Amodel® A-1145 DW
polyphthalamide

Amodel® A-1145 DW is a 45% glass-fiber-reinforced resin designed for high strength and stiffness and improved hydrolytic stability. This material has low moisture absorption and a low coefficient of thermal expansion, which means excellent dimensional stability. Creep resistance is also exceptional.

This grade has been approved for use with potable water in the United States, France, Germany, and the United Kingdom.

- Natural: A-1145 NT DW
- Black: A-1145 BK 937 DW

General		
Material Status	• Commercial: Active	
Availability	• Africa & Middle East • Asia Pacific • Europe	• Latin America • North America
Filler / Reinforcement	• Glass Fiber, 45% Filler by Weight	
Features	• Chemical Resistant • Chlorine Resistant • Creep Resistant • Good Dimensional Stability • Good Stiffness	• High Stiffness • High Strength • High Temperature Strength • Low Moisture Absorption
Uses	• Appliances • Consumer Applications • Filters • Housings	• Industrial Applications • Plumbing Parts • Pump Parts • Valves/Valve Parts
Agency Ratings	• NSF STD-61 [1]	
RoHS Compliance	• RoHS Compliant	
Appearance	• Black	• Natural Color
Forms	• Pellets	
Processing Method	• Injection Molding	

Physical	Typical Value	Unit	Test method
Density	1.61	g/cm³	ISO 1183/A

Mechanical	Typical Value	Unit	Test method
Tensile Modulus	15100	MPa	ISO 527-1
Tensile Stress (Yield)	232	MPa	ISO 527-2
Tensile Strain (Break, 23°C)	1.8	%	ISO 527-2
Flexural Modulus (23°C)	14000	MPa	ISO 178
Flexural Stress	330	MPa	ISO 178

Impact	Typical Value	Unit	Test method
Charpy Notched Impact Strength	9.9	kJ/m²	ISO 179
Notched Izod Impact Strength	7.8	kJ/m²	ISO 180

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Thermal	Typical Value	Unit	Test method
Deflection Temperature Under Load			ISO 75-2/Af
1.8 MPa, Unannealed	302	°C	

Injection	Typical Value	Unit
Drying Temperature	120	°C
Drying Time	4.0	hr
Suggested Max Moisture	0.030 to 0.060	%
Rear Temperature	310 to 330	°C
Middle Temperature	315 to 330	°C
Front Temperature	325 to 335	°C
Processing (Melt) Temp	320 to 345	°C
Mold Temperature	150	°C

Injection Notes

Mold Temperature:

- Higher tool temperatures might be required for thin wall sections

Storage:

- Amodel® compounds are shipped in moisture-resistant packages at moisture levels according to specifications. Sealed, undamaged bags should be preferably stored in a dry room at a maximum temperature of 50°C (122°F) and should be protected from possible damage. If only a portion of a package is used, the remaining material should be transferred into a sealable container. It is recommended that Amodel® resins be dried prior to molding following the recommendations found in this datasheet and/or in the Amodel® processing guide.

Notes

Typical properties: these are not to be construed as specifications.

[1] Tested at 82 °C (180 °F) (Commercial Hot)

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Safety Data Sheets (SDS) are available by emailing us or contacting your sales representative. Always consult the appropriate SDS before using any of our products.