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Celanese Zytel® 80G25HS

Categories:Polymer; Thermoplastic; Nylon (Polyamide PA); Nylon 66 (PA66); Nylon 66, 30% Glass Fiber Filled
Material Notes:25% Glass Reinforced, Toughened, Heat Stabilized, Polyamide 66
Former DuPont product acquired by Celanese in 2022.

Physical Properties	Metric	English	Comments
Density	1.25 g/cc	0.0452 lb/in³	DAM; ISO 1183
Linear Mold Shrinkage, Flow	0.0030 cm/cm	0.0030 in/in	DAM; ISO 294-4, 2577
Linear Mold Shrinkage, Transverse	0.0080 cm/cm	0.0080 in/in	DAM; ISO 294-4, 2577

Mechanical Properties	Metric	English	Comments
Ball Indentation Hardness	140 MPa	20300 psi	H 961/30; DS; 50% RH; ISO 2039-1
	200 MPa	29000 psi	H 961/30; DS; DAM; ISO 2039-1
Tensile Strength at Break	90.0 MPa	13100 psi	50% RH; ISO 527-1/-2
	120 MPa	17400 psi	DAM; ISO 527-1/-2
Elongation at Break	4.0 %	4.0 %	DAM; ISO 527-1/-2
	8.0 %	8.0 %	50% RH; ISO 527-1/-2
Tensile Modulus	4.50 GPa	653 ksi	50% RH; ISO 527-1/-2
	7.00 GPa	1020 ksi	DAM; ISO 527-1/-2
Flexural Modulus	6.00 GPa	870 ksi	DAM; ISO 178
Poissons Ratio	0.35	0.35	DAM
	0.36	0.36	50% RH
Izod Impact, Notched (ISO)	12.0 kJ/m² @Temperature -40.0 °C	5.71 ft-lb/in² @Temperature -40.0 °F	50% RH; ISO 180/1A
	12.0 kJ/m² @Temperature -30.0 °C	5.71 ft-lb/in² @Temperature -22.0 °F	50% RH; ISO 180/1A
	13.0 kJ/m² @Temperature -30.0 °C	6.19 ft-lb/in² @Temperature -22.0 °F	DAM; ISO 180/1A
	13.0 kJ/m² @Temperature -40.0 °C	6.19 ft-lb/in² @Temperature -40.0 °F	DAM; ISO 180/1A
	20.0 kJ/m² @Temperature 23.0 °C	9.52 ft-lb/in² @Temperature 73.4 °F	DAM; ISO 180/1A
	23.0 kJ/m² @Temperature 23.0 °C	10.9 ft-lb/in² @Temperature 73.4 °F	50% RH; ISO 180/1A
Charpy Impact Unnotched	8.00 J/cm² @Temperature -30.0 °C	38.1 ft-lb/in² @Temperature -22.0 °F	50% RH; ISO 179/1eU
	8.00 J/cm² @Temperature -30.0 °C	38.1 ft-lb/in² @Temperature -22.0 °F	DAM; ISO 179/1eU
	8.00 J/cm² @Temperature 23.0 °C	38.1 ft-lb/in² @Temperature 73.4 °F	50% RH; ISO 179/1eU
	8.00 J/cm² @Temperature 23.0 °C	38.1 ft-lb/in² @Temperature 73.4 °F	DAM; ISO 179/1eU
Charpy Impact, Notched	1.30 J/cm² @Temperature -30.0 °C	6.19 ft-lb/in² @Temperature -22.0 °F	50% RH; ISO 179/1eA
	1.40 J/cm² @Temperature -30.0 °C	6.66 ft-lb/in² @Temperature -22.0 °F	DAM; ISO 179/1eA
	2.20 J/cm² @Temperature 23.0 °C	10.5 ft-lb/in² @Temperature 73.4 °F	DAM; ISO 179/1eA

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	2.40 J/cm² @Temperature 23.0 °C	11.4 ft-lb/in² @Temperature 73.4 °F	50% RH; ISO 179/1eA

Electrical Properties	Metric	English	Comments
Comparative Tracking Index	375 V	375 V	50% RH; IEC 60112

Thermal Properties	Metric	English	Comments
Thermal Conductivity	0.210 W/m-K @Temperature 295 °C	1.46 BTU-in/hr-ft²-°F @Temperature 563 °F	Melt
Melting Point	262 °C	504 °F	10°C/min; DAM; ISO 11357-1/-3
Deflection Temperature at 0.46 MPa (66 psi)	258 °C	496 °F	DAM; ISO 75-1/-2
Deflection Temperature at 1.8 MPa (264 psi)	240 °C	464 °F	DAM; ISO 75-1/-2
Glass Transition Temp, Tg	20.0 °C	68.0 °F	10°C/min; 50% RH; ISO 11357-1/-2
	75.0 °C	167 °F	10°C/min; DAM; ISO 11357-1/-2
Flame Spread	<= 80.0 mm/min @Thickness 1.00 mm	<= 3.15 in/min @Thickness 0.0394 in	ISO 3795 (FMVSS 302)
Glow Wire Flammability Index	700 °C @Thickness 0.400 mm	1290 °F @Thickness 0.0157 in	DAM; IEC 60695-2-12
	700 °C @Thickness 0.750 mm	1290 °F @Thickness 0.0295 in	DAM; IEC 60695-2-12
	700 °C @Thickness 1.00 mm	1290 °F @Thickness 0.0394 in	DAM; IEC 60695-2-12
	700 °C @Thickness 1.50 mm	1290 °F @Thickness 0.0591 in	DAM; IEC 60695-2-12

Processing Properties	Metric	English	Comments
Melt Temperature	295 °C	563 °F	Optimum, Injection
	285 - 305 °C	545 - 581 °F	Range, Injection
Mold Temperature	50.0 - 100 °C	122 - 212 °F	Injection
	80.0 °C	176 °F	Optimum, Injection
Ejection Temperature	210 °C	410 °F	Injection
Drying Temperature	80.0 °C	176 °F	Injection
Dry Time	2.00 - 4.00 hour	2.00 - 4.00 hour	Injection, Dehumidified Dryer
Moisture Content	<= 0.20 %	<= 0.20 %	Injection
Hold Pressure	50.0 - 100 MPa	7250 - 14500 psi	Range, Injection

Descriptive Properties		
Additives	Release agent	
Drying Recommended	yes	Injection

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FMVSS Class	B	ISO 3795 (FMVSS 302)
ISO designation	ISO 16396-PA66-I,GF25,M1CGHR,S14-070	
Max. screw tangential speed (m/s)	0.2	Injection
Part Marking Code	>PA66-IGF25<	ISO 11469
Polymer	PA66-I-GF25	
Processing Hold Pressure Time (s/mm)	3	Injection
Resin Identification	PA66-IGF25	ISO 1043
Weather stability delta a	0.2	DIN 53236
Weather stability delta b	0.7	DIN 53236
Weather stability delta E	8	DIN 53236
Weather stability delta l	8	DIN 53236
Weather stability grey scale	4	ISO 105-A02