

## ThermoMet

Materion Brush Performance Alloys' ThermoMet (UNS C18000) is a low cost copper nickel silicon chromium alloy with high electrical and thermal conductivity possessing good strength and hardness. Typical applications include resistance welding equipment and injection mold and blow mold cores and cavities.

### CHEMICAL COMPOSITION (weight percent)

Alloy	Nickel	Silicon	Chromium	Copper
ThermoMet	1.8 – 3.0	0.4 – 0.8	0.1 – 0.8	Balance

### TYPICAL PHYSICAL PROPERTIES

Elastic Modulus	Melting Point (Solidus)	Electrical Conductivity	Density	Thermal Expansion	Thermal Conductivity (25 °C)	Heat Capacity (25 °C)
18,500 ksi 130 GPa	~1900 °F ~1040 °C	48% IACS 28 MS/m	.318 lb/in <sup>3</sup> 8.81 g/cm <sup>3</sup>	9.72 x 10 <sup>-6</sup> °F <sup>-1</sup> 17.5 x 10 <sup>-6</sup> °C <sup>-1</sup>	130 BTU/hr ft · °F 225 W/m · °C	.095 BTU/lb · °F 0.398 J/g · °C

### TYPICAL MECHANICAL PROPERTIES\*

0.2% Offset Yield Strength	Ultimate Tensile Strength	Elongation	Hardness
75 ksi 520 MPa	95 ksi 655 MPa	14%	92 HRB (~15 HRC)

\*Properties may vary by shape and thickness

### AVAILABILITY

Thermomet is made to order and can be produced in rounds, square and rectangular bars, plate and forged rings. Contact sales with your requirements.

### SPECIFICATIONS AND STANDARDS

UNS C18000

### RELATED INFORMATION

Additional technical information on ThermoMet and MoldMAX® products can be obtained by visiting [www.MoldMax.com](http://www.MoldMax.com) or calling 800-375-4205 (USA). For pricing and availability in North America, contact the sales location.

## North American Service Centers – Sales Inquiries

For bar, tube, plate/sheet  
>0.060” (1.5 mm) thick and  
rod >0.5” (12.7 mm) diameter:

**Warren, MI**  
TOLL FREE: 800-521-8800  
PHONE: +(1) 586-772-2700  
FAX: +(1) 586-772-2472

## International Sales Offices

### CHINA/HONG KONG

TEL: + (852) 2318-1960 / 1907  
[brushalloysHK-  
info@materion.com](mailto:brushalloysHK-info@materion.com)

### CHINA/SHANGHAI

TEL: + (86) 21-5237-2328  
[brushalloysCN-  
info@materion.com](mailto:brushalloysCN-info@materion.com)

### GERMANY

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[brushalloysDE-  
info@materion.com](mailto:brushalloysDE-info@materion.com)

### JAPAN

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### REPUBLIC OF KOREA

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### SINGAPORE/ASEAN

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### TAIWAN, R.O.C.

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