Technical Data Sheet

Diamond Asa S170

Acrylonitrile Styrene Acrylate
LyondellBasell Industries
Engineering Plastics

General		
Material Status	• Commercial: Active	
Availability	• North America	
Features	• Good Weather Resistance	• High Impact Resistance
Forms	• Pellets	
Processing Method	• Injection Molding	

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density / Specific Gravity			
--	1.06	1.06 g/cm³	ASTM D792
73°F (23°C)	1.06 g/cm³	1.06 g/cm³	ISO 1183
Melt Mass-Flow Rate (MFR)			ASTM D1238
220°C/10.0 kg	12 g/10 min	12 g/10 min	ISO 1133
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/in²	10 kJ/m²	
73°F (23°C), Injection Molded	12 ft·lb/in²	25 kJ/m²	
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/in²	8.3 kJ/m²	ISO 180
73°F (23°C), Injection Molded	15 ft·lb/in²	31 kJ/m²	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
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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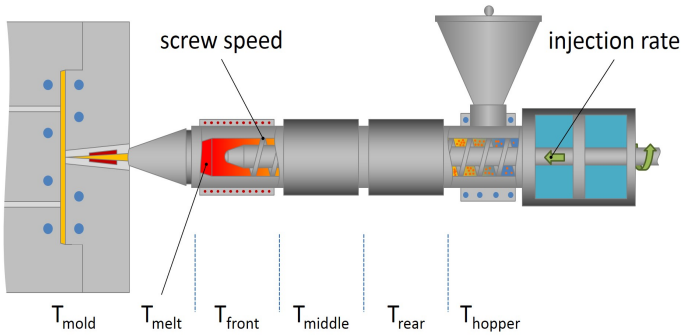

Injection	Nominal Value (English)	Nominal Value (SI)
Drying Temperature	176 to 185 °F	80 to 85 °C
Drying Time	2.0 to 4.0 hr	2.0 to 4.0 hr
Suggested Max Moisture	0.10 %	0.10 %
Suggested Shot Size	40 to 70 %	40 to 70 %
Rear Temperature	446 to 500 °F	230 to 260 °C
Middle Temperature	450 to 509 °F	232 to 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

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Notes

[1] 2.0 in/min (50 mm/min)

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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