DuPont Performance Polymers Hytrel® DYM500BK TPC-ET (Unverified Data**)

Category : Polymer , Thermoplastic , Elastomer, TPE , Polyester, TP , Polyester Thermoplastic Elastomer

Material Notes:

Hytrel® DYM500BK is a medium modulus polyester alloy suited for injection molding of Air Bag Deployment Doors. It has a nominal durometer hardness of 55D and contains fine particle size carbon black.Information provided by DuPont Performance Polymers

Order this product through the following link:
http://www.lookpolymers.com/polymer_DuPont-Performance-Polymers-Hytrel-DYM500BK-TPC-ET-nbspUnverified-Data.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.18 g/cc	1.18 g/cc	ASTM D792
Density	1.18 g/cc	0.0426 lb/in³	ISO 1183
Water Absorption	0.20 % @Temperature 23.0 °C	0.20 % @Temperature 73.4 °F	Equilibrium 50%RH; ISO 62
	0.60 % @Temperature 23.0 °C	0.60 % @Temperature 73.4 °F	Immersion 24h; ISO 62
	0.60 % @Temperature 23.0 °C	0.60 % @Temperature 73.4 °F	Saturation, immersed; ISO 62
	0.70 % @Temperature 23.0 °C	0.70 % @Temperature 73.4 °F	Immersion 168h; ASTM D570
Linear Mold Shrinkage	0.015 cm/cm @Thickness 1.27 mm	0.015 in/in @Thickness 0.0500 in	Transverse; ASTM D955
	0.017 cm/cm @Thickness 1.27 mm	0.017 in/in @Thickness 0.0500 in	Flow; ASTM D955
Linear Mold Shrinkage, Flow	0.012 cm/cm @Thickness 2.00 mm	0.012 in/in @Thickness 0.0787 in	ISO 294-4
Linear Mold Shrinkage, Transverse	0.013 cm/cm @Thickness 2.00 mm	0.013 in/in @Thickness 0.0787 in	ISO 294-4
Melt Flow	14 g/10 min @Load 2.16 kg, Temperature 240 °C	14 g/10 min @Load 4.76 lb, Temperature 464 °F	ASTM D1238
	14 g/10 min @Load 2.16 kg, Temperature 240 °C	14 g/10 min @Load 4.76 lb, Temperature 464 °F	ISO 1133

Physical Properties	Metric	English	Comments
Melt Index of Compound	12.7 g/10 min @Load 2.16 kg, Temperature 240 °C	12.7 g/10 min @Load 4.76 lb, Temperature 464 °F	cm3/10 min; ISO 1133

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	<= 55	<= 55	ASTM D2240
	<= 55	<= 55	ISO 868
	50 @Time 15.0 sec	50 @Time 0.00417 hour	ISO 868
Tensile Strength at Break	26.0 MPa @Temperature 23.0 °C	3770 psi @Temperature 73.4 °F	ASTM D638
	35.0 MPa @Temperature 23.0 °C	5080 psi @Temperature 73.4 °F	ISO 527 (1BA bar)
Tensile Stress	3.35 MPa @Strain 5.00 %, Temperature 100 °C	486 psi @Strain 5.00 %, Temperature 212 °F	ISO 527
	3.57 MPa @Strain 5.00 %, Temperature 80.0 °C	518 psi @Strain 5.00 %, Temperature 176 °F	ISO 527
	5.70 MPa @Strain 10.0 %, Temperature 100 °C	827 psi @Strain 10.0 %, Temperature 212 °F	ISO 527
	6.13 MPa @Strain 10.0 %, Temperature 80.0 °C	889 psi @Strain 10.0 %, Temperature 176 °F	ISO 527
	6.85 MPa @Strain 15.0 %, Temperature 100 °C	994 psi @Strain 15.0 %, Temperature 212 °F	ISO 527
	7.44 MPa @Strain 15.0 %, Temperature 80.0 °C	1080 psi @Strain 15.0 %, Temperature 176 °F	ISO 527
	7.52 MPa @Strain 20.0 %, Temperature 100 °C	1090 psi @Strain 20.0 %, Temperature 212 °F	ISO 527
	8.00 MPa @Strain 25.0 %,	1160 psi @Strain 25.0 %,	ISO 527

Mechanical Properties	Temperature 100 °C Metric	Temperature 212 °F English	Comments
	8.28 MPa @Strain 20.0 %, Temperature 80.0 °C	1200 psi @Strain 20.0 %, Temperature 176 °F	ISO 527
	8.31 MPa @Strain 30.0 %, Temperature 100 °C	1210 psi @Strain 30.0 %, Temperature 212 °F	ISO 527
	8.51 MPa @Strain 35.0 %, Temperature 100 °C	1230 psi @Strain 35.0 %, Temperature 212 °F	ISO 527
	8.67 MPa @Strain 40.0 %, Temperature 100 °C	1260 psi @Strain 40.0 %, Temperature 212 °F	ISO 527
	8.78 MPa @Strain 25.0 %, Temperature 80.0 °C	1270 psi @Strain 25.0 %, Temperature 176 °F	ISO 527
	8.80 MPa @Strain 45.0 %, Temperature 100 °C	1280 psi @Strain 45.0 %, Temperature 212 °F	ISO 527
	8.91 MPa @Strain 50.0 %, Temperature 100 °C	1290 psi @Strain 50.0 %, Temperature 212 °F	ISO 527
	9.06 MPa @Strain 5.00 %, Temperature 23.0 °C	1310 psi @Strain 5.00 %, Temperature 73.4 °F	ISO 527
	9.12 MPa @Strain 30.0 %, Temperature 80.0 °C	1320 psi @Strain 30.0 %, Temperature 176 °F	ISO 527
	9.36 MPa @Strain 35.0 %, Temperature 80.0 °C	1360 psi @Strain 35.0 %, Temperature 176 °F	ISO 527
	9.52 MPa @Strain 40.0 %, Temperature 80.0 °C	1380 psi @Strain 40.0 %, Temperature 176 °F	ISO 527
	9.66 MPa @Strain 45.0 %, Temperature 80.0 °C	1400 psi @Strain 45.0 %, Temperature 176 °F	ISO 527
	9.77 MPa	1420 psi	

Mechanical Properties	Metric	English	Comments
	@Strain 50.0 %, Temperature 80.0 °C	@Strain 50.0 %, Temperature 176 °F	ISO 527
	12.0 MPa @Strain 5.00 %, Temperature 23.0 °C	1740 psi @Strain 5.00 %, Temperature 73.4 °F	ASTM D638
	12.0 MPa @Strain 5.00 %, Temperature 23.0 °C	1740 psi @Strain 5.00 %, Temperature 73.4 °F	ISO 527 (1BA bar)
	13.0 MPa @Strain 10.0 %, Temperature 23.0 °C	1890 psi @Strain 10.0 %, Temperature 73.4 °F	ISO 527 (1BA bar)
	13.6 MPa @Strain 10.0 %, Temperature 23.0 °C	1970 psi @Strain 10.0 %, Temperature 73.4 °F	ISO 527
	14.0 MPa @Strain 10.0 %, Temperature 23.0 °C	2030 psi @Strain 10.0 %, Temperature 73.4 °F	ASTM D638
	15.1 MPa @Strain 15.0 %, Temperature 23.0 °C	2190 psi @Strain 15.0 %, Temperature 73.4 °F	ISO 527
	15.8 MPa @Strain 20.0 %, Temperature 23.0 °C	2290 psi @Strain 20.0 %, Temperature 73.4 °F	ISO 527
	16.1 MPa @Strain 5.00 %, Temperature 0.000 °C	2340 psi @Strain 5.00 %, Temperature 32.0 °F	ISO 527
	16.2 MPa @Strain 5.00 %, Temperature -30.0 °C	2350 psi @Strain 5.00 %, Temperature -22.0 °F	ISO 527
	16.2 MPa @Strain 25.0 %, Temperature 23.0 °C	2350 psi @Strain 25.0 %, Temperature 73.4 °F	ISO 527
	16.4 MPa @Strain 30.0 %, Temperature 23.0 °C	2380 psi @Strain 30.0 %, Temperature 73.4 °F	ISO 527
	16.6 MPa @Strain 35.0 %, Temperature 23.0 °C	2410 psi @Strain 35.0 %, Temperature 73.4 °F	ISO 527

Mechanical Properties	Metric	English	Comments
	@Strain 40.0 %, Temperature 23.0 °C	@Strain 40.0 %, Temperature 73.4 °F	ISO 527
	16.6 MPa @Strain 45.0 %, Temperature 23.0 °C	2410 psi @Strain 45.0 %, Temperature 73.4 °F	ISO 527
	16.6 MPa @Strain 50.0 %, Temperature 23.0 °C	2410 psi @Strain 50.0 %, Temperature 73.4 °F	ISO 527
	18.7 MPa @Strain 10.0 %, Temperature 0.000 °C	2710 psi @Strain 10.0 %, Temperature 32.0 °F	ISO 527
	19.5 MPa @Strain 5.00 %, Temperature -40.0 °C	2830 psi @Strain 5.00 %, Temperature -40.0 °F	ISO 527
	19.7 MPa @Strain 15.0 %, Temperature 0.000 °C	2860 psi @Strain 15.0 %, Temperature 32.0 °F	ISO 527
	20.0 MPa @Strain 15.0 %, Temperature 23.0 °C	2900 psi @Strain 15.0 %, Temperature 73.4 °F	ASTM D638
	20.2 MPa @Strain 20.0 %, Temperature 0.000 °C	2930 psi @Strain 20.0 %, Temperature 32.0 °F	ISO 527
	20.4 MPa @Strain 25.0 %, Temperature 0.000 °C	2960 psi @Strain 25.0 %, Temperature 32.0 °F	ISO 527
	20.5 MPa @Strain 30.0 %, Temperature 0.000 °C	2970 psi @Strain 30.0 %, Temperature 32.0 °F	ISO 527
	20.6 MPa @Strain 35.0 %, Temperature 0.000 °C	2990 psi @Strain 35.0 %, Temperature 32.0 °F	ISO 527
	20.6 MPa @Strain 40.0 %, Temperature 0.000 °C	2990 psi @Strain 40.0 %, Temperature 32.0 °F	ISO 527
	20.6 MPa	2990 psi	

Mechanical Properties	Metric	English	Comments
	@Strain 45.0 %, Temperature 0.000 °C	@Strain 45.0 %, Temperature 32.0 °F	ISO 527
	20.6 MPa @Strain 50.0 %, Temperature 0.000 °C	2990 psi @Strain 50.0 %, Temperature 32.0 °F	ISO 527
	22.6 MPa @Strain 10.0 %, Temperature -30.0 °C	3280 psi @Strain 10.0 %, Temperature -22.0 °F	ISO 527

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