

Technical Data Sheet



Diamond Abs 4012B

Acrylonitrile Butadiene Styrene
LyondellBasell Industries
Engineering Plastics

General			
Material Status	• Commercial: Active		
Availability	• North America		
Forms	• Pellets		
Processing Method	• Blow Molding		
Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density / Specific Gravity			
--	1.04	1.04 g/cm ³	ASTM D792
--	1.04 g/cm ³	1.04 g/cm ³	ISO 1183/A
Melt Mass-Flow Rate (MFR) ¹			
220°C/10.0 kg	1.3 g/10 min	1.3 g/10 min	ASTM D1238
220°C/10.0 kg	2.1 g/10 min	2.1 g/10 min	ISO 1133
Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Modulus	139000 psi	959 MPa	ISO 527-1/50
Tensile Strength			
Yield ²	5660 psi	39.0 MPa	ASTM D638
Yield	5800 psi	40.0 MPa	ISO 527-2/50
Break	4640 psi	32.0 MPa	ISO 527-2/50
Flexural Modulus			
Tangent ³	271000 psi	1870 MPa	ASTM D790
-- ⁴	275000 psi	1900 MPa	ISO 178
Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Notched Izod Impact			
73°F (23°C), 0.125 in (3.18 mm)	6.4 ft·lb/in	340 J/m	ASTM D256
73°F (23°C)	15 ft·lb/in ²	32 kJ/m ²	ISO 180/1A
Instrumented Dart Impact			ASTM D3763
-22°F (-30°C)	221 in·lb	25.0 J	
73°F (23°C)	239 in·lb	27.0 J	
Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Deflection Temperature Under Load			
66 psi (0.45 MPa), Unannealed	214 °F	101 °C	ISO 75-2/B
264 psi (1.8 MPa), Unannealed, 0.125 in (3.18 mm)	184 °F	84.4 °C	ASTM D648
264 psi (1.8 MPa), Unannealed	183 °F	84.0 °C	ISO 75-2/A
Vicat Softening Temperature	241 °F	116 °C	ASTM D1525 ⁵
CLTE			ASTM E831
Flow	4.9E-5 in/in/°F	8.8E-5 cm/cm/°C	
Transverse	6.2E-5 in/in/°F	1.1E-4 cm/cm/°C	
Optical	Nominal Value (English)	Nominal Value (SI)	Test Method
Gloss (60°)	97	97	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

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Notes

¹ Procedure A

² 2.0 in/min (51 mm/min)

³ 0.050 in/min (1.3 mm/min)

⁴ 0.079 in/min (2.0 mm/min)

⁵ Loading 1 (10 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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