

Technical Data Sheet
Diamond ABS 3500
Acrylonitrile Butadiene Styrene
Engineering Plastics



General	
Features	• Medium Impact Resistance
Agency Ratings	• EC 1907/2006 (REACH) • EU 2002/96/EC (WEEE)
RoHS Compliance	• RoHS Compliant
UL File Number	• E150937
Appearance	• Natural Color
Forms	• Pellets
Processing Method	• Injection Molding

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density / Specific Gravity	1.04	1.04 g/cm ³	ASTM D792
Melt Mass-Flow Rate (MFR) ¹			ASTM D1238
200°C/5.0 kg	2.9 g/10 min	2.9 g/10 min	
230°C/3.8 kg	8.5 g/10 min	8.5 g/10 min	
Molding Shrinkage - Flow	4.0E-3 to 6.0E-3 in/in	0.40 to 0.60 %	ASTM D955

Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Strength ²			ASTM D638
Yield	6270 psi	43.2 MPa	
Break	5060 psi	34.9 MPa	
Tensile Elongation ²			ASTM D638
Yield	2.4 %	2.4 %	
Break	43 %	43 %	
Flexural Modulus - Tangent ³	341000 psi	2350 MPa	ASTM D790

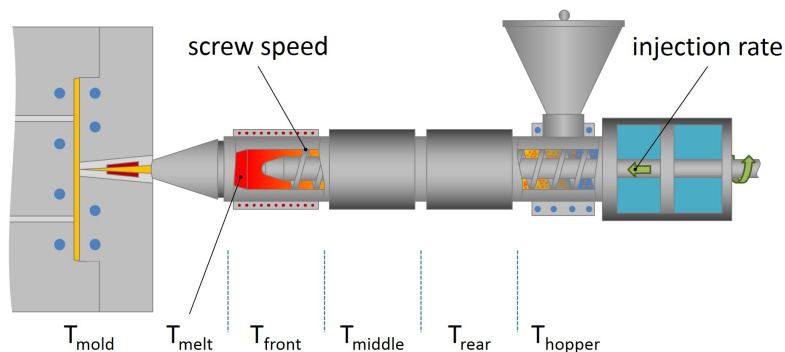
Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Notched Izod Impact			ASTM D256
73°F (23°C), 0.125 in (3.18 mm)	3.5 ft·lb/in	190 J/m	

Hardness	Nominal Value (English)	Nominal Value (SI)	Test Method
Rockwell Hardness (R-Scale)	108	108	ASTM D785

Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Deflection Temperature Under Load			ASTM D648
264 psi (1.8 MPa), Unannealed, 0.125 in (3.18 mm)	171 °F	77.2 °C	
Vicat Softening Temperature	224 °F	107 °C	ASTM D1525 ⁴

Flammability	Nominal Value (English)	Nominal Value (SI)	Test Method
Flame Rating (0.06 in (1.5 mm))	HB	HB	UL 94

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Injection	Nominal Value (English)	Nominal Value (SI)
Drying Temperature	176 to 185 °F	80 to 85 °C
Drying Time	2.0 to 4.0 hr	2.0 to 4.0 hr
Suggested Max Moisture	0.10 %	0.10 %
Rear Temperature	374 to 482 °F	190 to 250 °C
Middle Temperature	374 to 482 °F	190 to 250 °C
Front Temperature	374 to 482 °F	190 to 250 °C
Mold Temperature	104 to 176 °F	40 to 80 °C
Injection Rate	Moderate-Fast	Moderate-Fast

Notes

¹ Procedure A

² 2.0 in/min (51 mm/min)

³ 0.050 in/min (1.3 mm/min)

⁴ Loading 1 (10 N)

Notes

These are typical property values not to be construed as specification limits.