

## BrushForm® 158 Strip Cold Rolled 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. It 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 to 200° C)	Relative Magnetic Permeability	Poisson's Ratio
21.0 x 10 <sup>6</sup> psi 144 GPa	0.325 lb/in <sup>3</sup> 9.00 g/cm <sup>3</sup>	7% IACS 4 MS/m	9.1 ppm/°F 16.4 ppm/°C	< 1.01	0.3

### Typical Mechanical Properties

Cold Rolled Temper Designations for BrushForm 158 Strip								
Standard Designation	ASTM Designation	Heat Treatment	0.2% YS ksi (MPa)	UTS ksi (MPa)	Minimum Elongation (%)	Hardness (HV)	Minimum 90° Bend Formability R/T Ratio	
							Good Way (Longitudinal)	Good Way (Longitudinal)
A	TB00	As cold rolled (before required heat treatment)	25 - 45 (170 - 310)	64 - 85 (440 - 585)	32	100 - 150	0.0	0.0
1/4H	TD01		52 - 75 (360 - 520)	75 - 100 (515 - 690)	18	150 - 235	0.0	0.0
1/2H	TD02		75 - 100 (515 - 690)	85 - 110 (585 - 760)	8	190 - 275	0.0	0.5
H	TD04		95 - 125 (655 - 860)	100 - 130 (690 - 895)	1	220 - 300	0.5	3.0
EH	TD08		115 - 135 (790 - 930)	122 - 145 (840 - 1000)	1	265 - 325	-	-
AT	TX00	After 3 hours @ 700°F (370 °C)	100 - 130 (690 - 895)	120 - 150 (825 - 1035)	6	275 - 350	-	-
1/4HT	TS01		115 - 145 (790 - 1000)	130 - 160 (895 - 1105)	4	290 - 365	-	-
1/2HT	TS02		135 - 165 (930 - 1140)	145 - 175 (1000 - 1205)	3	315 - 390	-	-
HT	TS04		155 - 185 (1070 - 1275)	165 - 195 (1140 - 1345)	2	335 - 410	-	-
EHT	TS08		170 - 200 (1170 - 1380)	175 - 205 (1205 - 1415)	1	370 - 450	-	-

\*Percent elongation valid for strip 0.004" (0.10 mm) and thicker.

## Forms Available

Cold Rolled Temper Strip: 0.0015" (0.04mm) - 0.020" (0.5mm) gauge.

## Industry Standard and Specification

UNS# C72900, ASTM B740

## 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.

## Tolerances

Strip Thickness (inches)		Standard Thickness Tolerance (inches)	Strip Thickness (mm)		Standard Thickness Tolerance (mm)
Over	Including	Plus or Minus	Over	Including	Plus or Minus
	0.0020	0.00010		0.05	0.003
0.0020	0.0040	0.00015	0.05	0.10	0.004
0.0040	0.0060	0.00020	0.10	0.20	0.006
0.0060	0.0090	0.00025	0.20	0.30	0.008
0.0090	0.0130	0.00030	0.30	0.70	0.010
0.0130	0.0260	0.00040	0.70	1.00	0.016
0.0260	0.0370	0.00060	1.00	1.30	0.020
0.0370	0.0500	0.00080	1.30	2.00	0.025
0.0500	0.0750	0.00100			

Additional tolerances are per ASTM B248. Please specify the exact tolerances that you require when you place your order. Tighter tolerances may be available at additional cost. Please contact your local sales engineer to confirm the requested capability.

### 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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