Kalix® 2940

high performance polyamide

Kalix® 2940 is a bio-sourced, polyamide-based compound with 40% by weight glass fiber reinforcement. This material is specifically formulated for high strength and stiffness applications where good impact resistance and excellent dimensional stability after molding are required. The formulation also addresses warpage issues associated with the anisotropic shrinkage of glass fiber reinforced materials so that close tolerance molding is more easily achieved. Its low viscosity and excellent flow properties make the material ideal for filling parts with thin-walled sections such as those encountered in the mobile electronics industry.

General		
Material Status	• Commercial: Active	
Availability	• Asia Pacific • Europe	• North America
Filler / Reinforcement	• Glass Fiber, 40% Filler by Weight	
Features	• Fast Molding Cycle • Good Dimensional Stability • Good Impact Resistance • Good Surface Finish • High Flow • High Stiffness	• High Strength • Hot Water Moldability • Low Warpage • Paintable • Platable
Uses	• Cell Phones • Electrical Parts	• Electrical/Electronic Applications • Thin-walled Parts
RoHS Compliance	• Contact Manufacturer	
Appearance	• White	
Forms	• Pellets	
Processing Method	• Injection Molding	• Water-Heated Mold Injection Molding

Physical	Typical Value	Unit	Test method
Specific Gravity	1.40		
Molding Shrinkage [1]			Internal Method
Across Flow	0.55	%	
Flow	0.15	%	
Water Absorption (24 hr, 23°C)	0.13	%	ASTM D570

Mechanical	Typical Value	Unit	Test method
Tensile Modulus	13000	MPa	ISO 527-2
Tensile Stress	175	MPa	ISO 527-2
Tensile Strain (Break)	3.0	%	ISO 527-2
Flexural Modulus	11000	MPa	ISO 178
Flexural Stress	290	MPa	ISO 178
Flexural Strain at Break	> 3.5	%	ISO 178

Impact	Typical Value	Unit	Test method
Notched Izod Impact Strength	20	kJ/m²	ISO 180/1A
Unnotched Izod Impact Strength	80	kJ/m²	ISO 180

Thermal	Typical Value	Unit	Test method
Heat Deflection Temperature			
0.45 MPa, Unannealed	223	°C	ISO 75-2/B
1.8 MPa, Unannealed	218	°C	ISO 75-2/A
Glass Transition Temperature	55.0	°C	ASTM D3418

Electrical	Typical Value	Unit	Test method
Dielectric Constant			ASTM D150
1 kHz	3.83		
1 MHz	3.62		
Dissipation Factor			ASTM D150
1 kHz	0.012		
1 MHz	0.012		

Additional Information

Typical values shown tested on Dry as Molded samples.

Standard Packaging and Labeling:

- Kalix® 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	Typical Value	Unit
Drying Temperature	80	°C
Drying Time	4.0 to 12	hr
Suggested Max Moisture	0.090	%
Rear Temperature	265 to 300	°C
Middle Temperature	280 to 330	°C
Front Temperature	280 to 330	°C
Processing (Melt) Temp	280 to 330	°C
Mold Temperature	50 to 130	°C

Kalix® 2940
high performance polyamide

Injection Notes

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® 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.

- Use of a desiccant dryer with -40°C dewpoint is strongly suggested to ensure Kalix® material has reached optimum moisture content before processing.

Injection Molding:

- 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.
- For light colors use lower melt temperature if possible. If operating in the 330°C melt temperature range, keep residence times below 5 minutes.
- Actual mold temperatures of 80°C or above are recommended to improve flow and part surface finish. The use of mold temperatures below 80°C is safe for mechanical properties but may result in higher necessary injection pressure and inferior surface finish.

Notes

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

[1] Solvay Test Method. Shrink rates can vary with part design and processing conditions. Please consult a Solvay Technical Representative for more information.

SOLVAY
asking more from chemistry®