

Preperm™ TP21427

Polyphenylene Ether

Key Characteristics

Product Description			
PREPERM is a special compound based on proprietary technology. It offers stable dielectric constant over wide range of frequencies and temperature ranges with low losses			
General			
Material Status	• Commercial: Active		
Regional Availability	• Asia Pacific	• Europe	• North America
Appearance	• White		
Forms	• Pellets		
Processing Method	• Injection Molding		

Technical Properties ¹

Physical	Typical Value (English)	Typical Value (SI)	Test Method
Density	2.50 g/cm ³	2.50 g/cm ³	ISO 1183
Melt Mass-Flow Rate (MFR) (300°C/5.0 kg)	5.0 g/10 min	5.0 g/10 min	ISO 1133
Molding Shrinkage	0.50 to 0.60 %	0.50 to 0.60 %	ISO 294-4
Water Absorption (24 hr, 73°F (23°C))	0.20 %	0.20 %	ISO 62
Mechanical	Typical Value (English)	Typical Value (SI)	Test Method
Tensile Stress (Break, 73°F (23°C))	6530 psi	45.0 MPa	ISO 527-2
Tensile Strain (Break)	1.0 %	1.0 %	ISO 527-2
Flexural Modulus	1.35E+6 psi	9300 MPa	ISO 178
Impact	Typical Value (English)	Typical Value (SI)	Test Method
Notched Izod Impact Strength (73°F (23°C))	1.4 ft·lb/in ²	3.0 kJ/m ²	ISO 180
Unnotched Izod Impact Strength (73°F (23°C))	4.3 ft·lb/in ²	9.0 kJ/m ²	ISO 180
Thermal	Typical Value (English)	Typical Value (SI)	Test Method
Deflection Temperature Under Load 66 psi (0.45 MPa), Unannealed	248 °F	120 °C	ISO 75-2/B
Deflection Temperature Under Load 264 psi (1.8 MPa), Unannealed	212 °F	100 °C	ISO 75-2/A
Electrical	Typical Value (English)	Typical Value (SI)	Test Method
Dielectric Constant ² (2.50 GHz)	12.0	12.0	Instrument
Dissipation Factor ³ (2.50 GHz)	4.5E-3	4.5E-3	Instrument
Flammability	Typical Value (English)	Typical Value (SI)	Test Method
Flame Rating (0.12 in (3.0 mm))	V-1	V-1	UL 94

Processing Information

Injection	Typical Value (English)	Typical Value (SI)
Processing (Melt) Temp	536 to 590 °F	280 to 310 °C
Mold Temperature	176 to 248 °F	80 to 120 °C

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Injection Notes

Injection Pressure: High
Injection Speed: Moderate to High

These temperatures can be used for guidance purposes. Processing temperature is also dependent on the equipment used. The instructions of the equipment manufacturer should be followed.

Pre-drying in a dehumidifying drier is recommended e.g. 2 - 4 hours at 100 - 110°C. If a dehumidified drier is not available, we recommend increasing the drying temperature to 110 - 120 ° C and prolonging the drying time to 3 to 6 hours. If moisture level is too high, it can be seen in surface quality, but it does not cause polymer degradation.

Notes

¹ Typical values are not to be construed as specifications.

² RF Analyzer
Tolerance: ±0.5

³ RF Analyzer
Dissipation Factor: This is also known as Loss tangent

CONTACT INFORMATION**North America**

Avon Lake, United States
33587 Walker Road
Avon Lake, OH, United States ,
44012
+1 440 930 1000
+1 844 4AVIENT

South America

Sao Paulo, Brazil
Av. Francisco Nakasato, 1700
13295-000 Itupeva
Sao Paulo, Brazil
+55 11 4593 9200

Asia

Shanghai, China
2F, Block C
200 Jinsu Road
Pudong, 201206
Shanghai, China
+86 (0) 21 6028 4888

Europe

Pommerloch, Luxembourg
19 Route de Bastogne
Pommerloch, Luxembourg , L-9638
+352 269 050 35



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