

Arkema Group Kynar Flex® 3120 PVDF Copolymer (discontinued **)

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

Material Notes:

Copolymer Series, Kynar® components are used extensively in the high purity semiconductor market, the pulp and paper industry, nuclear waste processing, and the general chemical processing industry. Information provided by Arkema Group

Order this product through the following link:

http://www.lookpolymers.com/polymer_Arkema-Group-Kynar-Flex-3120-PVDF-Copolymer-nbspdiscontinued-.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.76 - 1.79 g/cc	1.76 - 1.79 g/cc	ASTM D792
Water Absorption	0.030 - 0.050 %	0.030 - 0.050 %	24 hr / 20°C; ASTM D570
Viscosity	2.00e+7 cP @Shear Rate 100 1/s, Temperature 232 °C	2.00e+7 cP @Shear Rate 100 1/s, Temperature 450 °F	ASTM D3835
Melt Flow	2.0 g/10 min @Load 12.5 kg, Temperature 232 °C	2.0 g/10 min @Load 27.6 lb, Temperature 450 °F	ASTM D1238
Ash	0.00 - 5.0 %	0.00 - 5.0 %	Thermal Decomposition/ in air

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	65 - 70	65 - 70	ASTM D2240
Tensile Strength, Ultimate	34.5 - 48.3 MPa	5000 - 7000 psi	ASTM D638
Tensile Strength, Yield	24.1 - 34.5 MPa	3500 - 5000 psi	ASTM D638
Elongation at Break	300 - 550 %	300 - 550 %	ASTM D638
Elongation at Yield	10 - 20 %	10 - 20 %	ASTM D638
Tensile Modulus	0.552 - 0.896 GPa	80.0 - 130 ksi	ASTM D638
Flexural Strength	20.7 - 34.5 MPa	3000 - 5000 psi	@ 5% strain; ASTM D790
Flexural Modulus	0.621 - 0.827 GPa	90.0 - 120 ksi	ASTM D790
Compressive Strength	31.0 - 41.4 MPa	4500 - 6000 psi	ASTM D695
Izod Impact, Notched	NB	NB	ASTM D256
Izod Impact, Unnotched	NB	NB	ASTM D256
Coefficient of Friction, Dynamic	0.30	0.30	vs. Steel; ASTM D1894

Coefficient of Friction Static Mechanical Properties	0.31 Metric	0.31 English	vs. Steel ASTM D1894 Comments
Taber Abrasion, mg/1000 Cycles	10	10	1kg, CS 17; ISO 9352
	16 - 19	16 - 19	CS-17 1000g:load

Thermal Properties	Metric	English	Comments
CTE, linear	126 - 185 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$ @Temperature 20.0 $^{\circ}\text{C}$	70.0 - 103 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$ @Temperature 68.0 $^{\circ}\text{F}$	ASTM D696
Specific Heat Capacity	1.17 - 1.51 $\text{J}/\text{g}\cdot^{\circ}\text{C}$	0.280 - 0.360 $\text{BTU}/\text{lb}\cdot^{\circ}\text{F}$	DSC
Thermal Conductivity	0.144 - 0.180 $\text{W}/\text{m}\cdot\text{K}$	1.00 - 1.25 $\text{BTU}\cdot\text{in}/\text{hr}\cdot\text{ft}^2\cdot^{\circ}\text{F}$	ASTM D433
Melting Point	163 - 166 $^{\circ}\text{C}$	325 - 331 $^{\circ}\text{F}$	ASTM D3418
Deflection Temperature at 0.46 MPa (66 psi)	54.4 - 76.7 $^{\circ}\text{C}$	130 - 170 $^{\circ}\text{F}$	ASTM D648
Deflection Temperature at 1.8 MPa (264 psi)	43.3 - 54.4 $^{\circ}\text{C}$	110 - 130 $^{\circ}\text{F}$	ASTM D648
Vicat Softening Point	85.0 $^{\circ}\text{C}$	185 $^{\circ}\text{F}$	ISO 306
Glass Transition Temp, Tg	-42.0 - -39.0 $^{\circ}\text{C}$	-43.6 - -38.2 $^{\circ}\text{F}$	(DMA) @ 1 Hz
Decomposition Temperature	375 $^{\circ}\text{C}$	707 $^{\circ}\text{F}$	1% wt. loss / in air
	410 $^{\circ}\text{C}$	770 $^{\circ}\text{F}$	1% wt. loss / in nitrogen
Oxygen Index	42 %	42 %	Optional product available with value of 95% $\text{O}_{2\text{I}}$; ASTM D2868

Optical Properties	Metric	English	Comments
Refractive Index	1.41 @Temperature 25.0 $^{\circ}\text{C}$, Wavelength 589.3 nm	1.41 @Temperature 77.0 $^{\circ}\text{F}$, Wavelength 589.3 nm	Sodium D line; ASTM D542

Electrical Properties	Metric	English	Comments
Volume Resistivity	2.00e+14 $\text{ohm}\cdot\text{cm}$	2.00e+14 $\text{ohm}\cdot\text{cm}$	DC, 65% RH; ASTM D257
Surface Resistance	$\geq 1.00\text{e}+13$ ohm	$\geq 1.00\text{e}+13$ ohm	DIN 53482
Dielectric Constant	3.2 - 3.9 @Frequency 1e+8 Hz	3.2 - 3.9 @Frequency 1e+8 Hz	ASTM D150
	8.7 - 10.2	8.7 - 10.2	ASTM D150

Electrical Properties	@Frequency 100 Hz Metric	@Frequency 100 Hz English	Comments
Dielectric Strength	51.2 - 59.1 kV/mm	1300 - 1500 kV/in	ASTM D149
Dissipation Factor	0.080 - 0.14	0.080 - 0.14	ASTM D150
	@Frequency 100 Hz	@Frequency 100 Hz	
	0.18 - 0.19	0.18 - 0.19	ASTM D150
	@Frequency 1e+8 Hz	@Frequency 1e+8 Hz	

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