

Arkema Group KYNAR FLEX® 2850-04 Polyvinylidene Fluoride Copolymer - Extrusion & Molding

Category : Polymer , Thermoplastic , Fluoropolymer , PVDF , Polyvinylidene fluoride (PVDF), Molded/Extruded

Material Notes:

Characteristics: Natural resin - translucent, off-white hemispheres. 150°C Temperature rating. High stability in harsh thermal, chemical and ultraviolet environments. High toughness and mechanical strength, low permeability, abrasion resistance; high purity
 Applications: Chemical processing – production, storage and transfer of corrosive fluids
 Electronics – protective sheathing, plenum and wiring insulation
 Semi-conductor industry
 Food stuff and Healthcare industries
 Transportation – fuel line and pipe, thermoformed body components
 Information provided by Arkema Inc.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Arkema-Group-KYNAR-FLEX-2850-04-Polyvinylidene-Fluoride-Copolymer-Extrusion-Molding.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.77 - 1.80 g/cc	1.77 - 1.80 g/cc	ASTM D792
Bulk Density	0.961 g/cc	0.0347 lb/in ³	
Water Absorption	0.030 - 0.050 % @Time 86400 sec	0.030 - 0.050 % @Time 24.0 hour	Immersion; ASTM D570
Viscosity	400000 - 800000 cP @Shear Rate 100 1/s, Temperature 232 °C	400000 - 800000 cP @Shear Rate 100 1/s, Temperature 450 °F	Melt Viscosity; ASTM D3835
Linear Mold Shrinkage, Flow	0.019 - 0.035 cm/cm @Time 86400 sec	0.019 - 0.035 in/in @Time 24.0 hour	
Linear Mold Shrinkage, Transverse	0.016 - 0.030 cm/cm @Time 86400 sec	0.016 - 0.030 in/in @Time 24.0 hour	
Melt Flow	8.0 - 25 g/10 min @Load 3.80 kg, Temperature 232 °C	8.0 - 25 g/10 min @Load 8.38 lb, Temperature 450 °F	ASTM D1238

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	70 - 75	70 - 75	ASTM D2240
Tensile Strength at Break	27.0 - 48.0 MPa	3920 - 6960 psi	ASTM D638
Tensile Strength, Yield	31.0 - 41.0 MPa	4500 - 5950 psi	ASTM D638
Elongation at Break	200 - 400 %	200 - 400 %	ASTM D638
Elongation at Yield	5.0 - 15 %	5.0 - 15 %	ASTM D638

Mechanical Properties	Metric	English	Comments
Flexural Strength	20.0 - 34.0 MPa @Strain 5.00 %	2900 - 4930 psi @Strain 5.00 %	ASTM D790
Flexural Modulus	1.034 - 1.241 GPa	150.0 - 180.0 ksi	ASTM D790
Compressive Strength	41.0 - 58.0 MPa	5950 - 8410 psi	ASTM D695
Izod Impact, Notched	1.07 - 4.27 J/cm	2.00 - 8.00 ft-lb/in	ASTM D256
Izod Impact, Unnotched	>= NB	>= NB	ASTM D256
Coefficient of Friction, Dynamic	0.19	0.19	vs. steel; ASTM D1894
Coefficient of Friction, Static	0.26	0.26	vs. steel; ASTM D1894
Taber Abrasion, mg/1000 Cycles	6.0 - 9.0	6.0 - 9.0	1000 g pad; CS-17

Thermal Properties	Metric	English	Comments
CTE, linear	126 - 185 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$	70.0 - 103 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	ASTM D696
Specific Heat Capacity	1.17 - 1.51 J/g $\cdot^\circ\text{C}$	0.280 - 0.360 BTU/lb $\cdot^\circ\text{F}$	DSC
Thermal Conductivity	0.144 - 0.180 W/m $\cdot\text{K}$	1.00 - 1.25 BTU-in/hr $\cdot\text{ft}^2\cdot^\circ\text{F}$	ASTM D433
Melting Point	155 - 160 $^\circ\text{C}$	311 - 320 $^\circ\text{F}$	
Deflection Temperature at 0.46 MPa (66 psi)	60.0 - 75.0 $^\circ\text{C}$	140 - 167 $^\circ\text{F}$	ASTM D648
Deflection Temperature at 1.8 MPa (264 psi)	38.0 - 55.0 $^\circ\text{C}$	100 - 131 $^\circ\text{F}$	ASTM D648
Glass Transition Temp, Tg	-40.0 - -38.0 $^\circ\text{C}$ @Frequency 1.00 Hz	-40.0 - -36.4 $^\circ\text{F}$ @Frequency 1.00 Hz	DMA
Decomposition Temperature	375 $^\circ\text{C}$	707 $^\circ\text{F}$	1% wt loss / in air; TGA
	410 $^\circ\text{C}$	770 $^\circ\text{F}$	1% wt loss / in nitrogen; TGA
Flammability, UL94	V-0	V-0	
Oxygen Index	43 %	43 %	ASTM D2868
	75 %	75 %	optional products; ASTM D2868

Electrical Properties	Metric	English	Comments
Volume Resistivity	2.00e+14 ohm-cm	2.00e+14 ohm-cm	65% RH; ASTM D257

Electrical Properties	@Temperature 20.0 °C Metric	@Temperature 68.0 °F English	Comments
Dielectric Constant	3.5	3.5	ASTM D150
	@Frequency 1.00e+8 Hz	@Frequency 1.00e+8 Hz	
	10.2	10.2	ASTM D150
	@Frequency 100 Hz	@Frequency 100 Hz	
Dielectric Strength	51.2 - 63.0 kV/mm	1300 - 1600 kV/in	ASTM D149
Dissipation Factor	0.010 - 0.22	0.010 - 0.22	ASTM D150
	@Frequency 100 Hz	@Frequency 100 Hz	

Processing Properties	Metric	English	Comments
Rear Barrel Temperature	190 - 210 °C	374 - 410 °F	Injection Molding
	195 - 220 °C	383 - 428 °F	Tube Extrusion
Middle Barrel Temperature	200 - 220 °C	392 - 428 °F	Injection Molding
	210 - 240 °C	410 - 464 °F	Tube Extrusion
Front Barrel Temperature	200 - 240 °C	392 - 464 °F	Injection Molding
	210 - 240 °C	410 - 464 °F	Tube Extrusion
Nozzle Temperature	200 - 240 °C	392 - 464 °F	Injection Molding
Die Temperature	210 - 250 °C	410 - 482 °F	Tube Extrusion
Head Temperature	210 - 240 °C	410 - 464 °F	Tube Extrusion
Mold Temperature	50.0 - 90.0 °C	122 - 194 °F	Injection Molding

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