Technical Data Sheet

Diamond Abs 9501-1001S

Acrylonitrile Butadiene Styrene
LyondellBasell Industries
Engineering Plastics

General			
Features	• Ultra High Impact Resistance		
Uses	• Marine Applications	• Sheet	• Thermoforming Applications
Agency Ratings	• EC 1907/2006 (REACH)	• EU 2002/96/EC (WEEE)	
RoHS Compliance	• RoHS Compliant		
Appearance	• Colors Available		
Forms	• Pellets		
Processing Method	• Extrusion	• Sheet Extrusion	• Thermoforming

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	1.04 g/cm³	1.04 g/cm³	ASTM D1505
Melt Mass-Flow Rate (MFR) (230°c/10.0 Kg)	7.3 g/10 min	7.3 g/10 min	ASTM D1238
Mechanical	**Nominal Value (English)**	**Nominal Value (SI)**	**Test Method**
Tensile Modulus			ASTM D638
32°f (0°c)	364000 psi	2510 MPa	
73°f (23°c)	304000 psi	2100 MPa	
Tensile Strength			ASTM D638
Yield, 32°f (0°c)	6820 psi	47.0 MPa	
Yield, 73°f (23°c) [1]	6240 psi	43.0 MPa	
Yield, 160°f (71°c)	4210 psi	29.0 MPa	
Break, 32°f (0°c)	5950 psi	41.0 MPa	
Break, 73°f (23°c)	4930 psi	34.0 MPa	
Break, 160°f (71°c)	2900 psi	20.0 MPa	
Tensile Elongation			ASTM D638
Break, 32°f (0°c)	21 %	21 %	
Break, 73°f (23°c)	20 %	20 %	
Break, 160°f (71°c)	15 %	15 %	
Flexural Modulus - 2% Secant			ASTM D790
-40°f (-40°c)	372000 psi	2570 MPa	
73°f (23°c)	333000 psi	2300 MPa	
160°f (71°c)	263000 psi	1810 MPa	
Flexural Strength			ASTM D790
-40°f (-40°c)	15400 psi	106 MPa	
73°f (23°c)	10000 psi	69.0 MPa	
160°f (71°c)	6090 psi	42.0 MPa	
Impact	**Nominal Value (English)**	**Nominal Value (SI)**	**Test Method**
Notched Izod Impact			ASTM D256
-40°f (-40°c)	2.8 ft·lb/in	150 J/m	
32°f (0°c)	6.0 ft·lb/in	320 J/m	
73°f (23°c)	9.7 ft·lb/in	520 J/m	
Instrumented Dart Impact			ASTM D3763
-40°f (-40°c)	150 in·lb	17.0 J	
-22°f (-30°c)	266 in·lb	30.0 J	
32°f (0°c)	372 in·lb	42.0 J	
73°f (23°c)	398 in·lb	45.0 J	

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Hardness	Nominal Value (English)	Nominal Value (SI)	Test Method
Rockwell Hardness (R-scale)	101	101	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)	196 °F	91.0 °C	
66 Psi (0.45 Mpa), Annealed	212 °F	100 °C	
264 Psi (1.8 Mpa), Unannealed, 0.125 In (3.18 Mm)	169 °F	76.0 °C	
264 Psi (1.8 Mpa), Annealed, 0.125 In (3.18 Mm)	203 °F	95.0 °C	
Vicat Softening Temperature			
--	221 °F	105 °C	ASTM D1525 [2]
--	203 °F	95.0 °C	ASTM D1525 [3]
Flammability	**Nominal Value (English)**	**Nominal Value (SI)**	**Test Method**
Flame Rating (0.06 In (1.5 Mm))	HB	HB	UL 94

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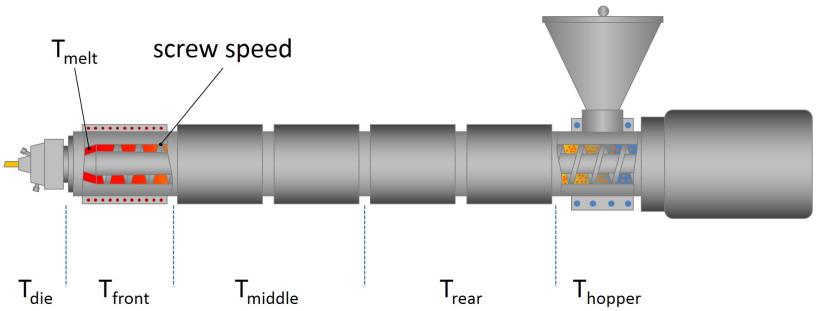

Extrusion	Nominal Value (English)	Nominal Value (SI)
Drying Temperature	176 to 185 °F	80 to 85 °C
Drying Time	2.0 to 4.0 hr	2.0 to 4.0 hr
Suggested Max Moisture	< 0.10 %	< 0.10 %
Cylinder Zone 1 Temp.	350 to 365 °F	177 to 185 °C
Cylinder Zone 2 Temp.	375 to 385 °F	191 to 196 °C
Cylinder Zone 3 Temp.	390 to 410 °F	199 to 210 °C
Cylinder Zone 4 Temp.	415 to 425 °F	213 to 218 °C
Cylinder Zone 5 Temp.	425 to 450 °F	218 to 232 °C
Extrusion Notes		
Gate: 425F - 450F		

Notes

[1] 1.7 in/min (43 mm/min)

[2] Rate A (50°C/h), Loading 1 (10 N)

[3] Rate A (50°C/h), Loading 2 (50 N)

Notes

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