

Borealis Daplen™ EE255AE Polypropylene TPO Compound

Material Notes: Daplen™ EE255AE is a 20% 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™ EE255AE has been developed especially for the car industry to be used in automotive exterior parts including bumpers and exterior trims.

Information provided by Borealis AG

Physical Properties	Metric	English	Comments
Density	1.05 g/cc	0.0379 lb/in³	ISO 1183
Linear Mold Shrinkage	0.0010 cm/cm	0.0010 in/in	post shrinkage; 2 hours, 90°C
	0.0065 cm/cm	0.0065 in/in	mold average; Borealis Method
Melt Flow	13 g/10 min @Load 2.16 kg, Temperature 230 °C	13 g/10 min @Load 4.76 lb, Temperature 446 °F	ISO 1133

Mechanical Properties	Metric	English	Comments
Ball Indentation Hardness	30.0 MPa	4350 psi	132 N/10s; ISO 2039
Tensile Strength, Yield	16.0 MPa	2320 psi	50mm/min; ISO 527-2
Elongation at Break	100 %	100 %	50mm/min; ISO 527-2
Elongation at Yield	5.5 %	5.5 %	50mm/min; ISO 527-2
Tensile Modulus	1.50 GPa	218 ksi	1mm/min; ISO 527-2
Flexural Strength	22.0 MPa	3190 psi	ISO 178
Flexural Modulus	1.60 GPa	232 ksi	2mm/min; ISO 178
Izod Impact, Notched (ISO) 	4.00 kJ/m² @Temperature -20.0 °C	1.90 ft-lb/in² @Temperature -4.00 °F	ISO 180/1A
	45.0 kJ/m² @Temperature 23.0 °C	21.4 ft-lb/in² @Temperature 73.4 °F	ISO 180/1A
Charpy Impact Unnotched 	NB @Temperature 23.0 °C	NB @Temperature 73.4 °F	ISO 179/1eU
	NB @Temperature -20.0 °C	NB @Temperature -4.00 °F	ISO 179/1eU
Charpy Impact, Notched 	0.500 J/cm² @Temperature -30.0 °C	2.38 ft-lb/in² @Temperature -22.0 °F	ISO 179/1eA
	0.600 J/cm² @Temperature -20.0 °C	2.86 ft-lb/in² @Temperature -4.00 °F	ISO 179/1eA
	5.80 J/cm² @Temperature 23.0 °C	27.6 ft-lb/in² @Temperature 73.4 °F	ISO 179/1eA

Thermal Properties	Metric	English	Comments
Deflection Temperature at 0.46 MPa (66 psi)	97.0 °C	207 °F	ISO 75-2
Deflection Temperature at 1.8 MPa (264 psi)	51.0 °C	124 °F	ISO 75-2
Vicat Softening Point 	40.0 °C @Load 5.10 kg	104 °F @Load 11.2 lb	ISO 306
	122 °C @Load 1.02 kg	252 °F @Load 2.25 lb	ISO 306

Processing Properties	Metric	English	Comments
Feed Temperature	40.0 - 80.0 °C	104 - 176 °F	
Melt Temperature	220 - 260 °C	428 - 500 °F	mass temperature
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	
Back Pressure	low to medium
Screw Speed	low to medium

