

Technical Data Sheet

Diamond Asa S170

Acrylonitrile Styrene Acrylate
LyondellBasell Industries
Engineering Plastics

General		
Features	• Good Weather Resistance • High Impact Resistance	
Agency Ratings	• EC 1907/2006 (REACH) • EU 2002/96/EC (WEEE)	
RoHS Compliance	• RoHS Compliant	
Forms	• Pellets	
Processing Method	• Injection Molding	

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density / Specific Gravity			
--	1.06	1.06 g/cm ³	ASTM D792
73°F (23°C)	1.06 g/cm ³	1.06 g/cm ³	ISO 1183
Melt Mass-Flow Rate (MFR)			ASTM D1238 ISO 1133
220°C/10.0 Kg	12 g/10 min	12 g/10 min	
230°C/3.8 Kg	2.4 g/10 min	2.4 g/10 min	

Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Strength - Flow			
Yield, 73°F (23°C), Injection Molded ¹	5930 psi	40.9 MPa	ASTM D638
Yield, Injection Molded	5770 psi	39.8 MPa	ISO 527-2/50
Flexural Modulus - Chord, Flow			
73°F (23°C), Injection Molded	291000 psi	2010 MPa	ASTM D790
73°F (23°C), Injection Molded	297000 psi	2050 MPa	ISO 178

Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Charpy Notched Impact Strength			ISO 179
-22°F (-30°C), Injection Molded	4.8 ft·lb/in ²	10 kJ/m ²	
73°F (23°C), Injection Molded	12 ft·lb/in ²	25 kJ/m ²	
Notched Izod Impact			
Flow : -22°F (-30°C), Injection Molded	2.4 ft·lb/in	130 J/m	ASTM D256
Flow : 73°F (23°C), Injection Molded	7.5 ft·lb/in	400 J/m	ASTM D256
-22°F (-30°C), Injection Molded	3.9 ft·lb/in ²	8.3 kJ/m ²	ISO 180
73°F (23°C), Injection Molded	15 ft·lb/in ²	31 kJ/m ²	ISO 180

Hardness	Nominal Value (English)	Nominal Value (SI)	Test Method
Rockwell Hardness			
R-scale, Injection Molded	91	91	ASTM D785
R-scale, 73°F (23°C)	95	95	ISO 2039-2

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Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Deflection Temperature Under Load			
66 Psi (0.45 Mpa), Unannealed, 0.125 In (3.18 Mm), Injection Molded	191 °F	88.6 °C	ASTM D648
66 Psi (0.45 Mpa), Unannealed	191 °F	88.5 °C	ISO 75-2/B
264 Psi (1.8 Mpa), Unannealed, 0.125 In (3.18 Mm), Injection Molded	168 °F	75.7 °C	ASTM D648
264 Psi (1.8 Mpa), Unannealed	168 °F	75.3 °C	ISO 75-2/A
Vicat Softening Temperature			
--	215 °F	102 °C	ASTM D1525
--	216 °F	102 °C	ISO 306
CLTE			ISO 11359-2
Flow : -22 To 176°F (-30 To 80°C)	4.7E-5 in/in/°F	8.4E-5 cm/cm/°C	
Transverse : -22 To 176°F (-30 To 80°C)	5.6E-5 in/in/°F	1.0E-4 cm/cm/°C	

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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 %
Suggested Shot Size	40 to 70 %	40 to 70 %
Rear Temperature	446 to 500 °F	230 to 260 °C
Middle Temperature	450 to 509 °F	232 to 265 °C
Front Temperature	455 to 522 °F	235 to 272 °C
Nozzle Temperature	428 to 522 °F	220 to 272 °C
Processing (Melt) Temp	428 to 522 °F	220 to 272 °C
Mold Temperature	104 to 176 °F	40 to 80 °C
Injection Rate	Fast	Fast
Back Pressure	75.0 to 150 psi	0.517 to 1.03 MPa

Notes

¹ 2.0 in/min (50 mm/min)

Notes

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