



Borotron® HD050 – 5% Borated HDPE

Material Notes:

Borotron® HD050 is based on Quadrant's high performance HDPE with 5% elemental boron. Borotron® has been used as a medical and industrial shielding material to attenuate and absorb neutron radiation. This easily fabricated polymer material also offers designers greater durability and function over a wider range of temperatures than traditional materials.

Physical Properties	Metric	English	Comments
Specific Gravity	1.01 g/cc	0.0365 lb/in ³	ASTM D792
Mechanical Properties			
Hardness, Shore D	71	71	ASTM D2240
Tensile Strength, Ultimate	16.6 MPa	2407 psi	ASTM D638
Elongation at Break	4 %	4 %	ASTM D638
Tensile Modulus	0.767 GPa	111.215 ksi	ASTM D638
Flexural Modulus	0.873 GPa	126.585 ksi	ASTM D790
Flexural Yield Strength	29.1 MPa	4220 psi	ASTM D790
Compressive Strength	24.5 MPa	3553 psi	10% Def., 73°F; ASTM D695
Compressive Modulus	0.672 GPa	97.44 ksi	ASTM D695
Izod Impact, Notched	0.481 J/cm	0.9 ft-lb/in	ASTM D256
Electrical Properties			
Surface Resistivity per Square	Min 1e+012 ohm	Min 1e+012 ohm	ASTM D257
Thermal Properties			
CTE, linear 68°F	198 µm/m-°C	110 µin/in-°F	(-40°F to 300°F); ASTM E831
Melting Point	128 °C	262 °F	ASTM D3417

All statements, technical information and recommendations contained in this database are presented in good faith, based upon tests believed to be reliable and practical field experience. The reader is cautioned, however, that Quadrant EPP and Automation Creations, Inc. cannot guarantee the accuracy or completeness of this information, and it is the customer's responsibility to determine the suitability of Quadrant EPP's products in any given application.

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