



High Impact Polystyrene Data Sheet

| | | | | HI-Impact Polystyrene | |
|-------------------|----|---|------------------------------|-----------------------|------------|
| | | | Units | ASTM Test Method | |
| | | | | Extruded Polystyrene | |
| MECHANICAL | 1 | Strength to Weight Ratio | ksi | - | 3.8 |
| | 2 | Specific Gravity @73 F | - | D792 | 1.04 |
| | 3 | Tensile Strength @73 F, (ult)/(yld) | psi | D638 | 4000 (ult) |
| | 4 | Tensile Modulus of Elasticity @ 73 F | psi | D638 | - |
| | 5 | Tensile Elongation at Break @ 73 F | % | D638 | 50 |
| | 6 | Flexural Strength @ 73 F | psi | D790 | - |
| | 7 | Flexural Modulus of Elasticity @ 73 F | psi | D790 | 260000 |
| | 8 | Shear Strength @ 73 F | psi | D732 | - |
| | 9 | Compressive Strength, (% Deformation) @73 F | psi | D695 | - |
| | 10 | Compressive Modulus of Elasticity @73 F | psi | D695 | - |
| | 11 | Hardness, Rockwell, Scale as noted @73 F | - | D785 | (L56) |
| | 12 | Hardness, Durometer, Shore D @73 F | - | D2240 | - |
| | 13 | Izod Impact, (Notched) @73 F | ft-lb/in of notch | D256 TypeA | - |
| | 14 | Coefficient of Friction, (Dry vs. Steel) Dynamic | - | - | - |
| | 15 | Limiting PV, (with 4 to 1 factor of safety applied) | psi-ft/min | - | - |
| THERMAL | 16 | Coefficient of Linear Thermal Expansion @73 F | in/in/F | E-831 (TMA) | - |
| | 17 | Heat Deflection Temperature @ 264 psi | F | D648 | 183 |
| | 18 | Tg-Glass transition temperature, (Amorphous) | F | D3418 | - |
| | 19 | Melting Point, (VS=Vicat Softening Temp.) | F | D3418 | - |
| | 20 | Continuous Service Temperature in Air, (Max.) | F | - | - |
| | 21 | Thermal Conductivity | BTU-in/hr-ft ² -F | - | - |
| ELECTRICAL | 22 | Dielectric Strength, Short Term | Volts/mil | D149 | - |

| | | | | | |
|-----------------------|----|-------------------------------------|----------|---------|---|
| | 23 | Volume Resistivity | ohm-cm | D257 | - |
| | 24 | Dielectric Constant @ 10E6 Hz | - | D150 | - |
| | 25 | Dissipation Factor @ 10E6 Hz | - | D150 | - |
| | 26 | Flammability @ 3.1 mm unless noted | - | UL94 | - |
| H₂O | 27 | Water Absorbtion, Immersion, 24 Hrs | % by wt. | D570(7) | - |
| | 28 | Water Absorbtion, Saturation | % by wt. | D570(7) | - |

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