

SABIC Innovative Plastics Valox[®] ENH4560 PBT (Asia Pacific)

Category : Polymer , Thermoplastic , Polyester, TP , Polybutylene Terephthalate (PBT)

Material Notes:

Valox* ENH4560 resin is a non-brominated/non-chlorinated flame retardant product based on Valox* iQ PBT resin.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Valox-ENH4560-PBT-Asia-Pacific.php

| Physical Properties | Metric | English | Comments |
|--------------------------------|---|---|---|
| Specific Gravity | 1.56 g/cc | 1.56 g/cc | ASTM D792 |
| Density | 1.56 g/cc | 0.0564 lb/in ³ | ISO 1183 |
| Moisture Absorption | 0.0900 % | 0.0900 % | 23 [°] C / 50% RH; ISO 62 |
| Water Absorption at Saturation | 0.23 % | 0.23 % | ISO 62 |
| Linear Mold Shrinkage, Flow | 0.0028 cm/cm @Thickness 3.20 mm | 0.0028 in/in @Thickness 0.126 in | SABIC Method |
| Melt Index of Compound | 16 g/10 min @Load 5.00 kg, Temperature 250 [°] C | 16 g/10 min @Load 11.0 lb, Temperature 482 [°] F | MVR [cm ³ /10 min]; ISO 1133 |

| Mechanical Properties | Metric | English | Comments |
|---------------------------|----------|-----------|-----------------------------------|
| Tensile Strength at Break | 105 MPa | 15200 psi | Type I, 5 mm/min; ASTM D638 |
| | 108 MPa | 15700 psi | 5 mm/min; ISO 527 |
| Tensile Strength, Yield | 105 MPa | 15200 psi | Type I, 5 mm/min; ASTM D638 |
| | 108 MPa | 15700 psi | 5 mm/min; ISO 527 |
| Elongation at Break | 2.0 % | 2.0 % | Type I, 5 mm/min; ASTM D638 |
| | 2.0 % | 2.0 % | 5 mm/min; ISO 527 |
| Elongation at Yield | 2.0 % | 2.0 % | Type I, 5 mm/min; ASTM D638 |
| | 2.0 % | 2.0 % | 5 mm/min; ISO 527 |
| Tensile Modulus | 11.0 GPa | 1600 ksi | 5 mm/min; ASTM D638 |
| | 11.0 GPa | 1600 ksi | 1 mm/min; ISO 527 |
| Flexural Strength | 165 MPa | 23900 psi | 1.3 mm/min, 50 mm span; ASTM D790 |
| | 175 MPa | 25400 psi | 2 mm/min; ISO 178 |

| Mechanical Properties | Metric | English | Comments |
|------------------------------|--------------------------|----------------------------|-----------------------------------|
| | 175 MPa | 25400 psi | 2 mm/min; ISO 178 |
| Flexural Modulus | 9.60 GPa | 1390 ksi | 1.3 mm/min, 50 mm span; ASTM D790 |
| | 10.0 GPa | 1450 ksi | 2 mm/min; ISO 178 |
| Izod Impact, Notched | 0.720 J/cm | 1.35 ft-lb/in | ASTM D256 |
| | 0.550 J/cm | 1.03 ft-lb/in | ASTM D256 |
| | @Temperature -30.0 °C | @Temperature -22.0 °F | |
| Izod Impact, Unnotched | 5.70 J/cm | 10.7 ft-lb/in | ASTM D4812 |
| Izod Impact, Notched (ISO) | 7.00 kJ/m ² | 3.33 ft-lb/in ² | 80*10*4; ISO 180/1A |
| | 6.00 kJ/m ² | 2.86 ft-lb/in ² | 80*10*4; ISO 180/1A |
| | @Temperature -30.0 °C | @Temperature -22.0 °F | |
| Izod Impact, Unnotched (ISO) | 37.0 kJ/m ² | 17.6 ft-lb/in ² | 80*10*4; ISO 180/1U |
| Dart Drop, Total Energy | 6.00 J | 4.43 ft-lb | ASTM D3763 |
| | @Temperature 23.0 °C | @Temperature 73.4 °F | |

| Thermal Properties | Metric | English | Comments |
|--|---------------------------------|--------------------------------|-----------------------------------|
| CTE, linear, Parallel to Flow | 24.0 μm/m-°C | 13.3 μin/in-°F | ASTM E 831 |
| | @Temperature -40.0 - 40.0 °C | @Temperature -40.0 - 104 °F | |
| CTE, linear, Transverse to Flow | 80.0 μm/m-°C | 44.4 μin/in-°F | ASTM E 831 |
| | @Temperature -40.0 - 40.0 °C | @Temperature -40.0 - 104 °F | |
| Deflection Temperature at 1.8 MPa (264 psi) | 205 °C | 401 °F | Flatw 80*10*4 sp=64mm; ISO 75/ Af |
| | 200 °C | 392 °F | unannealed; ASTM D648 |
| | @Thickness 3.20 mm | @Thickness 0.126 in | |
| | 210 °C | 410 °F | unannealed; ASTM D648 |
| | @Thickness 6.40 mm | @Thickness 0.252 in | |
| Vicat Softening Point | 195 °C | 383 °F | Rate B/50; ASTM D1525 |
| | 195 °C | 383 °F | Rate B/50; ISO 306 |

| Thermal Properties | Metric | English | Comments |
|--------------------|---------------------|----------------------|----------------|
| Flammability, UL94 | V-0 | V-0 | UL 94 |
| | @Thickness 0.800 mm | @Thickness 0.0315 in | |
| | 5VB | 5VB | UL 94 |
| | @Thickness 3.00 mm | @Thickness 0.118 in | |
| Glow Wire Test | 800 Â°C | 1470 Â°F | IEC 60695-2-13 |
| | 960 Â°C | 1760 Â°F | IEC 60695-2-12 |
| | @Thickness 1.00 mm | @Thickness 0.0394 in | |

| Electrical Properties | Metric | English | Comments |
|----------------------------|-------------|-------------|-----------|
| Comparative Tracking Index | >= 600 V | >= 600 V | UL 746A |
| | 600 V | 600 V | IEC 60112 |
| Hot Wire Ignition, HWI | >= 120 sec | >= 120 sec | UL 746A |
| High Amp Arc Ignition, HAI | >= 120 arcs | >= 120 arcs | UL 746A |

| Descriptive Properties | Value | Comments |
|-------------------------------------|--------|----------------|
| Ball Pressure Test, 125Â°C +/- 2Â°C | PASSES | IEC 60695-10-2 |

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