

ThermoMet

Materion Brush Performance Alloys' 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
UNS C18000	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 ³ 8.81 g/cm ³	9.72 x 10 ⁻⁶ °F ⁻¹ 17.5 x 10 ⁻⁶ °C ⁻¹	130 BTU/hr ft·°F 225 W/m·K	.095 BTU/lb·°F 0.398 J/g·K

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

FORMS AVAILABLE

Rounds, square and rectangular bars, plate and forged rings.

SPECIFICATIONS

Meets RWMA Class 3.

RELATED INFORMATION

Additional information on UNS C18000 and MoldMAX® products can be obtained by visiting www.MoldMax.com or calling 800-375-4205 (USA), for the location nearest you visit www.materion.com

North American Service Centers – Sales Inquiries

For strip, wire and rod under 0.4" (10 mm) diameter

Elmhurst, IL

TOLL FREE: 800.323.2438

LOCAL: +(1) 630.832.9650

FAX: +(1) 630.832.9657

For plate, tube, bar, and rod 0.4" (10 mm) diameter and over

Warren, MI

TOLL FREE: 800.521.8800

LOCAL: +(1) 586.772.2700

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To obtain a complete list of Materion's global distributor/agent network, visit us online at www.materion.com/BrushAlloys/ContactUs.

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MATERION CORPORATION

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