

Technical Data Sheet

Diamond Abs 4012B

Acrylonitrile Butadiene Styrene
LyondellBasell Industries
Engineering Plastics

General			
Agency Ratings	• EC 1907/2006 (REACH)	• EU 2002/96/EC (WEEE)	
RoHS Compliance	• RoHS Compliant		
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

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.