

Borealis Daplen™ EF005AE Polypropylene TPO Compound

Category : Polymer , Thermoplastic , Polypropylene (PP) , Polypropylene with 20% Mica Filler , Polypropylene, Mineral Reinforced

Material Notes:

Daplen™ EF005AE is a 10% mineral filled elastomer modified polypropylene compound intended for injection molding. This material has an excellent balance between impact strength and stiffness, gives a good surface quality and is easy to process. Applications: Daplen™ EF005AE has been developed especially for the car industry to be used in automotive exterior parts including bumpers, exterior trims, and spoilers. Information provided by Borealis AG

Order this product through the following link:

http://www.lookpolymers.com/polymer_Borealis-Daplen-EF005AE-Polypropylene-TPO-Compound.php

Physical Properties	Metric	English	Comments
Density	0.950 g/cc	0.0343 lb/in ³	ISO 1183
Linear Mold Shrinkage	0.0015 cm/cm	0.0015 in/in	post shrinkage; 2 hours, 90°C
	0.0080 cm/cm	0.0080 in/in	mold average;Borealis Method
Melt Flow	25 g/10 min	25 g/10 min	ISO 1133
	@Load 2.16 kg, Temperature 230 °C	@Load 4.76 lb, Temperature 446 °F	

Mechanical Properties	Metric	English	Comments
Ball Indentation Hardness	23.0 MPa	3340 psi	132 N/10s; ISO 2039
Tensile Strength, Yield	16.0 MPa	2320 psi	50mm/min; ISO 527-2
Elongation at Break	80 %	80 %	50mm/min; ISO 527-2
Elongation at Yield	7.0 %	7.0 %	50mm/min; ISO 527-2
Tensile Modulus	1.06 GPa	154 ksi	1mm/min; ISO 527-2
Flexural Strength	21.0 MPa	3050 psi	ISO 178
Flexural Modulus	1.07 GPa	155 ksi	2mm/min; ISO 178
Izod Impact, Notched (ISO)	4.50 kJ/m ²	2.14 ft-lb/in ²	ISO 180/1A
	@Temperature -20.0 °C	@Temperature -4.00 °F	
	40.0 kJ/m ²	19.0 ft-lb/in ²	ISO 180/1A
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Charpy Impact Unnotched	NB	NB	ISO 179/1eU
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	NB	NB	

Mechanical Properties	Metric	English	ISO 179/1eJ Comments
Charpy Impact, Notched	0.400 J/cm ²	1.90 ft-lb/in ²	ISO 179/1eA
	@Temperature -20.0 °C	@Temperature -4.00 °F	
	0.600 J/cm ²	2.86 ft-lb/in ²	ISO 179/1eA
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	5.20 J/cm ²	24.7 ft-lb/in ²	ISO 179/1eA
	@Temperature -20.0 °C	@Temperature -4.00 °F	
	5.20 J/cm ²	24.7 ft-lb/in ²	ISO 179/1eA
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Thermal Properties	Metric	English	Comments
CTE, linear	65.0 µm/m-°C	36.1 µin/in-°F	Borealis Method
	@Temperature -30.0 - 80.0 °C	@Temperature -22.0 - 176 °F	
Deflection Temperature at 0.46 MPa (66 psi)	85.0 °C	185 °F	ISO 75-2
Deflection Temperature at 1.8 MPa (264 psi)	49.0 °C	120 °F	ISO 75-2
Vicat Softening Point	39.0 °C	102 °F	ISO 306
	@Load 5.10 kg	@Load 11.2 lb	
	121 °C	250 °F	ISO 306
	@Load 1.02 kg	@Load 2.25 lb	

Processing Properties	Metric	English	Comments
Processing Temperature	220 - 260 °C	428 - 500 °F	mass temperature
Feed Temperature	40.0 - 80.0 °C	104 - 176 °F	
Mold Temperature	30.0 - 50.0 °C	86.0 - 122 °F	
Injection Velocity	100 - 200 mm/sec	3.94 - 7.87 in/sec	
Hold Pressure	30.0 - 60.0 MPa	4350 - 8700 psi	

Descriptive Properties	Value	Comments
Back Pressure	low to medium	
Screw Speed	low to medium	

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