MATERION

Data Sheet

BrushForm® 158 Strip Mill Hardened Tempers

Materion BrushForm 158 Strip is a high-performance, heat treatable spinodal copper-nickel-tin alloy designed to provide optimal formability and strength characteristics in conductive spring applications such as electronic connectors, switches, and sensors. The higher strength tempers provide excellent fatigue and impact performance, making them ideal for voice coil motor springs in optical image stabilization systems. BrushForm 158 strip is available in both pre-heat-treated (mill hardened) and heat treatable (age hardenable) forms.

Chemical Composition (Weight Percent)

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

Typical Physical Properties

Elastic Modulus	Density	Typical Electrical Conductivity	Coefficient of Thermal Expansion (20 – 200 °C)	Relative Magnetic Permeability	Poisson's Ratio
18.5 x 10^6 psi 128 GPa	0.325 lb/in^3 9.00 g/cm^3	7% IACS 4 MS/m	9.1 ppm/°F 16.4 ppm/°C	< 1.01	0.3

Typical Mechanical Properties

Temper	0.2% Offset Yield Strength ksi (MPa)	Ultimate Tensile Strength ksi (MPa)	Minimum Elongation (%) *	Hardness (HV)	Minimum 90° Bend Formability R/T Ratio	
					Good Way (Longitudinal)	Bad Way (Transverse)
TM00	75 - 95 (515 - 655)	95 - 115 (655 - 795)	22	190 - 290	0	0
TM02	90 - 110 (620 - 760)	105 - 125 (725 - 860)	15	215 - 315	0	0
TM04	115 - 130 (790-900)	130 min. (895 min.)	10	245 - 345	1	1
TM06	130 - 150 (895 - 1035)	140 min. (965 min.)	6	270 - 370	2	2
TM08	140 - 170 (965 - 1170)	150 - 178 (1035 - 1230)	2	305 - 405	5	8
TM10	165 - 195 (1135 - 1345)	175 - 210 (1205 - 1450)	1	370 - 450	-	-

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

Forms Available

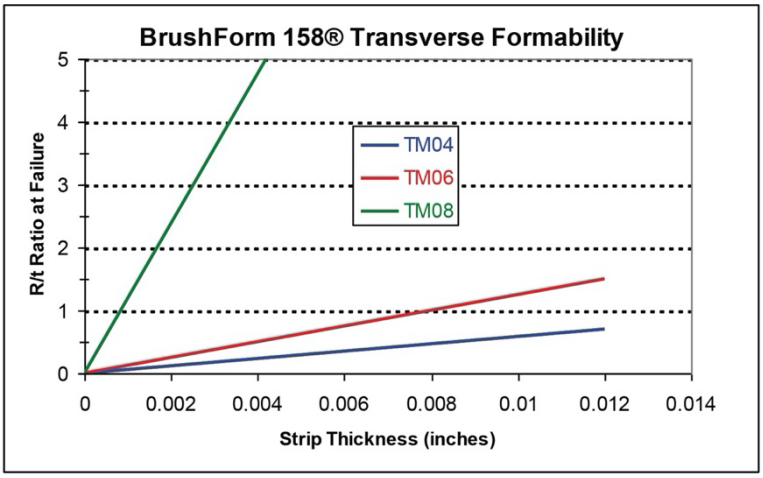
Mill Hardened Tempered Strip: 0.0015" (0.04mm) - 0.020" (0.5mm) gauge. For the TM10 & TM12 tempers only, the minimum thickness is 0.0010" (0.0254 mm).

Industry Standards and Specifications

UNS# C72900, ASTM B740

Related Information

Additional technical information on BrushForm 158 strip may be obtained by phoning +1.800.375.4205.



MATERION Alloys and Composites
6070 Parkland Boulevard
Mayfield Heights, OH 44124 USA

Contact Us:
materion.com/ContactPAC
+1.800.375.4205

MATERION Global Headquarters
6070 Parkland Boulevard
Mayfield Heights, OH 44124 USA

