Amodel® DW-1140

polyphthalamide

Amodel® DW-1140 is a 40% 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.

- Black: DW-1140 BK938

General

Material Status	• Commercial: Active	
Availability	• Africa & Middle East • Asia Pacific • Europe	• Latin America • North America
Filler / Reinforcement	• Glass Fiber, 40% Filler by Weight	
Features	• Chemical Resistant • Chlorine Resistant • Creep Resistant • Good Dimensional Stability	• 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
RoHS Compliance	• RoHS Compliant	
Appearance	• Black	• Natural Color
Forms	• Pellets	
Processing Method	• Injection Molding	

Physical	Typical Value	Unit	Test method
Density	1.55	g/cm³	ISO 1183/A

Mechanical	Typical Value	Unit	Test method
Tensile Modulus	14000	MPa	ISO 527-2
Tensile Stress (Break, 23°C)	230	MPa	ISO 527-2
Tensile Strain (Break, 23°C)	2.0	%	ISO 527-2
Flexural Modulus (23°C)	14000	MPa	ISO 178
Flexural Strain at Break (23°C)	2.5	%	ISO 178
Flexural Strength (Break, 23°C)	330	MPa	ISO 178

Impact	Typical Value	Unit	Test method
Charpy Notched Impact Strength	9.3	kJ/m²	ISO 179
Charpy Unnotched Impact Strength	63	kJ/m²	ISO 179
Notched Izod Impact Strength	9.0	kJ/m²	ISO 180

Thermal	Typical Value	Unit	Test method
Heat Deflection Temperature			ISO 75-2/Af
1.8 MPa, Unannealed	300	°C	

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Injection	Typical Value	Unit
Drying Temperature	120	°C
Drying Time	4.0	hr
Suggested Max Moisture	0.030 to 0.060	%
Rear Temperature	315 to 330	°C
Middle Temperature	320 to 340	°C
Front Temperature	325 to 345	°C
Processing (Melt) Temp	340 to 360	°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.

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