

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)
QMet 300	0.5 - 3.0	Balance**

*Exact composition is proprietary.

**Copper (Cu) plus sum of named elements is 99.5% minimum.

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/in ³ 8.89 g/cm ³	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

*Converted from electrical conductivity using Wiedemann-Franz Law.

Typical Mechanical Properties*

Temper	Data Type	0.2% Offset Yield Strength		Ultimate Tensile Strength		Elongation**	Hardness (HV)	90° Bend Formability	
		ksi	MPa	Ksi	MPa			Longitudinal (Good Way)	Transverse (Bad Way)
HT	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

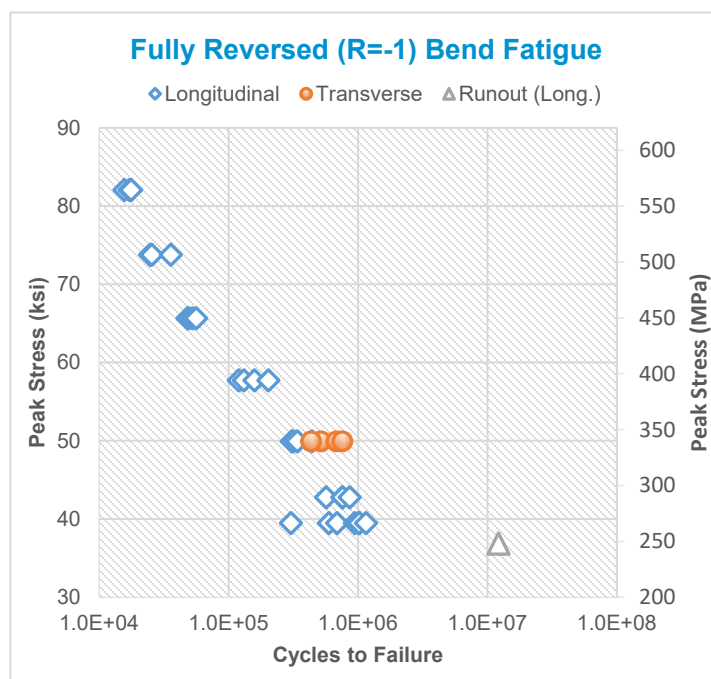
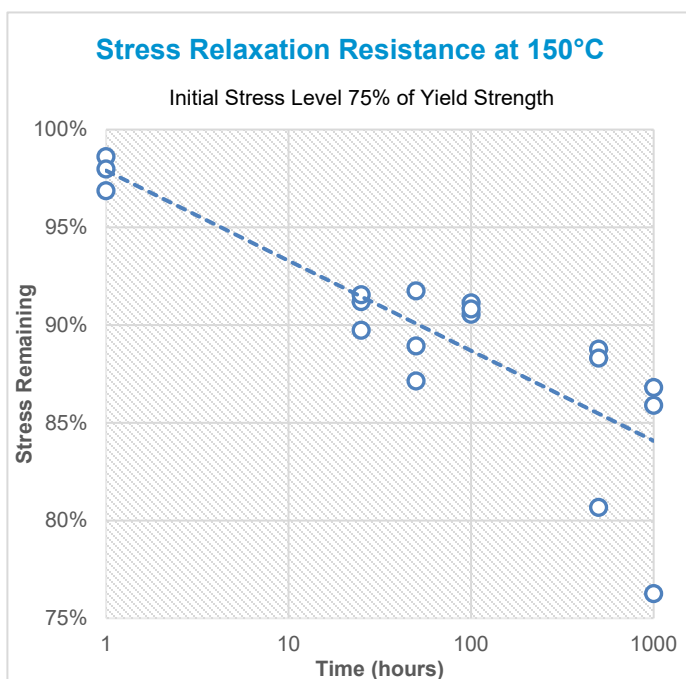
*Properties may vary by thickness.

**Percent elongation valid only for strip greater than 0.004" (0.10 mm) thick.

Standard Availability

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

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.