

Technical Data Sheet

Diamond Asa S190

Acrylonitrile Styrene Acrylate
 LyondellBasell Industries
 Engineering Plastics

General		
Features	<ul style="list-style-type: none"> • Good Weather Resistance • Ultra High Impact Resistance 	
Agency Ratings	<ul style="list-style-type: none"> • EC 1907/2006 (REACH) • EU 2002/96/EC (WEEE) 	
RoHS Compliance	<ul style="list-style-type: none"> • RoHS Compliant 	
Forms	<ul style="list-style-type: none"> • Pellets 	
Processing Method	<ul style="list-style-type: none"> • Injection Molding 	

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density / Specific Gravity	1.07	1.07 g/cm ³	ASTM D792
Melt Mass-Flow Rate (MFR) ¹			ASTM D1238
200°c/5.0 Kg	0.90 g/10 min	0.90 g/10 min	
230°c/3.8 Kg	2.7 g/10 min	2.7 g/10 min	

Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Strength ² (Yield)	5100 psi	35.2 MPa	ASTM D638
Flexural Modulus - Tangent ³	273000 psi	1880 MPa	ASTM D790

Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Notched Izod Impact			ASTM D256
73°f (23°c), 0.125 In (3.18 Mm)	8.5 ft·lb/in	450 J/m	

Hardness	Nominal Value (English)	Nominal Value (SI)	Test Method
Rockwell Hardness (R-scale)	88	88	ASTM D785

Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Deflection Temperature Under Load			ASTM D648
264 Psi (1.8 Mpa), Unannealed, 0.125 In (3.18 Mm)	162 °F	72.2 °C	
264 Psi (1.8 Mpa), Annealed, 0.125 In (3.18 Mm)	196 °F	91.1 °C	
Vicat Softening Temperature	212 °F	100 °C	ASTM D1525 ⁴

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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 Procedure A
- ² 2.0 in/min (51 mm/min)
- ³ 0.050 in/min (1.3 mm/min)
- ⁴ Loading 1 (10 N)

Notes

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