3M™ Dyneon™ Fluoroplastic FEP FLEX6309Z

Perfluoroethylene Propylene Copolymer

3M Advanced Materials Division

Message:

3M™ Dyneon™ Fluoroplastic FEP FLEX6309Z is a fully fluorinated copolymer comprising tetrafluoroethylene and hexafluoropropylene and is belonging to the product class FEP. It was developed mainly for wire and cable extrusion and features greatly enhanced flexibility and stress cracking behavior.
Special Features
Excellent dielectric properties
High thermal stability
Service temperature rating up to more than 200°C
Outstanding chemical resistance
Wide processing window
Greatly enhanced flex life properties
Extremely low flammability (high LOI)
Smooth surface
Excellent anti-stick properties
Low coefficient of friction
Very high weathering and UV stability
Improved mechanical properties

General Information	
Features	Low friction coefficient
	Copolymer
	Good UV resistance
	Good electrical performance
	Good flexibility
	Good chemical resistance
	Good weather resistance
	Thermal stability, good
	No stickiness
Uses	Cable sheath
	Wire and cable applications
	Insulating material
Forms	Particle
Processing Method	Film extrusion
	Extrusion
	Injection molding

Physical	Nominal Value	Unit	Test Method
Density	2.14	g/cm³	ISO 12086
Melt Mass-Flow Rate (MFR) (372°C/5.0 kg)	9.0	g/10 min	ISO 1133
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Stress (Break, 23°C)	30.0	MPa	ISO 527-1

Tensile Strain (Break, 23°C)	350	%	ISO 527-1
Thermal	**Nominal Value**	**Unit**	**Test Method**
Melting Temperature	255	°C	ISO 12086
Electrical	**Nominal Value**	**Unit**	**Test Method**
Dielectric Strength (0.250 mm)	65	kV/mm	ASTM D149
Dielectric Constant			ASTM D150
23°C, 1 MHz	2.05		ASTM D150
23°C, 9.40 GHz	2.04		ASTM D150
Dissipation Factor			ASTM D150
1 MHz	5.0E-4		ASTM D150
9.40 GHz	3.0E-4		ASTM D150
Flammability	**Nominal Value**	**Unit**	**Test Method**
Oxygen Index	> 95	%	ASTM D2863
Additional Information	**Nominal Value**		**Test Method**
MIT Folding Endurance	100000		ASTM D2176
Flange temperature	390	°C	
Head Temperature	395	°C	
Extruder Screw L/D Ratio	30.0		
Extrusion	**Nominal Value**	**Unit**	
Cylinder Zone 1 Temp.	330	°C	
Cylinder Zone 2 Temp.	345	°C	
Cylinder Zone 3 Temp.	360	°C	
Cylinder Zone 4 Temp.	370	°C	
Die Temperature	395	°C	

Extrusion instructions

Water Cooling: 50°C

Recommended distributors for this material

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