

Technical Data Sheet

**Diamond Abs 9501-1001S**

Acrylonitrile Butadiene Styrene
LyondellBasell Industries
Engineering Plastics

General			
Material Status	• Commercial: Active		
Availability	• North America		
Features	• Ultra High Impact Resistance		
Uses	• Marine Applications	• Sheet	• Thermoforming Applications
Appearance	• Colors Available		
Forms	• Pellets		
Processing Method	• Extrusion	• Sheet Extrusion	• Thermoforming
Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	1.04 g/cm ³	1.04 g/cm ³	ASTM D1505
Melt Mass-Flow Rate (MFR) (230°C/10.0 kg)	7.3 g/10 min	7.3 g/10 min	ASTM D1238
Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Modulus			ASTM D638
32°F (0°C)	364000 psi	2510 MPa	
73°F (23°C)	304000 psi	2100 MPa	
Tensile Strength			ASTM D638
Yield, 32°F (0°C)	6820 psi	47.0 MPa	
Yield, 73°F (23°C) ¹	6240 psi	43.0 MPa	
Yield, 160°F (71°C)	4210 psi	29.0 MPa	
Break, 32°F (0°C)	5950 psi	41.0 MPa	
Break, 73°F (23°C)	4930 psi	34.0 MPa	
Break, 160°F (71°C)	2900 psi	20.0 MPa	
Tensile Elongation			ASTM D638
Break, 32°F (0°C)	21 %	21 %	
Break, 73°F (23°C)	20 %	20 %	
Break, 160°F (71°C)	15 %	15 %	
Flexural Modulus - 2% Secant			ASTM D790
-40°F (-40°C)	372000 psi	2570 MPa	
73°F (23°C)	333000 psi	2300 MPa	
160°F (71°C)	263000 psi	1810 MPa	
Flexural Strength			ASTM D790
-40°F (-40°C)	15400 psi	106 MPa	
73°F (23°C)	10000 psi	69.0 MPa	
160°F (71°C)	6090 psi	42.0 MPa	
Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Notched Izod Impact			ASTM D256
-40°F (-40°C)	2.8 ft·lb/in	150 J/m	
32°F (0°C)	6.0 ft·lb/in	320 J/m	
73°F (23°C)	9.7 ft·lb/in	520 J/m	
Instrumented Dart Impact			ASTM D3763
-40°F (-40°C)	150 in·lb	17.0 J	
-22°F (-30°C)	266 in·lb	30.0 J	
32°F (0°C)	372 in·lb	42.0 J	
73°F (23°C)	398 in·lb	45.0 J	
Hardness	Nominal Value (English)	Nominal Value (SI)	Test Method
Rockwell Hardness (R-Scale)	101	101	ASTM D785

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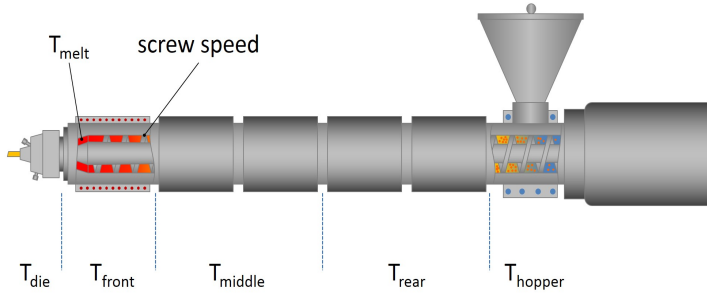
Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Deflection Temperature Under Load			ASTM D648
66 psi (0.45 MPa), Unannealed, 0.125 in (3.18 mm)	196 °F	91.0 °C	
66 psi (0.45 MPa), Annealed	212 °F	100 °C	
264 psi (1.8 MPa), Unannealed, 0.125 in (3.18 mm)	169 °F	76.0 °C	
264 psi (1.8 MPa), Annealed, 0.125 in (3.18 mm)	203 °F	95.0 °C	
Vicat Softening Temperature			
--	221 °F	105 °C	ASTM D1525 ²
--	203 °F	95.0 °C	ASTM D1525 ³
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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Extrusion	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 %
Cylinder Zone 1 Temp.	350 to 365 °F	177 to 185 °C
Cylinder Zone 2 Temp.	375 to 385 °F	191 to 196 °C
Cylinder Zone 3 Temp.	390 to 410 °F	199 to 210 °C
Cylinder Zone 4 Temp.	415 to 425 °F	213 to 218 °C
Cylinder Zone 5 Temp.	425 to 450 °F	218 to 232 °C
Extrusion Notes		
Gate: 425F - 450F		

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Notes

- ¹ 1.7 in/min (43 mm/min)
² Rate A (50°C/h), Loading 1 (10 N)
³ Rate A (50°C/h), Loading 2 (50 N)

Notes

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

Processing Techniques

Specific recommendations for resin type and processing conditions can only be made when the end use, required properties and fabrication equipment are known.

Product Storage and Handling

- Product should be stored in dry conditions at temperatures below 50°C and protected from UV-light
- Improper storage may bring damage to the packaging and can negatively affects on the quality of this product
- Keep material completely dry for good processing

Company Information

For further information regarding the LyondellBasell company, please visit <http://www.lyb.com/>.

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