

Dow Prevail® 3100 ABS + Polyurethane

Category : Polymer , Thermoplastic , ABS Polymer , ABS/Polyurethane Alloy , Polyurethane, TP

Material Notes:

PREVAIL® 3100 thermoplastic resin offers designers and manufacturers a combination of flexibility and low temperature toughness not previously available in an engineering thermoplastic and is used for applications ranging from flexible bumper fascias to sports equipment components. It is easy to process and is paintable without the need for a primer. Data provided by Dow Chemical.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Dow-Prevail-3100-ABS-Polyurethane.php

Physical Properties	Metric	English	Comments
Density	1.10 g/cc	0.0397 lb/in ³	ASTM Data
Linear Mold Shrinkage	0.0060 cm/cm	0.0060 in/in	
Melt Flow	16 g/10 min @Load 2.16 kg, Temperature 230 °C	16 g/10 min @Load 4.76 lb, Temperature 446 °F	ASTM Data

Mechanical Properties	Metric	English	Comments
Tensile Strength, Ultimate	27.6 MPa	4000 psi	ASTM Data
Tensile Strength, Yield	26.9 MPa	3900 psi	ASTM Data
Elongation at Break	200 %	200 %	ASTM Data
Elongation at Yield	28 %	28 %	ISO Data
Tensile Modulus	0.496 GPa	71.9 ksi	ASTM Data
Izod Impact, Notched	NB	NB	ASTM Data
	7.48 J/cm @Temperature -50.0 °C	14.0 ft-lb/in @Temperature -58.0 °F	ASTM Data
Charpy Impact Unnotched	NB	NB	ISO Data
	NB	NB	ISO Data, Low Temp
Charpy Impact, Notched	7.00 J/cm ²	33.3 ft-lb/in ²	ISO Data, Low Temp
	10.0 J/cm ²	47.6 ft-lb/in ²	ISO Data
Impact Test	51.4 J @Temperature 23.0 °C	37.9 ft-lb @Temperature 73.4 °F	Instrumented Dart Total Energy
	65.5 J	48.3 ft-lb	Instrumented Dart Total Energy

Mechanical Properties	@Temperature -30.0 °C Metric	@Temperature -22.0 °F English	Comments
Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	90.0 $\mu\text{m}/\text{m}\cdot\text{°C}$ @Temperature 20.0 °C	50.0 $\mu\text{in}/\text{in}\cdot\text{°F}$ @Temperature 68.0 °F	ASTM data
Deflection Temperature at 0.46 MPa (66 psi)	71.0 °C	160 °F	Unannealed; ASTM Data
	92.0 °C	198 °F	Annealed; ASTM Data
Deflection Temperature at 1.8 MPa (264 psi)	57.0 °C	135 °F	Unannealed; ASTM Data
	75.0 °C	167 °F	Annealed; ASTM Data
Vicat Softening Point	101 °C	214 °F	
Optical Properties	Metric	English	Comments
Gloss	76 %	76 %	Gardner Gloss, 60°

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