

## MATERIAL DATA SHEET



ABS-ESD7™ [*acrylonitrile butadiene styrene-electrostatic dissipative*] is an ABS thermoplastic with static dissipative properties for applications where a static charge can damage products, impair their performance or cause an explosion. ABS-ESD7 prevents a buildup of static electricity, so it will not produce a static shock or cause other materials like powders, dust and fine particles to stick to it. Ideal for electronic products with circuit boards and for the transportation and industrial equipment industries. Most widely used to create jigs and fixtures for the assembly of electronic components, but it is also useful for building functional prototypes of fuel storage and delivery products, as well as cases, enclosures and packaging.

MECHANICAL PROPERTIES	TEST METHOD	ENGLISH	METRIC
Tensile Strength [Type 1, 0.125", 0.2"/min]	ASTM D638	5,200 psi	36 MPa
Tensile Modulus [Type 1, 0.125", 0.2"/min]	ASTM D638	350,000 psi	2,400 MPa
Tensile Elongation [Type 1, 0.125", 0.2"/min]	ASTM D638	3%	3%
Flexural Strength [Method 1, 0.05"/min]	ASTM D790	8,800 psi	61 MPa
Flexural Modulus [Method 1, 0.05"/min]	ASTM D790	350,000 psi	2,400 MPa
IZOD Impact, notched [Method A, 23 °C]	ASTM D256	0.5 ft-lb/in	28 J/m
IZOD Impact, un-notched [Method A, 23 °C]	ASTM D256	1.1 ft-lb/in	55 J/m

THERMAL PROPERTIES	TEST METHOD	ENGLISH	METRIC
Heat Deflection [HDT]@ 66 psi, 0.125" unannealed	ASTM D648	204 °F	96 °C
Heat Deflection [HDT]@ 264 psi, 0.125" unannealed	ASTM D648	180 °F	82 °C
Vicat Softening Temperature [Rate 8/50]	ASTM D1525	210 °F	99 °C
Glass Transition [Tg]	DSC [SSYS]	226 °F	108 °C
Coefficient of Thermal Expansion [flow]	ASTM E831	4.9 <sup>5</sup> in/in/°F	8.82 <sup>5</sup> mm/mm/°C
Coefficient of Thermal Expansion [xflow]	ASTM E831	4.7 <sup>5</sup> in/in/°F	8.46 <sup>5</sup> mm/mm/°C
Melting Point	-----	Not Applicable	Not Applicable

ELECTRICAL PROPERTIES	TEST METHOD	VALUE RANGE
Volume Resistivity	ASTM D257	3.0 x 10 <sup>9</sup> - 4.0 x 10 <sup>10</sup> ohm-cm
Surface Resistance	ASTM D257	10 <sup>6</sup> - 10 <sup>9</sup> ohms

OTHER	TEST METHOD	VALUE
Specific Gravity	ASTM D792	1.04
Flame Classification	UL94	HB [0.06", 1.5 mm]
Rockwell Hardness	ASTM D785	109.5

