Teflon® FEP CJ 99

Perfluoroethylene Propylene Copolymer

DuPont Fluoropolymers

Message:

For inventory control purposes product name may be followed by an X.
Products labeled FEP CJ 99 and FEP CJ 99 X are equivalent and all information in this document is applicable to both.
Typical Application
Wire and cable insulation, small tubing and injection molded parts.
DuPont Teflon ® FEP CJ 99 is a melt-processible copolymer of tetrafluoroethylene and hexafluoropropylene without additives that meets the requirements of ASTM D 2116 type I.
Thanks to the unique combination of a Melt Flow Rate in the range of 9 g/10 min and MIT flexlife above 40 000 cycles, this resin offers both attractive processing speeds and high stress-rack resistance in addition to the excellent characteristics typical of Teflon ® fluoropolymer resins, such as non-ageing characteristics, chemical inertness, exceptional electrical properties, low flammability, heat resistance, toughness and flexibility, low coefficient of friction, non-stick characteristics, negligible moisture absorption and excellent weather resistance. The increased transparency of Teflon ® FEP CJ 99 will also allow better colourability.
Stress crack resistance is an important element in establishing end-use performance. Extensive testing of wire and cable constructions is required for definitive performance evaluation. Well-known and most comprehensive tests for stress rack resistance of wire and cable are mandrel wrap tests as described in the military specification MIL-W-22759 (aerospace) and ISO 6722/LV112 (automotive). Experience has shown that the MIT folding endurance or flex life test, based on ASTM D 2176, performed on a thin film of resin, gives a good correlation with stress crack resistance. Resins with a higher MIT flex life, perform better in the stress-crack resistance tests. Teflon ® FEP CJ 99 has a higher degree of stress crack resistance than most FEP resins with similar viscosity (MFR) and offers higher productivity than FEP resins with similar stress crack resistance (MIT). We recommend that for applications involving repeated thermal and flex cycling, specific tests on the final cable always should be undertaken. The MIT test results should be viewed as guide to comparative performance of the various grades of resin.

General Information	
Features	Fast Molding Cycle
	Food Contact Acceptable
	Good Chemical Resistance
	Good Colorability
	Good Electrical Properties
	Good Flexibility
	Good Toughness
	Good Weather Resistance
	High ESCR (Stress Crack Resist.)
	High Heat Resistance
	Low Friction
	Low Moisture Absorption
Uses	Insulation
	Wire & Cable Applications
Agency Ratings	ASTM D 2116 type 1
	EU 10/2011
	FDA 21 CFR 177.1550
Forms	Pellets

Processing Method	Blow Molding Compression Molding Extrusion Injection Molding

Physical	Nominal Value	Unit	Test Method
Specific Gravity	2.13	g/cm³	ASTM D792, ISO 1183
Melt Mass-Flow Rate (MFR) (372°C/5.0 kg)	9.0	g/10 min	ASTM D2116, ISO 12086
Water Absorption (24 hr)	< 0.010	%	ASTM D570
Hardness	**Nominal Value**	**Unit**	**Test Method**
Durometer Hardness (Shore D)	56		ASTM D2240, ISO 868
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Strength (Yield, 23°C)	28.0	MPa	ASTM D638, ISO 12086
Tensile Elongation (Break, 23°C)	300	%	ASTM D638, ISO 12086
Impact	**Nominal Value**	**Unit**	**Test Method**
Notched Izod Impact (23°C)	No Break		ASTM D256, ISO 180
Thermal	**Nominal Value**	**Unit**	
Continuous Use Temperature [1]	205	°C	
Melting Temperature [2]	255	°C	
Electrical	**Nominal Value**	**Unit**	**Test Method**
Dielectric Strength			
0.250 mm [3]	> 100	kV/mm	ASTM D149
0.250 mm	> 100	kV/mm	IEC 60243-1
Dielectric Constant			ASTM D150, IEC 60250
1 kHz	2.03		
1.00 GHz	2.03		
Dissipation Factor			ASTM D150, IEC 60250
1 kHz	5.0E-5		
1.00 GHz	8.0E-4		
Flammability	**Nominal Value**	**Unit**	**Test Method**
Flame Rating [4]	V-0		UL 94
Oxygen Index	> 95	%	ASTM D2863, ISO 4589-2
Additional Information	**Nominal Value**	**Unit**	**Test Method**
Critical Shear Rate (372°C)	29.0	sec^-1	Internal Method
Guide DDR Range - for cable extrusion	60.0 to 120		
MIT Folding Endurance - film (200.0 µm)	4.0E+4	Cycles	ASTM D2176
NOTE			

1.	The continuous service temperature is based on accelerated heat-aging tests, and represents the temperature at which tensile strength and ultimate elongation retains 50% of the original values, after 20 000 h thermal aging When considering the use of Teflon ® FEP at elevated temperatures especially in combination with mechanical, electrical or chemical exposure, preliminary testing should be done to verify suitability.
2.	ASTM D4591 / D3418
3.	Method A (Short-Time)
4.	- These results are based on laboratory tests, under controlled conditions, and do not reflect performance under actual fire conditions.- Current rating is a typical theoretical value

Recommended distributors for this material

Susheng Import & Export Trading Co.,Ltd.

Tel: +86 21 5895 8519

Phone: +86 13424755533

Email: sales@su-jiao.com

No. 215, Lianhe North Road, Fengxian District, Shanghai, China

WECHAT