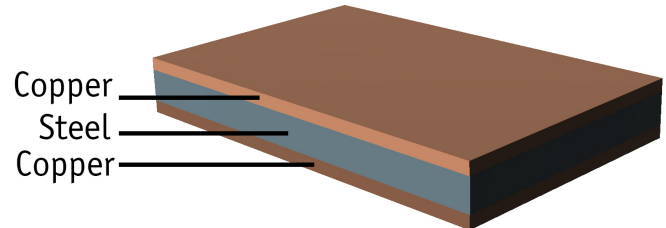




### Product Overview

Conflex conducting spring materials offer cost and performance advantages over traditional current-carrying spring materials, such as solid copper, beryllium copper, and phosphor bronze, by combining the strength and spring properties of steel with the conductivity of copper. Virtually any combination of strength, elasticity, and conductivity is achievable with the proper material selection and placement in the clad composite.



Typical applications include electrical contact blades, carrier strips, switch components, sliding contact fingers, pressure diaphragms, grounding strips, terminals, fuse clips and many other applications requiring structural strength combined with electrical and thermal conductivity.

### Features

- Increased yield through lower density
- Reduced material thickness due to higher modulus of elasticity
- Lower cost
- Greater strength from steel component
- Greater flexibility through custom systems with custom performance characteristics

### Description

EMS Designation	CONFLEX 326
Composition	Copper / 1065 Steel / Copper
Ratios	10 / 80 / 10

### Chemical Composition

UNS	Grade Eur	Chemistry %
C10200	OF-Cu	Cu+Ag 99.95 min., 0 0.0010 max.
G10650	Din 1.123	C 0.60-0.70, Mn 0.60-0.90, P 0.04 max., S 0.05 max.

Physical Properties	English		Metric	
Density	0.291	lb / in <sup>3</sup>	8.05	g / cm <sup>3</sup>
Electrical Conductivity	26	%IACS	0.151	μS / cm
Electrical Resistivity	39.9	cir mil ohm / ft	6.6	μohms-cm
Modulus of Elasticity	22,000	Kpsi	152	GPa
Coefficient of Thermal Expansion	7.3	μin / in-°F	13.1	μm / m-°C
Maximum Service Temperature	200 - 300	°F	93 - 150	°C

### Formability

The high carbon steel core produces a clad composite with good formability and excellent spring properties.



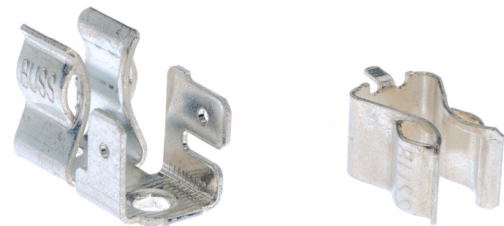
### Process Design

CONFLEX is typically provided fully annealed or with a cold rolled temper. If a heat treated temper is required, it is normal to perform this after parts fabrication. The standard heat treatment procedure is to anneal the product between 1,500 - 1,550 °F (815 - 840 °C) for 2 - 5 minutes, quench, and then heat treat for 30 minutes at the target tempering temperature.

Mechanical Properties										
System	Components	Ratio	Condition	Tensile Strength		0.2% Yield Strength		Elongation (% in 2")	Hardness (Steel)	
				Kpsi	MPa	Kpsi	MPa		Vickers	Rockwell
Conflex 326	OF Copper 1065 Steel OF Copper	10% 80% 10%	Annealed	68	469	58	400	30	170	B87
			21% Cold Work Temper	98	676	88	607	8	257	C24
			37% Cold Work Temper	118	814	107	738	6	302	C30
			60% Cold Work Temper	138	951	129	889	3	340	C35
			Heat Treat Temper, 900 °F	150	1034	130	896	7	390	C40
			Heat Treat Temper, 700 °F	190	1310	170	1172	6	485	C48
			Heat Treat Temper, 500 °F	220	1517	200	1379	4	610	C56

### Availability

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



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