

Arkema Group KYNAR FLEX® 2800-20 Polyvinylidene Fluoride Copolymer - Extrusion & Molding

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

Material Notes:

Characteristics: Natural resin - translucent, off-white hemispheres. Flexible. 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-2800-20-Polyvinylidene-Fluoride-Copolymer-Extrusion-Molding.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.76 - 1.80 g/cc	1.76 - 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	1.20e+6 - 2.00e+6 cP @Shear Rate 100 1/s, Temperature 232 °C	1.20e+6 - 2.00e+6 cP @Shear Rate 100 1/s, Temperature 450 °F	Melt Viscosity; ASTM D3835
Melt Flow	1.0 - 6.0 g/10 min @Load 5.00 kg, Temperature 232 °C	1.0 - 6.0 g/10 min @Load 11.0 lb, Temperature 450 °F	ASTM D1238

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	65 - 70	65 - 70	ASTM D2240
Tensile Strength at Break	17.0 - 34.0 MPa	2470 - 4930 psi	ASTM D638
Tensile Strength, Yield	20.0 - 34.0 MPa	2900 - 4930 psi	ASTM D638
Elongation at Break	200 - 400 %	200 - 400 %	ASTM D638
Elongation at Yield	10 - 20 %	10 - 20 %	ASTM D638
Tensile Modulus	0.551 - 0.896 GPa	79.9 - 130 ksi	ASTM D638
Flexural Strength	20.0 - 34.0 MPa @Strain 5.00 %	2900 - 4930 psi @Strain 5.00 %	ASTM D790
Flexural Modulus	0.620 - 0.827 GPa	89.9 - 120 ksi	ASTM D790

Mechanical Properties	Metric	English	Comments
	41.0 MPa	5950 psi	
Izod Impact, Notched	5.34 - 10.7 J/cm	10.0 - 20.0 ft-lb/in	ASTM D256
Izod Impact, Unnotched	>= NB	>= NB	ASTM D256
Coefficient of Friction, Dynamic	0.33	0.33	vs. steel; ASTM D1894
Coefficient of Friction, Static	0.33	0.33	vs. steel; ASTM D1894
Taber Abrasion, mg/1000 Cycles	16 - 19	16 - 19	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-K	1.00 - 1.25 BTU-in/hr-ft $^2\cdot^{\circ}\text{F}$	ASTM D433
Melting Point	140 - 145 $^{\circ}\text{C}$	284 - 293 $^{\circ}\text{F}$	
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)	40.0 - 55.0 $^{\circ}\text{C}$	104 - 131 $^{\circ}\text{F}$	ASTM D648
Glass Transition Temp, Tg	-41.0 - -39.0 $^{\circ}\text{C}$ @Frequency 1.00 Hz	-41.8 - -38.2 $^{\circ}\text{F}$ @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	42 %	42 %	ASTM D2868
	75 %	75 %	optional products; ASTM D2868

Electrical Properties	Metric	English	Comments
Volume Resistivity	2.00e+14 ohm-cm @Temperature 20.0 $^{\circ}\text{C}$	2.00e+14 ohm-cm @Temperature 68.0 $^{\circ}\text{F}$	65% RH; ASTM D257
Dielectric Constant	3.5 @Frequency 1.00e+8 Hz	3.5 @Frequency 1.00e+8 Hz	ASTM D150
	10.6	10.6	

Electrical Properties	Metric @Frequency 100 Hz	English @Frequency 100 Hz	ASTM D150 Comments
Dielectric Strength	51.2 - 59.1 kV/mm	1300 - 1500 kV/in	ASTM D149
Dissipation Factor	0.020 - 0.21 @Frequency 100 Hz	0.020 - 0.21 @Frequency 100 Hz	ASTM D150

Processing Properties	Metric	English	Comments
Rear Barrel Temperature	195 - 220 °C	383 - 428 °F	Tube Extrusion
	200 - 220 °C	392 - 428 °F	Injection Molding
Middle Barrel Temperature	210 - 230 °C	410 - 446 °F	Injection Molding
	210 - 240 °C	410 - 464 °F	Tube Extrusion
Front Barrel Temperature	210 - 240 °C	410 - 464 °F	Tube Extrusion
	220 - 250 °C	428 - 482 °F	Injection Molding
Nozzle Temperature	210 - 245 °C	410 - 473 °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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