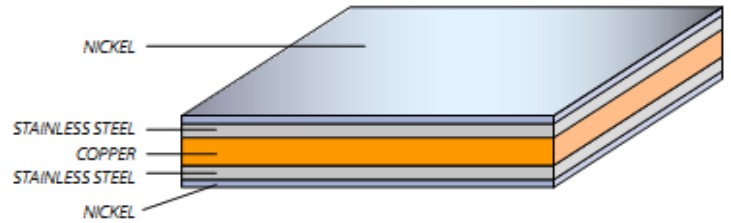




## Material Attributes

- Resistance / Laser Weldable
- Solderable surface
- Superior conductivity to pure Nickel
- High power capacity
- Stainless steel layers provide robust welds
- Lighter weight (lower density)
- Increased conductivity enables gauge reductions
- Nickel surface provides high contact Corrosion protection



<b>Physical Properties (typical properties)</b>	<b>PC799-30 Annealed</b>	<b>Nickel Annealed</b>	<b>Nickel 1/4 Hard</b>
Density: Lbs/in <sup>3</sup> (g/cm <sup>3</sup> )	0.299 (8.28)	0.321 (8.89)	0.321 (8.89)
Yield Stress: Ksi (MPa)	35 (241)	15 (103)	35 (241)
Tensile Strength: Ksi (MPa)	75 (517)	60 (414)	70 (483)
Elongation %	40	45	35
Elastic Modulus: Msi (GPa)	25 (172)	30 (207)	30 (207)
CTE: $\mu\text{in/in}/^\circ\text{F}$ ( $\mu\text{m/m}/^\circ\text{C}$ )	9.2 (16.6)	7.4 (13.3)	7.4 (13.3)
Thermal Conductivity <sup>(2)</sup> : BTU-ft/h-ft <sup>2</sup> -°F (W/mK)	75 (130)	42 (73)	42 (73)

<sup>(1)</sup> Properties can vary depending on finish thickness

<sup>(2)</sup> Parallel to strip direction

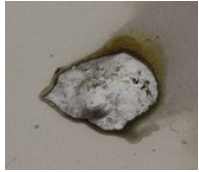
## Description

EMS Designation	PC799-30
Composition	Nickel / Austenitic Stainless Steel / Copper / Austenitic Stainless Steel / Nickel
Ratio	30% Copper

## Availability

Surface	Medium luster matte finish
Temper	Annealed Standard (specific tempers also available)
Hardness	H <sub>v</sub> 150-210 (stainless steel)
Thickness	0.004 - 0.024" (0.10 - 0.60 mm)
Width	0.10 - 12.00" (2.5 - 305mm)

<b>Electrical Properties @ 75°F (typical properties)</b>	<b>PC799-30</b>		<b>201Ni</b>	
Conductivity - % IACS <sup>(1)</sup>	30.0%		19.6 - 22.6	
Resistivity - $\Omega/\text{CMF}^{(1)}$ ( $\Omega\text{-m}$ )	34.6	(0.058)	46-55	(0.076 - 0.091)



**Soldering**



**Welding**

Material	Thickness (mm)	Electrode Config.	Pull Strength (Cathode / Anode) {Lbs}
PC799-40	0.254	Parallel	51/61
PC799-40	0.406	Parallel	67/43
PC799-60	0.381	Parallel	51/69
PC799-60	0.508	Step	84/84

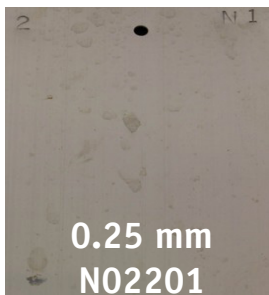
Good Solderability with Sn/Cu solder with rosin core

Welds readily with dual pulse welder, weld projections, and/or anti-shunt slot <sup>(3)</sup>

<sup>(3)</sup> Welding method required depends on bulk thickness and electrical conductivity.

## Corrosion Resistance

One Cycle: Dip samples in ASTM D2570 Water (148 mg Sodium Sulfate, 165 mg Sodium Chloride, and 138 mg Sodium Bicarbonate dissolved in 1 litre of distilled or deionized water). Expose samples 16 hours in condensing humidity chamber (100% Relative Humidity, 100°F). 8 hour air dry.



0.25 mm  
N02201



0.381 mm  
PC799-30



0.120 mm  
C7035-TM06

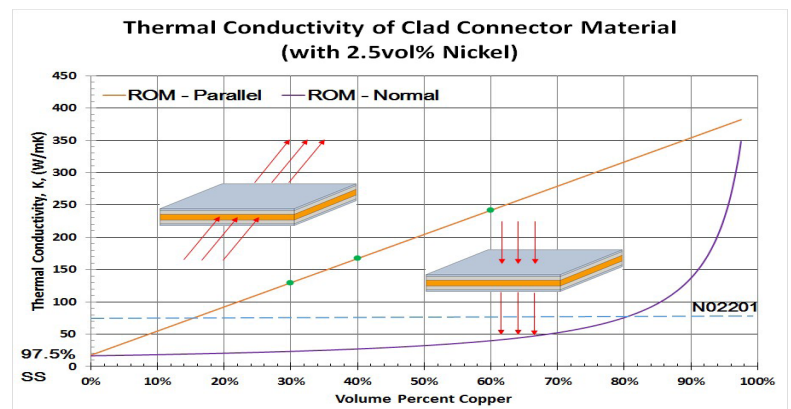
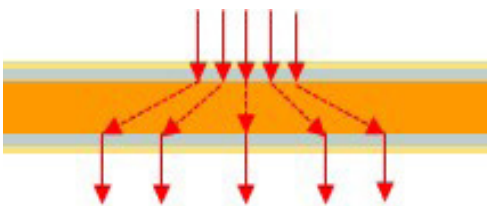


0.152 mm  
Sn Plated  
C19025

Corrosive Dip with ASTM D2570 Water  
Excellent corrosion resistance

## Thermal Conductivity

Illustration of heat spreading



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