

Arkema Group KYNAR FLEX® 2800-00 Polyvinylidene Fluoride Copolymer - Extrusion

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
 Semiconductor 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-2800-00-Polyvinylidene-Fluoride-Copolymer-Extrusion.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	2.20e+6 - 2.70e+6 cP @Shear Rate 100 1/s, Temperature 232 °C	2.20e+6 - 2.70e+6 cP @Shear Rate 100 1/s, Temperature 450 °F	Melt Viscosity; ASTM D3835
Linear Mold Shrinkage, Flow	0.025 - 0.035 cm/cm @Time 86400 sec	0.025 - 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	3.0 - 8.0 g/10 min @Load 12.5 kg, Temperature 232 °C	3.0 - 8.0 g/10 min @Load 27.6 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	8.00 MPa @Strain 20.0 %, Temperature 100 °C	1160 psi @Strain 20.0 %, Temperature 212 °F	
	11.0 MPa	1600 psi	

Mechanical Properties	Metric	English	Comments
	@Strain 20.0 %, Temperature 70.0 °C	@Strain 20.0 %, Temperature 158 °F	
	14.0 MPa	2030 psi	
	@Strain 20.0 %, Temperature 50.0 °C	@Strain 20.0 %, Temperature 122 °F	
	25.0 MPa	3630 psi	
	@Strain 20.0 %, Temperature 23.0 °C	@Strain 20.0 %, Temperature 73.4 °F	
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	0.180 GPa	26.1 ksi	
	0.240 GPa	34.8 ksi	
	0.350 GPa	50.8 ksi	
	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
Compressive Strength	31.0 - 41.0 MPa	4500 - 5950 psi	ASTM D695
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	97.0 $\mu\text{m}/\text{m}\cdot\text{°C}$	53.9 $\mu\text{in}/\text{in}\cdot\text{°F}$	
	@Temperature -40.0 °C	@Temperature -40.0 °F	
	126 - 185 $\mu\text{m}/\text{m}\cdot\text{°C}$	70.0 - 103 $\mu\text{in}/\text{in}\cdot\text{°F}$	ASTM D696
	@Temperature 22.8 °C	@Temperature 73.0 °F	
	157 $\mu\text{m}/\text{m}\cdot\text{°C}$	87.2 $\mu\text{in}/\text{in}\cdot\text{°F}$	

Thermal Properties	@Temperature 0.000 °C Metric	@Temperature 32.0 °F English	Comments
	274 µm/m-°C	152 µin/in-°F	
	@Temperature 70.0 °C	@Temperature 158 °F	
	326 µm/m-°C	181 µin/in-°F	
	@Temperature 85.0 °C	@Temperature 185 °F	
Specific Heat Capacity	1.17 - 1.51 J/g-°C	0.280 - 0.360 BTU/lb-°F	DSC
Thermal Conductivity	0.144 - 0.180 W/m-K	1.00 - 1.25 BTU-in/hr- ft ² -°F	ASTM D433
Melting Point	140 - 145 °C	284 - 293 °F	
Deflection Temperature at 0.46 MPa (66 psi)	60.0 - 75.0 °C	140 - 167 °F	ASTM D648
Deflection Temperature at 1.8 MPa (264 psi)	40.0 - 55.0 °C	104 - 131 °F	ASTM D648
Glass Transition Temp, Tg	-41.0 - -39.0 °C	-41.8 - -38.2 °F	DMA
	@Frequency 1.00 Hz	@Frequency 1.00 Hz	
Decomposition Temperature	375 °C	707 °F	1% wt loss / in air; TGA
	410 °C	770 °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	2.00e+14 ohm-cm	65% RH; ASTM D257
	@Temperature 20.0 °C	@Temperature 68.0 °F	
Dielectric Constant	3.5	3.5	ASTM D150
	@Frequency 1.00e+8 Hz	@Frequency 1.00e+8 Hz	
	10.6	10.6	ASTM D150
	@Frequency 100 Hz	@Frequency 100 Hz	
Dielectric Strength	51.2 - 59.1 kV/mm	1300 - 1500 kV/in	ASTM D149
Dissipation Factor	0.020 - 0.21	0.020 - 0.21	ASTM D150
	@Frequency 100 Hz	@Frequency 100 Hz	

Processing Properties	Metric	English	Comments
Rear Barrel Temperature	195 - 220 °C	383 - 428 °F	Tube Extrusion
Middle Barrel Temperature	210 - 240 °C	410 - 464 °F	Tube Extrusion
Front Barrel Temperature	210 - 240 °C	410 - 464 °F	Tube Extrusion
Die Temperature	210 - 250 °C	410 - 482 °F	Tube Extrusion
Head Temperature	210 - 240 °C	410 - 464 °F	Tube Extrusion

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