



## Fingerstrip raw material

Fingerstrip raw material provides the highest strength of any copper alloy, with electrical conductivity considerably greater than other high strength copper alloys. Since it is heat treated after forming, it provides excellent formability and ductility. This alloy features good stress relaxation resistance and high fatigue strength. Typical applications include pressure sensor bellows, burn-in and test socket contacts, computer processor socket contacts, and electromagnetic shielding gaskets.

### Chemical composition (weight percent)

Alloy	Beryllium	Nickel + Cobalt	Nickel + Cobalt + Iron	Copper
C17200	1.80 – 2.00	0.2 min.	0.6 max	Balance

### Physical properties\*

Elastic Modulus	Melting Point (Solidus)	Electrical Conductivity/resistivity	Density**	Thermal Expansion Coefficient	Thermal Conductivity (25 °C)
19,000 ksi	1600°F	22-28% IACS	0.302 lb/in3	9.7x10 <sup>-6</sup> in/in °F	60 BTU/ft hr °F
131 GPa	870 °C	6.2-7.8 μΩ-cm	8.36 g/cm3	17.0x10 <sup>-6</sup> m/m °C	105 W/ m K

\*Properties specified for the precipitation age hardened (heat treated) condition

\*\* Density in the cold-rolled condition (prior to heat treatment) is 0.300 lbs/in3 (8.30 g/cm3)

### Mechanical properties\*

Temper**	0.2% Offset Yield Strength		Ultimate Tensile Strength		Elongation ***	Hardness	Formability (Minimum Bend Radius to Thickness Ratio for a 90° Bend)****	
	ksi	MPa	ksi	MPa			Longitudinal	Transverse
A (TB00)	30-55	190-380	60-78	410-540	35-65	90-144	0.0	0.0
¼ H (TD01)	60-80	410-560	75-88	510-660	20-45	121-185	0.0	0.0
½ H (TD02)	75-95	510-660	85-100	580-690	12-30	176-216	0.5	1.0
H (TD04)	90-115	620-800	100-120	680-830	2-18	216-287	1.0	2.9
AT (TF00)	140-175	960-1210	165-195	1130-1350	3-15	353-413	-	-
¼ HT (TH01)	150-185	1030-1300	175-205	1190-1420	3-10	353-424	-	-
½ HT (TH02)	160-195	1100-1350	185-215	1270-1490	1-8	373-435	-	-
HT (TH04)	165-205	1130-1420	190-220	1310-1520	1-6	373-446	-	-

\*Properties may vary by thickness. \*\*Heat treatment temperature is 600°F (315°C). AT temper requires a 3 hour soak time at temperature, the other tempers require 2 hours. \*\*\*Elongation numbers valid only for strip greater than 0.004" (0.10 mm) thick. \*\*\*\*Formability numbers valid for strip 0.010" (0.25 mm) and thinner.

### Forms available

Fingerstrip raw material is available in widths ranging from 0.050" to 16" (1.27 mm to 452.7 mm) and in thicknesses ranging from 0.002" to 0.188" (0.05 mm to 4.77 mm). It is also available in rod, wire, bar, plate, and tube.

### Specifications and standards

C17200, ASTM B-194, AMS 4530, AMS 4532, SAE J 461, SAE J 463, NACE MRO175/ISO 15156, QQC-533, JIS H3130, EN 1654, EN 13148, EN 14436

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### Tolerances

Strip Thickness (inches)		Standard Thickness Tolerance (inches)	Strip Thickness (mm)		Standard Thickness Tolerance (mm)
Over	Including	Plus or minus	Over	Including	Plus or Minus
	0.0020	0.00010		0.05	0.003
0.0020	0.0040	0.00015	0.05	0.10	0.004
0.0040	0.0060	0.00020	0.10	0.20	0.006
0.0060	0.0090	0.00025	0.20	0.30	0.008
0.0090	0.0130	0.00030	0.30	0.70	0.010
0.0130	0.0260	0.00040	0.70	1.0	0.016
0.0260	0.0370	0.00060	1.0	1.3	0.020
0.0370	0.0500	0.00080	1.3	2.0	0.025
0.0500	0.0750	0.00100			

Additional tolerances are per ASTM B 194. Please specify the exact tolerances that you require when you place your order. Tighter tolerances may be available at additional cost. Please contact your local sales engineer to confirm the requested capability.