

Material Notes: M-1™ features and benefits include: Dimensional stability, fully weldable, anodizable, consistent hardness - regardless of size, can be nickel plated, good machinability, no heat treatment required, cost effective.

Applications: Used for mold applications such as blow molding, structural foam molding, RIM and RTM molding, and rubber molds.

Sizes: Thickness 2 -30 inches; Width up to 63 inches; Length up to 170 inches. Data provided by Alpanse.

Vendors: Clinton Aluminum & Stainless Steel - 800-926-2600

Physical Properties	Metric	English	Comments
Density	2.80 g/cc	0.101 lb/in ³	
Mechanical Properties	Metric	English	Comments
Hardness, Brinell	95	95	
Hardness, Knoop	120	120	Estimated from Brinell
Hardness, Rockwell A	40	40	Estimated from Brinell
Hardness, Rockwell B	60	60	Estimated from Brinell
Hardness, Vickers	107	107	Estimated from Brinell
Tensile Strength, Ultimate	296 MPa	42900 psi	Typical
Tensile Strength, Yield	207 MPa	30000 psi	Typical
Elongation at Break	7.00 - 9.00 %	7.00 - 9.00 %	Typical
Modulus of Elasticity	74.5 GPa	10800 ksi	
Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.00000440 ohm-cm	0.00000440 ohm-cm	
Thermal Properties	Metric	English	Comments
CTE, linear	23.2 μm/m-°C	12.9 μin/in-°F	
	@Temperature 20.0 - 100 °C	@Temperature 68.0 - 212 °F	
Thermal Conductivity	159 W/m-K	1100 BTU-in/hr-ft ² -°F	
Component Elements Properties	Metric	English	Comments
Aluminum, Al	94.0 %	94.0 %	as balance
Copper, Cu	2.80 - 3.20 %	2.80 - 3.20 %	
Iron, Fe	0.70 - 1.20 %	0.70 - 1.20 %	
Magnesium, Mg	0.90 - 1.30 %	0.90 - 1.30 %	
Nickel, Ni	0.70 - 1.20 %	0.70 - 1.20 %	
Silicon, Si	0.050 - 0.20 %	0.050 - 0.20 %	
Titanium, Ti	<= 0.050 %	<= 0.050 %	

These are typical numbers and are intended for engineering design. Please contact an authorized Clinton aluminum and Stainless Steel employee for more specific details.



Toll Free 1-800-926-2600 Fax 330-882-6749