

# C107 (OFS)

## Composition

Cu* (%)	Ag (%)	O <sub>2</sub> (ppm)
99.95 min	0.085 min	10 max

\*) Incl. Ag

## Physical Properties

Temper	Melting point (liquidus)	Density lb/in <sup>3</sup> g/cm <sup>3</sup>	Specific heat cap. at 68 F (20 °C) Btu/lb°F kJ/(kg°K)	Electrical cond. Nom in black % IACS	Thermal cond. at 68 F (20 °C) Btu/ft h °F W/(m°K)	Mod. of elasticity X1000 ksi GPa	Coef. of therm.exp at 68 F (20 °C)
	°F °C						10 <sup>-6</sup> /°F 10 <sup>-6</sup> /°C
All	1981	0.323	0.092	100	224	17	9.8
	1083	8.9	0.394	100	388	117	17.6

## Mechanical Properties

At max 0.040"  
(1 mm)

Temper	R <sub>p0.2</sub> Yield strength ksi N/mm <sup>2</sup>	R <sub>m</sub> Tensile strength ksi N/mm <sup>2</sup>	A <sub>50</sub> Elongation 2" %	Hardness for reference HR30T HV	Min bend ratio 90°		Min bend ratio 180°	
					GW	BW	GW	BW
Soft	10 69	26-38 179-262	35		0.0	0.0	0.0	0.0
H02 (1/2H)	37 255	37-46 255-317	20	50 90	0.0	0.5	0.0	1.0
H04 (H)	45 310	43-52 297-359	8	58 100	1.0	2.0	2.0	3.0
H06 (EH)	50 349	47-56 324-386	3	60 105	2.0	3.0	2.5	
H08 (SH)	52 359	50-58 345-400	3	63 110	3.0		4.0	
H10 (ES)	54 373	52 min 359 min	2	61 min 112				

Other tempers are available upon request.

Data for information only and not for use as purchase specification.

Yield strength, Elongation and Hardness are typical values for each temper.

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### Alloy attributes

Oxygen-Free with Ag, High Conductivity Copper (OFS) - 107 alloy (99.95 % minimum Cu) contains Ag which improves the softening and creep resistance. The high purity and absence of deoxidizers accounts for electrical conductivity of 100 % IACS as well as no susceptibility for hydrogen embrittlement. Due to the absence of oxides in the structure, 107 is capable of withstanding extra deep drawing and severe forming.

**Superior electrical and thermal conductivity**  
**Excellent corrosion resistance**  
**Good formability**  
**Good Weldability**  
**Resists hydrogen embrittlement**  
**Low metal volatility in vacuum**  
**High scrap value**

### Typical applications

Commutator segments

### Design limitations

Exposure to high sulfide media should be avoided.

### Applicable specifications

ASTM B152