Kalix® 9950

High Performance Polyamide

Solvay Specialty Polymers

Message:

Kalix® 9950 is a 50% glass-fiber reinforced high-performance polyamide. It is hot-water moldable and intended for use in components requiring superior mechanical properties and excellent surface quality.
Kalix® 9950 is characterized by high stiffness and strength, very good impact properties, good dimensional stability, low warpage behavior and excellent surface finish. It can be successfully plated, for example with non conductive vacuum metallization, or painted with soft touch or UV top coat paints. Please contact your Solvay Specialty Polymers sales representative for more information on suitable plating and painting systems.
Kalix® 9950 exhibits an excellent combination of high flow, low flash tendency and fast cycle time which makes it a cost-competitive option for thin-walled parts produced in large quantities, such as structural parts in mobile electronic devices.
Black: Kalix® 9950 BK 000
White: Kalix® 9950 WH 000
Natural: Kalix® 9950 NT 000

General Information	
UL YellowCard	E95746-101004610
Filler / Reinforcement	Glass fiber reinforced material, 50% filler by weight
Features	Good dimensional stability Low warpage Rigidity, high High strength Impact resistance, good Electroplateable Sprayable Fast molding cycle High liquidity Hot water formability Excellent appearance
Uses	Thin wall parts Electrical/Electronic Applications Electrical components Mobile phone
RoHS Compliance	RoHS compliance
Appearance	White Black Available colors 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	0.32	%	Internal method
Flow direction	0.13	%	Internal method
Water Absorption (23°C, 24 hr)	0.37	%	ISO 62
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus	18500	MPa	ISO 527-2
Tensile Stress (Yield)	245	MPa	ISO 527-2
Tensile Strain (Break)	2.3	%	ISO 527-2
Flexural Modulus	15900	MPa	ISO 178
Flexural Stress (3.5% Strain)	379	MPa	ISO 178
Impact	**Nominal Value**	**Unit**	**Test Method**
Notched Izod Impact	15	kJ/m²	ISO 180/1A
Unnotched Izod Impact Strength	68	kJ/m²	ISO 180
Thermal	**Nominal Value**	**Unit**	**Test Method**
Heat Deflection Temperature			
0.45 MPa, not annealed	262	°C	ISO 75-2/B
1.8 MPa, not annealed	254	°C	ISO 75-2/A
Melting Temperature	260	°C	ASTM D3418
Electrical	**Nominal Value**		**Test Method**
Dielectric Constant [2]			ASTM D2520
1.00 GHz	4.15		ASTM D2520
2.40 GHz	4.15		ASTM D2520
Dissipation Factor [3]			ASTM D2520
1.00 GHz	0.011		ASTM D2520
2.40 GHz	0.011		ASTM D2520
Flammability	**Nominal Value**		**Test Method**
Flame Rating (0.600mm, all colors)	HB		UL 94
Additional Information			
Typical values shown tested on Dry as Molded samples.Standard Packaging and Labeling: Kalix 9950 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	280	°C	
Processing (Melt) Temp	285 - 305	°C	
Mold Temperature	80.0 - 120	°C	

Injection instructions

Storage:
Kalix® 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 Kalix® resins be dried prior to molding following the recommendations found in this datasheet and/or in the Kalix® processing guide.
Drying:
Kalix 9950 is supplied in sealed bags. 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:
Kalix 9950 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 285°C and 305°C (545°F and 580°F). Generally this can be achieved with barrel temperatures from 250°C (482°F) in the rear zone gradually increasing to 280°C (536°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.

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.
2.	Method B
3.	Method B

Recommended distributors for this material

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