

BrushForm® 158 Strip: TM18 and TM19 Tempers

Materion's BrushForm® 158 strip is a high-performance, heat treated spinodal copper-nickel-tin alloy designed to provide optimal photochemical machinability, high yield strength and increased fatigue life. The TM18 and TM19 tempers provide excellent flatness and stiffness coupled with high resistance to vibration, fatigue, and impact loading. This makes them ideal for voice coil motor springs in optical image stabilization systems.

Chemical Composition (Weight Percent)

Alloy	Nickel	Tin	Copper
BrushForm 158 Strip	14.5 - 15.5	7.5 - 8.5	Balance

Physical Properties

Elastic Modulus	Density	Typical Electrical Conductivity	Thermal Expansion Coefficient	Relative Magnetic Permeability	Poisson's Ratio
119 - 145 GPa	9.0 g/cm ³	7% IACS 4 MS/m	16.4 x 10 ⁻⁶ m/m °C	< 1.01	0.3

Mechanical Properties

Temper	0.2% Offset Yield Strength (MPa)	Ultimate Tensile Strength (MPa)	Elongation (%)*	Hardness (HV)
TM18	1375 typ.	1400 typ.	1.5 typ.	375 min.
TM19	1375 typ.	1416 typ.	1.4 typ.	375 min.

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

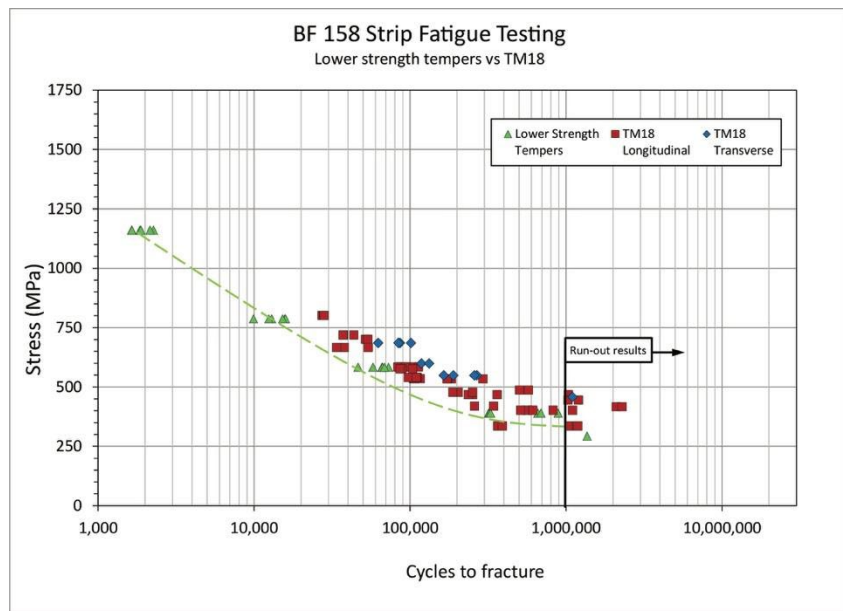
Standard Availability

Mill hardened tempered strip: 0.025 - 0.12 mm gauge.

Industry Standards and Specifications

UNS C72900, ASTM B740

Fatigue Data*



*TM19 fatigue testing in process.

Related Information

Additional technical information on BrushForm® 158 strip may be obtained by phoning +1.800.375.4205. For pricing and availability, phone +1.800.521.8800.

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.