

# QMet 300 Strip

Materion's QMet® 300 strip is a high-performance, heat treated copper-chromium-silicon alloy designed to provide very high electrical and thermal conductivity while still retaining moderate strength. This non-beryllium-containing alloy is ideal for heat spreading structural components in consumer electronic devices as well as high-reliability, high-power electrical and electronic connectors.



## Nominal Chemical Composition (Weight Percent)

Alloy	Chromium (Cr) + Silver (Ag) + Silicon (Si)*	Copper (Cu)
C18085	0.5 - 3.0	Balance**

<sup>\*</sup>Exact composition is proprietary.

## **Typical Physical Properties**

Elastic Modulus	Density	Typical Electrical Conductivity	Typical Thermal Conductivity	Thermal Expansion Coefficient	Poisson's Ratio
20 - 22 Mpsi 137 - 152 GPa	0.321 lb./in³ 8.89 g/cm³	81% IACS 78% min. 47 MS/m	197 BTU/ft hr °F (188 min.) 341 W/m K (325 min.)	10.0 ppm/°F 18.0 ppm/°C	0.3

 $<sup>^{*}</sup>$ Converted from electrical conductivity using Wiedemann-Franz Law.

# Typical Mechanical Properties\*

Temper	Data Type				e Tensile ength	Elongation**	Hardness (HV)	90° Bend Formability	
		ksi	MPa	ksi	MPa		(1107	Longitudinal (Good Way)	Transverse (Bad Way)
НТ	Typical Range	72.5 min.	500 min.	78 min.	538 min.	5.0% min.	130 min.	0.20	0.20
	Design/ Engineering Nominal Value	78	536	81	558	9%	170	0.20	0.20

<sup>\*</sup>Properties may vary by thickness.

<sup>\*\*</sup>Copper (Cu) plus sum of named elements is 99.5% minimum.

 $<sup>^{**}</sup>$ Percent elongation valid only for strip greater than 0.004" (0.10 mm) thick.

## Data Sheet continued

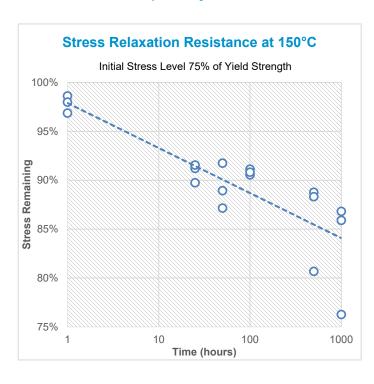
## Standard Availability

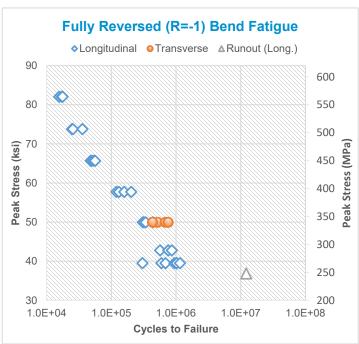
Mill hardened tempered strip: 0.00787" - 0.0310" (0.20 - 0.80 mm) gauge.

### **Industry Standards and Specifications**

UNS# C18085

#### QMet 300 Strip Alloy Test Data





#### Disclaimer:

Only the buyer can determine the appropriateness of any processing practice, end-product or application. Materion does not make any warranty regarding its recommendations, the suitability of Materion's product, or its processing suggestions for buyer's end product, application or equipment.

The properties presented on this data sheet are for reference purposes only, intended only to initiate the material selection process. They do not constitute, nor are they intended to constitute, a material specification. Material will be produced to one of the applicable industry standards, if any, listed in the Industry Standards and Specification section.

Actual properties may vary by thickness and/or part number. Please contact your local sales engineer for detailed properties to be used in simulation.

Any properties marked as preliminary are subject to change at any time as the manufacturing process is further refined.

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