

DuPont Performance Polymers Crastin® BM6450XD BK560 Polybutylene Terephthalate (PBT) (Unverified Data**)&

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

Material Notes:

Unreinforced Polybutylene Terephthalate Developed for Blow Molding Crastin BM6450XD BK560 is an unreinforced supertough polybutylene terephthalate resin with very high viscosity for extrusion and blow molding applications. Information provided by DuPont Performance Polymers

Order this product through the following link:

http://www.lookpolymers.com/polymer_DuPont-Performance-Polymers-Crastin-BM6450XD-BK560-Polybutylene-Terephthalate-PBT-nbspUnverified-Data.php

| Physical Properties | Metric | English | Comments |
|-----------------------------------|---|---|----------------|
| Density | 1.03 g/cc | 0.0372 lb/in ³ | |
| | 1.21 g/cc | 0.0437 lb/in ³ | ISO 1183 |
| Viscosity | 169000 cP | 169000 cP | |
| | @Shear Rate 5000 1/s, Temperature 260 °C | @Shear Rate 5000 1/s, Temperature 500 °F | ISO 11403-1 -2 |
| | 226000 cP | 226000 cP | |
| | @Shear Rate 5000 1/s, Temperature 250 °C | @Shear Rate 5000 1/s, Temperature 482 °F | ISO 11403-1 -2 |
| | 312000 cP | 312000 cP | |
| | @Shear Rate 5000 1/s, Temperature 240 °C | @Shear Rate 5000 1/s, Temperature 464 °F | ISO 11403-1 -2 |
| Linear Mold Shrinkage, Flow | 608000 cP | 608000 cP | |
| | @Shear Rate 500 1/s, Temperature 260 °C | @Shear Rate 500 1/s, Temperature 500 °F | ISO 11403-1 -2 |
| | 816000 cP | 816000 cP | |
| Linear Mold Shrinkage, Transverse | @Shear Rate 500 1/s, Temperature 250 °C | @Shear Rate 500 1/s, Temperature 482 °F | ISO 11403-1 -2 |
| | 1.13e+6 cP | 1.13e+6 cP | |
| | @Shear Rate 500 1/s, Temperature 240 °C | @Shear Rate 500 1/s, Temperature 464 °F | ISO 11403-1 -2 |
| Linear Mold Shrinkage, Flow | 0.015 cm/cm | 0.015 in/in | ISO 294-4 2577 |
| Linear Mold Shrinkage, Transverse | 0.017 cm/cm | 0.017 in/in | ISO 294-4 2577 |

| Mechanical Properties | Metric | English | Comments |
|-----------------------|-----------|----------|----------|
| | 0.590 MPa | 85.6 psi | |

| Mechanical Properties | Metric | English | Comments |
|-----------------------|---------------------------------------|---------------------------------------|----------------|
| | @Strain 0.160 %, Temperature 90.0 °C | @Strain 0.160 %, Temperature 194 °F | ISO 11403-1 -2 |
| | 1.20 MPa | 174 psi | |
| | @Strain 0.600 %, Temperature 150 °C | @Strain 0.600 %, Temperature 302 °F | ISO 11403-1 -2 |
| | 1.69 MPa | 245 psi | |
| | @Strain 0.150 %, Temperature 40.0 °C | @Strain 0.150 %, Temperature 104 °F | ISO 11403-1 -2 |
| | 3.29 MPa | 477 psi | |
| | @Strain 2.81 %, Temperature 150 °C | @Strain 2.81 %, Temperature 302 °F | ISO 11403-1 -2 |
| | 4.02 MPa | 583 psi | |
| | @Strain 1.78 %, Temperature 90.0 °C | @Strain 1.78 %, Temperature 194 °F | ISO 11403-1 -2 |
| | 4.24 MPa | 615 psi | |
| | @Strain 0.240 %, Temperature 23.0 °C | @Strain 0.240 %, Temperature 73.4 °F | ISO 11403-1 -2 |
| | 4.26 MPa | 618 psi | |
| | @Strain 0.190 %, Temperature -20.0 °C | @Strain 0.190 %, Temperature -4.00 °F | ISO 11403-1 -2 |
| | 4.72 MPa | 685 psi | |
| | @Strain 0.230 %, Temperature 0.000 °C | @Strain 0.230 %, Temperature 32.0 °F | ISO 11403-1 -2 |
| | 4.73 MPa | 686 psi | |
| | @Strain 5.10 %, Temperature 150 °C | @Strain 5.10 %, Temperature 302 °F | ISO 11403-1 -2 |
| | 5.81 MPa | 843 psi | |
| | @Strain 7.64 %, Temperature 150 °C | @Strain 7.64 %, Temperature 302 °F | ISO 11403-1 -2 |
| | 7.01 MPa | 1020 psi | |
| | @Strain 3.88 %, Temperature 90.0 °C | @Strain 3.88 %, Temperature 194 °F | ISO 11403-1 -2 |
| | 8.09 MPa | 1170 psi | |
| | @Strain 20.0 %, Temperature 150 °C | @Strain 20.0 %, Temperature 302 °F | ISO 11403-1 -2 |
| | 9.18 MPa | 1330 psi | |
| | @Strain 6.32 %, Temperature 90.0 °C | @Strain 6.32 %, Temperature 194 °F | ISO 11403-1 -2 |

| Mechanical Properties | Metric MPa | English | Comments |
|-------------------------|--|---|-----------------------|
| | @Strain 1.38 %, Temperature 40.0 °C | @Strain 1.38 %, Temperature 104 °F | ISO 11403-1 -2 |
| | 15.74 MPa | 2283 psi | |
| | @Strain 3.66 %, Temperature 40.0 °C | @Strain 3.66 %, Temperature 104 °F | ISO 11403-1 -2 |
| | 17.25 MPa | 2502 psi | |
| | @Strain 0.950 %, Temperature 0.000 °C | @Strain 0.950 %, Temperature 32.0 °F | ISO 11403-1 -2 |
| | 19.01 MPa | 2757 psi | |
| | @Strain 7.19 %, Temperature 40.0 °C | @Strain 7.19 %, Temperature 104 °F | ISO 11403-1 -2 |
| | 20.65 MPa | 2995 psi | |
| | @Strain 1.38 %, Temperature 23.0 °C | @Strain 1.38 %, Temperature 73.4 °F | ISO 11403-1 -2 |
| | 21.31 MPa | 3091 psi | |
| | @Strain 1.13 %, Temperature -20.0 °C | @Strain 1.13 %, Temperature -4.00 °F | ISO 11403-1 -2 |
| | 29.53 MPa | 4283 psi | |
| | @Strain 3.85 %, Temperature 23.0 °C | @Strain 3.85 %, Temperature 73.4 °F | ISO 11403-1 -2 |
| | 32.79 MPa | 4756 psi | |
| | @Strain 2.14 %, Temperature 0.000 °C | @Strain 2.14 %, Temperature 32.0 °F | ISO 11403-1 -2 |
| | 39.61 MPa | 5745 psi | |
| | @Strain 4.14 %, Temperature 0.000 °C | @Strain 4.14 %, Temperature 32.0 °F | ISO 11403-1 -2 |
| | 40.28 MPa | 5842 psi | |
| | @Strain 2.57 %, Temperature -20.0 °C | @Strain 2.57 %, Temperature -4.00 °F | ISO 11403-1 -2 |
| | 48.39 MPa | 7018 psi | |
| | @Strain 4.80 %, Temperature -20.0 °C | @Strain 4.80 %, Temperature -4.00 °F | ISO 11403-1 -2 |
| Tensile Strength, Yield | 34.0 MPa | 4930 psi | ISO 527-1/-2 |
| Elongation at Break | >= 50 % | >= 50 % | Nominal; ISO 527-1/-2 |
| Elongation at Yield | 9.0 % | 9.0 % | ISO 527-1/-2 |
| | 1.60 GPa | 232 ksi | |

| Tensile Modulus Mechanical Properties | Metric | English | ISO 527-1/-2 Comments |
|--|---|---|--------------------------|
| | 0.115 GPa | 16.7 ksi | ISO 11403-1 -2 |
| | @Temperature 150 °C | @Temperature 302 °F | |
| | 0.322 GPa | 46.7 ksi | ISO 11403-1 -2 |
| | @Temperature 60.0 °C | @Temperature 140 °F | |
| | 1.983 GPa | 287.6 ksi | ISO 11403-1 -2 |
| | @Temperature -20.0 °C | @Temperature -4.00 °F | |
| Flexural Strength | 50.0 MPa | 7250 psi | ISO 178 |
| Flexural Modulus | 1.60 GPa | 232 ksi | ISO 178 |
| Shear Strength | 0.09893 MPa | 14.35 psi | ISO 11403-1 -2 |
| | @Shear Rate 50.0 1/s, Temperature 260 °C | @Shear Rate 50.0 1/s, Temperature 500 °F | |
| | 0.13975 MPa | 20.269 psi | ISO 11403-1 -2 |
| | @Shear Rate 50.0 1/s, Temperature 250 °C | @Shear Rate 50.0 1/s, Temperature 482 °F | |
| | 0.2001 MPa | 29.02 psi | ISO 11403-1 -2 |
| | @Shear Rate 50.0 1/s, Temperature 240 °C | @Shear Rate 50.0 1/s, Temperature 464 °F | |
| | 0.3038 MPa | 44.06 psi | ISO 11403-1 -2 |
| | @Shear Rate 500 1/s, Temperature 260 °C | @Shear Rate 500 1/s, Temperature 500 °F | |
| | 0.4082 MPa | 59.20 psi | ISO 11403-1 -2 |
| | @Shear Rate 500 1/s, Temperature 250 °C | @Shear Rate 500 1/s, Temperature 482 °F | |
| | 0.5666 MPa | 82.17 psi | ISO 11403-1 -2 |
| | @Shear Rate 500 1/s, Temperature 240 °C | @Shear Rate 500 1/s, Temperature 464 °F | |
| | 0.84519 MPa | 122.58 psi | ISO 11403-1 -2 |
| | @Shear Rate 5000 1/s, Temperature 260 °C | @Shear Rate 5000 1/s, Temperature 500 °F | |
| | 1.129 MPa | 163.7 psi | ISO 11403-1 -2 |
| | @Shear Rate 5000 1/s, Temperature 250 °C | @Shear Rate 5000 1/s, Temperature 482 °F | |
| | 1.562 MPa | 226.5 psi | ISO 11403-1 -2 |
| | @Shear Rate 5000 1/s, Temperature 240 °C | @Shear Rate 5000 1/s, Temperature 464 °F | |

| Mechanical Properties | Metric | English | Comments |
|-----------------------|--|--|----------------|
| Secant Modulus | @Strain 11.06 %, Temperature 40.0 °C | @Strain 11.06 %, Temperature 104 °F | ISO 11403-1 -2 |
| | 0.373 GPa | 54.1 ksi | |
| | @Strain 4.50 %, Temperature 40.0 °C | @Strain 4.50 %, Temperature 104 °F | ISO 11403-1 -2 |
| | 0.726 GPa | 105 ksi | |
| | @Strain 1.38 %, Temperature 40.0 °C | @Strain 1.38 %, Temperature 104 °F | ISO 11403-1 -2 |
| | 1.13 GPa | 163 ksi | |
| | @Strain 0.150 %, Temperature 40.0 °C | @Strain 0.150 %, Temperature 104 °F | ISO 11403-1 -2 |
| | 1.36 GPa | 197 ksi | |
| | @Strain 2.68 %, Temperature 0.000 °C | @Strain 2.68 %, Temperature 32.0 °F | ISO 11403-1 -2 |
| | 1.38 GPa | 200 ksi | |
| | @Strain 3.23 %, Temperature -20.0 °C | @Strain 3.23 %, Temperature -4.00 °F | ISO 11403-1 -2 |
| | 1.50 GPa | 217 ksi | |
| | @Strain 1.38 %, Temperature 23.0 °C | @Strain 1.38 %, Temperature 73.4 °F | ISO 11403-1 -2 |
| | 1.77 GPa | 256 ksi | |
| | @Strain 0.240 %, Temperature 23.0 °C | @Strain 0.240 %, Temperature 73.4 °F | ISO 11403-1 -2 |
| | 1.82 GPa | 263 ksi | |
| | @Strain 0.950 %, Temperature 0.000 °C | @Strain 0.950 %, Temperature 32.0 °F | ISO 11403-1 -2 |
| | 1.89 GPa | 274 ksi | |
| | @Strain 1.13 %, Temperature -20.0 °C | @Strain 1.13 %, Temperature -4.00 °F | ISO 11403-1 -2 |
| | 2.05 GPa | 298 ksi | |
| | @Strain 0.230 %, Temperature 0.000 °C | @Strain 0.230 %, Temperature 32.0 °F | ISO 11403-1 -2 |
| | 2.24 GPa | 325 ksi | |
| | @Strain 0.190 %, Temperature -20.0 °C | @Strain 0.190 %, Temperature -4.00 °F | ISO 11403-1 -2 |

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