 20", (508mm) available
Ratio	Others available upon request
Surface	Bright (polished) or matte
Temper	Annealed and cold rolled tempers available
Form	Coils or sheets