PREPERM® L440

Polyphenylene Ether

Premix Oy

Message:

PREPERM® L440 is a special compound with elevated dielectric constants of 4.4.
PREPERM® L440 is a special compound based on Premix proprietary PPE technology. Extremely low dissipation factor (0.0005) makes PREPERM® L440 an excellent material for high frequency applications. PREPERM® L440 offers stable dielectric constant over wide frequency and wide temperature range. PREPERM® retains its physical properties at very low (-78°C) temperatures. PREPERM® L440 can be injection moulded or extruded.
Applications include structural parts for antennas in base stations, point to point, wlan, mobile phones etc. Devices made out of PREPERM® L440 can operate at very high frequencies as PREPERM® L440 offers stable performance even at 120 GHz.

General Information	
Features	Low Temperature Strength Low Temperature Toughness
Uses	Electrical Parts Electrical/Electronic Applications
RoHS Compliance	RoHS Compliant
Forms	Granules
Processing Method	Extrusion Injection Molding

Physical	Nominal Value	Unit	Test Method
Density	1.54	g/cm³	
Melt Mass-Flow Rate (MFR)			ISO 1133
300°C/2.16 kg	2.0	g/10 min	
300°C/5.0 kg	6.0	g/10 min	
Molding Shrinkage	0.80	%	ISO 294-4
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Stress			ISO 527-2
Yield	52.0	MPa	
4.00 mm	46.0	MPa	
Tensile Strain			ISO 527-2
Yield	8.0	%	
Break, 4.00 mm	30	%	
Flexural Modulus (4.00 mm)	2500	MPa	ISO 178
Impact	**Nominal Value**	**Unit**	**Test Method**
Notched Izod Impact Strength [1]			ISO 180
-78°C	12	kJ/m²	
-20°C	12	kJ/m²	
23°C	20	kJ/m²	

Unnotched Izod Impact Strength [2]			ISO 180
-78°C	No Break		
-20°C	No Break		
23°C	No Break		
Thermal	**Nominal Value**	**Unit**	**Test Method**
Heat Deflection Temperature			
0.45 MPa, Unannealed	180	°C	ISO 75-2/Bf
1.8 MPa, Unannealed	158	°C	ISO 75-2/Af
Vicat Softening Temperature			
--	192	°C	ISO 306/A50
--	175	°C	ISO 306/B50
Electrical	**Nominal Value**		**Test Method**
Dielectric Constant (1.00 GHz)	4.40		Internal Method
Dissipation Factor (1.00 GHz)	5.0E-4		Internal Method
Flammability	**Nominal Value**		**Test Method**
Flame Rating (4.00 mm)	V-1		UL 94
Injection	**Nominal Value**	**Unit**	
Drying Temperature	120 to 140	°C	
Drying Time	2.0 to 4.0	hr	
Processing (Melt) Temp	290 to 310	°C	
Mold Temperature	80.0 to 140	°C	
Injection Pressure	60.0 to 80.0	MPa	
Injection Rate	Moderate		
Extrusion	**Nominal Value**	**Unit**	
Drying Temperature	120 to 140	°C	
Drying Time	2.0 to 4.0	hr	
Melt Temperature	260 to 280	°C	
Die Temperature	260 to 300	°C	
Take-Off Roll	60.0 to 180	°C	
NOTE			
1.	4 mm thickness		
2.	4 mm thickness		

Recommended distributors for this material

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