

Technical Data Sheet

Diamond Abs 9501 Natural

Acrylonitrile Butadiene Styrene
 LyondellBasell Industries
 Engineering Plastics

General		
Features	<ul style="list-style-type: none"> Ultra High Impact Resistance Ultra High Stiffness 	
Agency Ratings	<ul style="list-style-type: none"> EC 1907/2006 (REACH) EU 2002/96/EC (WEEE) 	
RoHS Compliance	<ul style="list-style-type: none"> RoHS Compliant 	
Appearance	<ul style="list-style-type: none"> Colors Available 	
Forms	<ul style="list-style-type: none"> Pellets 	
Processing Method	<ul style="list-style-type: none"> Injection Molding 	

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density / Specific Gravity	1.02	1.02 g/cm ³	ASTM D792A
Melt Mass-Flow Rate (MFR) ¹			ASTM D1238
220°C/10.0 Kg	7.3 g/10 min	7.3 g/10 min	
230°C/3.8 Kg	1.2 g/10 min	1.2 g/10 min	

Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Strength ²			ASTM D638
Yield, 73°F (23°C), 0.125 In (3.18 Mm), Injection Molded	6020 psi	41.5 MPa	
Break, 73°F (23°C), 0.125 In (3.18 Mm), Injection Molded	4610 psi	31.8 MPa	
Tensile Elongation ²			ASTM D638
Break, 73°F (23°C), Injection Molded	17 %	17 %	
Flexural Modulus ³			ASTM D790
73°F (23°C), 0.125 In (3.18 Mm), Injection Molded	275000 psi	1900 MPa	
Flexural Strength ³			ASTM D790
73°F (23°C), 0.125 In (3.18 Mm), Injection Molded	8770 psi	60.5 MPa	

Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Notched Izod Impact			ASTM D256
-4°F (-20°C), 0.125 In (3.18 Mm)	5.4 ft·lb/in	290 J/m	
32°F (0°C), 0.125 In (3.18 Mm)	6.2 ft·lb/in	330 J/m	
73°F (23°C), 0.125 In (3.18 Mm), Injection Molded	8.0 ft·lb/in	430 J/m	
Instrumented Dart Impact ⁴			ASTM D3763
32°F (0°C)	36.8 in·lb	4.16 J	
73°F (23°C)	36.4 in·lb	4.11 J	

Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Deflection Temperature Under Load			ASTM D648
66 Psi (0.45 Mpa), Unannealed	192 °F	89.0 °C	
264 Psi (1.8 Mpa), Unannealed	169 °F	76.0 °C	
Vicat Softening Temperature			
--	217 °F	103 °C	ASTM D1525 ⁵
--	198 °F	92.0 °C	ASTM D1525 ⁶
--	223 °F	106 °C	ASTM D1525 ⁷
--	203 °F	95.0 °C	ASTM D1525 ⁸

Optical	Nominal Value (English)	Nominal Value (SI)	Test Method
Gloss (60°)	90	90	ASTM D523

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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 (50 mm/min)
- ³ 0.051 in/min (1.3 mm/min)
- ⁴ 6.70 ft/sec (2.04 m/sec)
- ⁵ Rate A (50°C/h), Loading 1 (10 N)
- ⁶ Rate A (50°C/h), Loading 2 (50 N)
- ⁷ Rate B (120°C/h), Loading 1 (10 N)
- ⁸ Rate B (120°C/h), Loading 2 (50 N)

Notes

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