FEP PF4610

EVERFLON+™

Fluoroplastic Foam Resin

DESCRIPTION

Everflon+™ FEP PF4610 is a fluoroplastic resin compounded with a foam nucleating package. This resin is supplied as white pellets and is used in a nitrogen gas-injected foam extrusion process to produce uniform foam cells in the dielectric insulation. Foaming the fluoroplastic reduces its dielectric constant, providing opportunities for miniaturization and weight savings. Foamed insulation of Everflon+™ FEP PF4610 produces cables for high frequency signal transmission with minimal distortion.

Everflon+™ FEP PF4610 is ideal for producing coaxial cable cores in a broad range of sizes. A typical coaxial cable core would have conductor sizes of 30 AWG or greater, wall thickness of 0.010 in or greater, with void content from 20% to 60%.

These voids are closed cell in nature and range from 0.018 mm (0.0007 in) to 0.127 mm in (0.005in) in diameter. Achievable void content will vary based on wall thickness and processing conditions.

DATA LIST

Tentative Typical Property Data for Everflon+™ FEP PF4610 Fluoropolymer Resin

Property	Test Method		Unit	Typical Value
GENERAL				
Melt Flow Rate at 372 °C (702 °F)/5.0 kg weight	ISO 12086	ASTM D2116	g/10 min	8~12
Melting Point	—	D4591	°C	260
Specific Gravity	—	D792	—	2.15
MECHANICAL				
Tensile Strength	ISO 12086	ASTM D2116	MPa	24
Elongation at Break	ISO 12086	ASTM D2116	%	300
ELECTRICAL				
Dielectric Constant		ASTM D150	1 GHz	2.0
Dissipation Factor		ASTM D150	1 GHz	0.0004

Note:
For more information of FEP properties, please visit www.everflon.com or FEP TechBook. These results are based on laboratory tests, under controlled conditions, and do not reflect performance under actual fire conditions.

PROCESSING

Everflon+™ PF FEP can be fed directly to a conventional singlescrew extruder with nitrogen gas injection. The process contact metals must be high-nickel, low-iron alloys suitable for fluoroplastic processing. The process should include devices to monitor diameter, capacitance, and gas flow.

When adding color concentrate, use one compounded in FEP fluoroplastic. Color addition may affect cell formation and capacitance, requiring process adjustment.

Insulation performance is determined by extruder output, wire line speed, and void content. Void content is controlled by nitrogen flow rate, process temperatures, and quench point. It is best for the voids to grow after the melt is drawn down onto the wire. Elongated voids in the insulation indicate early growth of the cells in the draw-down cone.

PRECAUTION

Before using Everflon™ FEP resin, refer to the Safety Data Sheet and the latest edition of “The Guide to the Safe Handling of Fluoropolymer Resins”

Open and use containers only in well-ventilated areas using local exhaust ventilation (LEV). Vapors and fumes liberated during hot processing of Everflon™ FEP should be exhausted completely from the work area. Contamination of tobacco with these polymers must be avoided. Vapors and fumes liberated during hot processing that are not properly exhausted, or from smoking tobacco or cigarettes contaminated with Everflon™ FEP , may cause flu-like symptoms, such as chills, fever, and sore throat. This may not occur until several hours after exposure and will typically pass within about 24 hours. Mixtures with some finely divided metals, such as magnesium or aluminum, can be flammable or explosive under some conditions.

HANDING & PACKAGE

The properties of Everflon™ FEP resins are not affected by storage time. Ambient storage conditions should be designed to avoid airborne contamination and water condensation on the resin when it is removed from containers. Drying at 100 °C (212 °F) for 4 hours is suggested to remove any absorbed moisture.

Everflon™ FEP PF4610 is supplied as pellets and packaged in 25-kg drums with a polyethylene inner lining.

ABOUT C&F AND EVERFLON FLUOROPOLYMERS

Everflon™ is brand of C&F Group dealing in fluoropolymers materials including PTFE.FEP.PFA.ETFE and PVDF. On the basis of Everflon, C&F also developing the fluoropolymer applications including tubing,coating and films.

More information could visit www.everflon.com or Everflon™ Fluoropolymers Introduction and C&F Chemicals Book

For more information, visit www.everflon.com
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