Omnix® 9050

High Performance Polyamide

Solvay Specialty Polymers

Message:

Omnix® 9050 is a 50% glass-fiber reinforced high-performance polyamide. It is hot-water moldable and intended for use in components requiring superior mechanical properties even after moisture absorption.
Omnix® 9050 is characterized by high stiffness and strength, very good impact properties, good dimensional stability and high flow properties. This material is an economical alternative to die-cast alloys for application in automotive, electrical appliance and mechanical equipment. It processes readily using conventional injection molding machines and methods. Water-cooled molds are suitable for use with this grade.
Black: Omnix® 9050 BK 000
Natural: Omnix® 9050 NT 000

General Information	
Filler / Reinforcement	Glass fiber reinforced material, 50% filler by weight
Features	Good dimensional stability Rigidity, high High strength Impact resistance, good Sprayable Fast molding cycle High liquidity Hot water formability Excellent appearance
Uses	Electrical/Electronic Applications Mechanical maintenance/repair Application in Automobile Field
RoHS Compliance	RoHS compliance
Appearance	Black Natural color
Forms	Particle
Processing Method	Water temperature mold injection molding Injection molding
Part Marking Code (ISO 11469)	>PAMXD6/66-GF50

Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.60	g/cm³	ASTM D792
Molding Shrinkage [1]			Internal method
Vertical flow direction	0.50	%	Internal method
Flow direction	0.20	%	Internal method

Water Absorption (23°C, 24 hr)	0.27	%	ISO 62
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus	17000	MPa	ISO 527-2
Tensile Stress (Yield)	235	MPa	ISO 527-2
Tensile Strain (Break)	2.1	%	ISO 527-2
Flexural Modulus	15000	MPa	ISO 178
Flexural Stress	340	MPa	ISO 178
Impact	**Nominal Value**	**Unit**	**Test Method**
Notched Izod Impact	13	kJ/m^2	ISO 180/1A
Unnotched Izod Impact Strength	75	kJ/m^2	ISO 180
Thermal	**Nominal Value**	**Unit**	**Test Method**
Heat Deflection Temperature (1.8 MPa, Unannealed)	248	°C	ISO 75-2/A
Melting Temperature	260	°C	ASTM D3418
Flammability	**Nominal Value**		**Test Method**
Flame Rating	HB		UL 94
Additional Information			
Typical values shown tested on Dry as Molded samples.Standard Packaging and Labeling: Omnix® 9050 resin is packaged in foil lined, multiwall paper bags containing 25 kg (55 pounds) of material. Individual packages will be plainly marked with the product number, the color, the lot number, and the net weight.			
Injection	**Nominal Value**	**Unit**	
Drying Temperature	80.0	°C	
Drying Time	4.0 - 12	hr	
Rear Temperature	250	°C	
Front Temperature	285	°C	
Processing (Melt) Temp	275 - 290	°C	
Mold Temperature	80.0 - 120	°C	
Injection instructions			

Drying:
Omnix® 9050 resin is shipped in moisture-resistant packages at moisture levels according to specifications. It should be dried before molding because excessive moisture content will result in reduced mechanical properties and processing issues, such as excessive nozzle drooling, foaming and splay visible on the molded parts.
Recommended drying conditions are as follows:
Type of drier: Desiccant
Temperature: 80°C (175°F)
Time: 4-12 hours
Dew point: -30°C (-22°F) or lower
Polyamides oxidize in the presence of oxygen at high temperatures. Therefore drying temperatures above 80°C should be avoided, particularly for light colors or color-controlled parts.
Injection Molding:
Omnix® 9050 resin can be readily injection molded in most screw injection molding machines. A general purpose screw is recommended, with minimum back pressure. The melt temperature should be between 275°C and 290°C (527°F and 554°F). Generally this can be achieved with barrel temperatures from 250°C (482°F) in the rear zone gradually increasing to 285°C (545°F) in the front zone. Mold temperature should be between 80° and 120°C (176° and 248°F).
Set injection pressure to give rapid injection. Adjust holding pressure to one-half injection pressure. Set hold time to maximize part weight. Transfer from injection to hold pressure at the screw position just before the part is completely filled.
Storage:
Omnix® 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 Omnix® resins be dried prior to molding following the recommendations found in this datasheet and/or in the Omnix® processing guide.

NOTE

1.	Solvay test method. The shrinkage rate will change according to the design and processing conditions of components. Please contact Solvay's technical representative for more information.

Recommended distributors for this material

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