



Mats and Other Surfacing Products

Velostat Sheet Stock (Thermoformable)

3M™ Velostat™ Electrically Conductive EVA Copolymer (1801 Sheet Stock) and Polypropylene (1840 Sheet Stock) may be used to cover table tops and to create floor mats. They can also be thermoformed or fabricated into conductive containers and objects. They are easily formed within normal process parameters for these plastics. A thermoforming guide technical brief #122 is available upon request. 1801 sheets are more flexible and are normally shipped rolled, while 1840 sheets are more rigid and normally shipped flat.

1801/4550 and 1840/4520 compounds are available in pellet form for injection-molding and extrusion. Subject to minimum order quantities.

Product No.	Description
1801	Sheet Stock, semi-flexible. (copolymer).
1840	Sheet Stock, semi-rigid. (polyethylene).
Nominal Thickness in.	Actual Thickness in. (mm) Sheet Size ft. (m)
1/32	0.035 (0,9) 4 x 8 (1,2 x 2,4)
1/16	0.062 (1,6) 4 x 8 (1,2 x 2,4)
1/8	0.125 (3,2) 4 x 8 (1,2 x 2,4)
3/16	0.188 (4,8) 4 x 8 (1,2 x 2,4)

Velostat Resin Properties

Typical Property	Test Method	4550 Compound / 1801 Sheet Stock Typical Value	4520 Compound / 1840 Sheet Stock Typical Value
Hardness	ASTM D2240	58 – 62 Shore D	67 – 71 Shore D
Heat Deflection Temp.	ASTM D648	38° – 43°C @ 264 PSI	100°C @ 66PSI 50°C @ 264 PSI
Water Absorption	ASTM 570	0.1 – 0.2%	0.1 – 0.2%
Vicat Softening	ASTM D1525	88° – 92°C	148°C
Flammability	ASTM D635	4.5 – 5.5 cm/min.	2 cm/min.
Impact Resistance	ASTM D256	2.9 – 3.7 ft.-lbs./in. @ 72°F	8 – 10 ft.-lbs./in. @ 72°F
Notched Izod		0.6 – 1.3 ft.-lbs./in. @ 25°F	7 – 9 ft.-lbs./in. @ 25°F
Maximum Temp. Exposure	3M	150°F	180°F
Tensile Strength	ASTM D638	1700 – 2000 PSI	2800 – 3000 PSI
Flex Modulus	ASTM D790	40,000 – 50,000 PSI	130,000 – 150,000 PSI
Mold Shrinkage	ASTM 955	15 – 20 mil/in.	10 - 20 mil/in.
Electrical Conductance			
Volume Conductive	ASTM D991	< 500 ohms-cm	< 500 ohms-cm
Chemical Resistance	ASTM D543		
Alcohol		Resistant	Resistant
Aromatic Hydrocarbons		Severe Attack	Severe Attack
Aliphatic Hydrocarbons		Moderate Attack	Moderate Attack
Concentrated Acids		Slight Attack	Slight Attack
Concentrated Alkalines		Slight Attack	Slight Attack
Dilute Acids		Resistant	Resistant
Dilute Alkalines		Resistant	Resistant
Kerosene		Severe Attack	Severe Attack
Ketones (Acetone)		Moderate Attack	Moderate Attack
Mineral Oil		Slight Attack	Slight Attack
Oil and Gasoline		Moderate Attack	Moderate Attack