Arkema Group KYNAR FLEX® 2500-20 Polyvinylidene Fluoride Copolymer - Extrusion & Molding

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

Material Notes:

Characteristics: Natural resin - translucent, off-white hemispheres. Highest flexibility. High stability in harsh thermal, chemical and ultraviolet environments. High toughness and mechanical strength, low permeability, abrasion resistance; high purityApplications:Chemical processing – production, storage and transfer of corrosive fluidsElectronics – protective sheathing, plenum and wiring insulationSemi-conductor industryFood stuff and Healthcare industriesTransportation – fuel line and pipe, thermoformed body componentsInformation provided by Arkema Inc.

Order this product through the following link:
http://www.lookpolymers.com/polymer_Arkema-Group-KYNAR-FLEX-2500-20-Polyvinylidene-Fluoride-Copolymer-Extrusion-Molding.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.80 - 1.82 g/cc	1.80 - 1.82 g/cc	ASTM D792
Bulk Density	0.961 g/cc	0.0347 lb/in³	
Viscosity	500000 - 1.60e+6 cP @Shear Rate 100 1/s, Temperature 232 °C	500000 - 1.60e+6 cP @Shear Rate 100 1/s, Temperature 450 °F	Melt Viscosity; ASTM D3835
Melt Flow	1.0 - 15 g/10 min @Load 3.80 kg, Temperature 232 °C	1.0 - 15 g/10 min @Load 8.38 lb, Temperature 450 °F	ASTM D1238

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	55 - 60	55 - 60	ASTM D2240
Tensile Strength at Break	14.0 - 24.0 MPa	2030 - 3480 psi	ASTM D638
Tensile Strength	1.00 MPa @Strain 20.0 %, Temperature 100 °C	145 psi @Strain 20.0 %, Temperature 212 °F	
	3.00 MPa @Strain 20.0 %, Temperature 70.0 °C	435 psi @Strain 20.0 %, Temperature 158 °F	
	6.00 MPa @Strain 20.0 %, Temperature 50.0 °C	870 psi @Strain 20.0 %, Temperature 122 °F	
	12.0 MPa @Strain 20.0 %,	1740 psi @Strain 20.0 %,	

Mechanical Properties	Metric	English	Comments
	Temperature 23.0 °C	Temperature 73.4 °F	
Tensile Strength, Yield	12.0 - 19.0 MPa	1740 - 2760 psi	ASTM D638
Elongation at Break	500 - 800 %	500 - 800 %	ASTM D638
Elongation at Yield	12 - 25 %	12 - 25 %	ASTM D638
Tensile Modulus	0.0500 GPa @Temperature 100 °C	7.25 ksi @Temperature 212 °F	
	0.0700 GPa @Temperature 70.0 °C	10.2 ksi @Temperature 158 °F	
	0.0900 GPa @Temperature 50.0 °C	13.1 ksi @Temperature 122 °F	
	0.241 - 0.379 GPa @Temperature 23.0 °C	35.0 - 55.0 ksi @Temperature 73.4 °F	ASTM D638
Flexural Strength	10.0 - 17.0 MPa @Strain 5.00 %	1450 - 2470 psi @Strain 5.00 %	ASTM D790
Flexural Modulus	0.192 - 0.276 GPa	27.8 - 40.0 ksi	ASTM D790
Compressive Strength	14.0 - 20.0 MPa	2030 - 2900 psi	ASTM D695
Izod Impact, Notched	>= NB	>= NB	ASTM D256
Izod Impact, Unnotched	>= NB	>= NB	ASTM D256
Coefficient of Friction, Dynamic	0.54	0.54	vs. steel; ASTM D1894
Coefficient of Friction, Static	0.49	0.49	vs. steel; ASTM D1894
Taber Abrasion, mg/1000 Cycles	28 - 33	28 - 33	1000 g pad; CS-17

Thermal Properties	Metric	English	Comments
CTE, linear	153 - 194 µm/m-°C	85.0 - 108 µin/in-°F	ASTM D696
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-ft²-°F	ASTM D433
Melting Point	117 - 125 °C	243 - 257 °F	
Deflection Temperature at 1.8 MPa (264 psi)	27.0 - 38.0 °C	80.6 - 100 °F	ASTM D648
	-48.0 - -40.0 °C	-54.4 - -40.0 °F	

Thermal Properties	Metric	English	Comments
Glass Transition Temp, Tg	@Frequency 1.00 Hz	@Frequency 1.00 Hz	DMA
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
	95 %	95 %	optional products; ASTM D2868

Electrical Properties	Metric	English	Comments
Volume Resistivity	2.00e+14 ohm-cm @Temperature 20.0 °C	2.00e+14 ohm-cm @Temperature 68.0 °F	65% RH; ASTM D257
Dielectric Constant	4.5 @Frequency 1.00e+8 Hz	4.5 @Frequency 1.00e+8 Hz	ASTM D150
	13.5 @Frequency 100 Hz	13.5 @Frequency 100 Hz	ASTM D150
Dielectric Strength	31.5 - 43.3 kV/mm	800 - 1100 kV/in	ASTM D149
Dissipation Factor	0.050 - 0.29 @Frequency 100 Hz	0.050 - 0.29 @Frequency 100 Hz	ASTM D150

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