

Diamond Asa TWP502

Acrylonitrile Styrene Acrylate
LyondellBasell Industries
Engineering Plastics

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

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density / Specific Gravity	1.12	1.12 g/cm ³	ASTM D792
Melt Mass-Flow Rate (MFR) ¹			ASTM D1238
200°C/5.0 Kg	1.3 g/10 min	1.3 g/10 min	
230°C/3.8 Kg	3.9 g/10 min	3.9 g/10 min	

Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Strength ² (Yield)	5050 psi	34.8 MPa	ASTM D638
Flexural Modulus ³	195000 psi	1340 MPa	ASTM D790B

Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Notched Izod Impact (0.125 In (3.18 Mm))	2.0 ft·lb/in	110 J/m	ASTM D256A

Hardness	Nominal Value (English)	Nominal Value (SI)	Test Method
Rockwell Hardness (R-scale)	98	98	ASTM D785

Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Deflection Temperature Under Load			ASTM D648
66 Psi (0.45 Mpa), Unannealed, 0.125 In (3.18 Mm)	181 °F	82.8 °C	
66 Psi (0.45 Mpa), Annealed, 0.125 In (3.18 Mm)	201 °F	93.9 °C	
264 Psi (1.8 Mpa), Unannealed, 0.125 In (3.18 Mm)	156 °F	68.9 °C	
264 Psi (1.8 Mpa), Annealed, 0.125 In (3.18 Mm)	187 °F	86.1 °C	
Vicat Softening Temperature	201 °F	93.9 °C	ASTM D1525 ⁴

Optical	Nominal Value (English)	Nominal Value (SI)	Test Method
Light Transmittance (118.1 Mil (3000 µm))	88.0 %	88.0 %	ASTM D1003
Haze (118.1 Mil (3000 µm))	8.00 %	8.00 %	ASTM D1003



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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 Method I (3 point load), 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.

