

PREPERM® L380

Polyphenylene Ether

Premix Oy

Message:

PREPERM® L380 is a special compound with elevated dielectric constants of 3.80.

PREPERM® L380 is based on Premix proprietary PPE technology. Extremely low dissipation factor (0.0006) makes PREPERM® L380 an excellent material for high frequency applications. PREPERM® L380 offers stable dielectric constant over wide frequency and wide temperature range. PREPERM® retains its physical properties at very low (-78°C) temperatures. PREPERM® L380 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® L380 can operate at very high frequencies as PREPERM® L380 offers stable performance even at 120 GHz.

General Information	
Features	Low temperature strength
	Low Temperature Flexibility
Uses	Electrical/Electronic Applications
	Electrical components
RoHS Compliance	RoHS compliance
Forms	Particles
Processing Method	Extrusion
	Injection molding

Physical	Nominal Value	Unit	Test Method
Density	1.45	g/cm ³	ISO 1183
Melt Mass-Flow Rate (MFR) (300°C/5.0 kg)	12	g/10 min	ISO 1133
Molding Shrinkage - Flow	1.0	%	ISO 294-4
Mechanical	Nominal Value	Unit	Test Method
Tensile Stress			ISO 527-2
Yield, 4.00mm	53.0	MPa	ISO 527-2
4.00 mm	44.0	MPa	ISO 527-2
Tensile Strain			ISO 527-2
Yield, 4.00mm	8.0	%	ISO 527-2
Fracture, 4.00mm	25	%	ISO 527-2
Flexural Modulus (4.00 mm)	2200	MPa	ISO 178
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact ¹			ISO 180
-78°C	12	kJ/m ²	ISO 180
-20°C	12	kJ/m ²	ISO 180
23°C	21	kJ/m ²	ISO 180
Unnotched Izod Impact Strength ²			ISO 180
-78°C	No Break		ISO 180

-20°C	No Break		ISO 180
23°C	No Break		ISO 180
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature			
0.45 MPa, not annealed	178	°C	ISO 75-2/Bf
1.8 MPa, not annealed	155	°C	ISO 75-2/Af
Electrical	Nominal Value		Test Method
Dielectric Constant (1.00 GHz)	3.80		Internal method
Dissipation Factor (1.00 GHz)	6.0E-4		Internal method
Flammability	Nominal Value		Test Method
Flame Rating (4.00 mm)	V-1		UL 94
Injection	Nominal Value	Unit	
Drying Temperature	120 - 140	°C	
Drying Time	2.0 - 4.0	hr	
Processing (Melt) Temp	290 - 310	°C	
Mold Temperature	80.0 - 140	°C	
Injection Pressure	60.0 - 80.0	MPa	
Injection Rate	Moderate		
Extrusion	Nominal Value	Unit	
Drying Temperature	120 - 140	°C	
Drying Time	2.0 - 4.0	hr	
Melt Temperature	260 - 280	°C	
Die Temperature	260 - 300	°C	
Extrusion instructions			
Tool / roll temperature : 60 - 180°C			
NOTE			
1.	4 mm thickness		
2.	4 mm thickness		

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