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Perth	08 9258 2600	08 9358 6206

**PRODUCT DATA
SHEET**

Copper Nickel Silicon Alloy
C64750

**Copper
Alloys**

Chemical Composition

(%max., unless shown as range or min.)

	Copper	Iron	Magnesium	Nickel	Phosphorus	Silicon	Tin	Zinc	Zirconium
Min./Max.	Remainder	1.0	0.10	1.0 - 3.0	0.10	0.10 - 0.7	0.05 - 0.8	1.0	0.10
Nominal	-	-	-	2.0	-	0.40	0.42	-	-

(1) Copper value includes silver

(2) Nickel value includes cobalt

Note: Copper + sum of named elements, 99.92% minimum.

Applicable Specifications

Not currently included in ASTM specifications

Fabrication Properties

Joining Technique	Suitability
Soldering	Excellent
Brazing	Excellent
Oxyacetylene Welding	Good
Gas Shielded Arc Welding	Good
Coated Metal Arc Welding	Good
Spot Weld	Excellent
Seam Weld	Excellent
Butt Weld	Excellent
Capacity for Being Cold Worked	Excellent
Capacity for Being Hot Formed	Excellent

Typical Mechanical Properties (annealed condition, room temperature, 20°C)

Temper	Temperature	Tensile Strength	Elongation	Shear Strength
	°C	MPa	%	MPa
TF00	10	614	-	-
TF00	20	637	7	265

Physical Properties

	Metric
Melting Point - Liquidus	1078°C
Melting Point - Solidus	1055°C
Density	8.91 gm/cm ³ @ 20°C
Specific Gravity	8.91
Electrical Resistivity	3.7 microhm-cm @ 20°C
Electrical Conductivity	0.261 MegaSiemens/cm @ 20°C
Coefficient of Thermal Expansion	16.38 · 10 ⁻⁶ per °C (20-100°C)
Specific Heat Capacity	377.0 J/kg · °K at 293°K
Modulus of Elasticity in Tension	135,000 MPa
Magnetic Permeability	1.0