

Arkema Group KYNAR® 710, 710 HDP Polyvinylidene Fluoride Homopolymer-Injection Molding

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

Material Notes:

Characteristics: Natural resin - translucent, off-white hemispheres. HDP indicates higher color stability. High stability in harsh thermal, chemical and ultraviolet environments. High toughness and mechanical strength, low permeability, fire resistance, abrasion resistance; low-smoke emission; 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 Listed properties are typical for 700 series. Information provided by Arkema Inc.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Arkema-Group-KYNAR-710-710-HDP-Polyvinylidene-Fluoride-Homopolymer-Injection-Molding.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.77 - 1.79 g/cc	1.77 - 1.79 g/cc	ASTM D792
Bulk Density	0.961 g/cc	0.0347 lb/in ³	
Water Absorption	0.010 - 0.030 % @Time 86400 sec	0.010 - 0.030 % @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	19 - 35 g/10 min @Load 3.80 kg, Temperature 232 °C	19 - 35 g/10 min @Load 8.38 lb, Temperature 450 °F	ASTM D1238

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	75 - 80	75 - 80	ASTM D2240
Tensile Strength at Break	34.0 - 55.0 MPa	4930 - 7980 psi	ASTM D638
Tensile Strength	26.0 MPa @Strain 20.0 %, Temperature 100 °C	3770 psi @Strain 20.0 %, Temperature 212 °F	
	31.0 MPa	4500 psi	

Mechanical Properties	Metric	English	Comments
	@Strain 20.0 %, Temperature 70.0 °C	@Strain 20.0 %, Temperature 158 °F	
	39.0 MPa	5660 psi	
	@Strain 20.0 %, Temperature 50.0 °C	@Strain 20.0 %, Temperature 122 °F	
	53.0 MPa	7690 psi	
	@Strain 20.0 %, Temperature 23.0 °C	@Strain 20.0 %, Temperature 73.4 °F	
Tensile Strength, Yield	45.0 - 55.0 MPa	6530 - 7980 psi	ASTM D638
Elongation at Break	50 - 200 %	50 - 200 %	ASTM D638
Elongation at Yield	5.0 - 10 %	5.0 - 10 %	ASTM D638
Creep Strength	3.70 MPa	537 psi	Deflection = 3.3%; Flexural Creep
	@Temperature 90.0 °C, Time 360000 sec	@Temperature 194 °F, Time 100 hour	
	3.70 MPa	537 psi	Deflection = 3.4%; Flexural Creep
	@Temperature 90.0 °C, Time 3.60e+6 sec	@Temperature 194 °F, Time 1000 hour	
	3.70 MPa	537 psi	Deflection = 1.5%; Flexural Creep
	@Temperature 60.0 °C, Time 360000 sec	@Temperature 140 °F, Time 100 hour	
	3.70 MPa	537 psi	Deflection = 1.7%; Flexural Creep
	@Temperature 60.0 °C, Time 3.60e+6 sec	@Temperature 140 °F, Time 1000 hour	
Tensile Modulus	0.900 GPa	131 ksi	
	@Temperature 100 °C	@Temperature 212 °F	
	1.00 GPa	145 ksi	
	@Temperature 70.0 °C	@Temperature 158 °F	
	1.40 GPa	203 ksi	
	@Temperature 50.0 °C	@Temperature 122 °F	
	1.379 - 2.31 GPa	200.0 - 335 ksi	ASTM D638
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Flexural Strength	58.0 - 76.0 MPa	8410 - 11000 psi	ASTM D790
	@Strain 5.00 %	@Strain 5.00 %	
Flexural Modulus	1.655 - 2.31 GPa	240.0 - 335 ksi	ASTM D790

Mechanical Properties	Metric	English	Comments
Izod Impact, Notched	1.07 - 2.14 J/cm	2.00 - 4.00 ft-lb/in	ASTM D256
Izod Impact, Unnotched	10.7 - 42.7 J/cm	20.0 - 80.0 ft-lb/in	ASTM D256
Coefficient of Friction, Dynamic	0.14	0.14	vs. steel; ASTM D1894
Coefficient of Friction, Static	0.20	0.20	vs. steel; ASTM D1894
Taber Abrasion, mg/1000 Cycles	5.0 - 9.0	5.0 - 9.0	1000 g pad; CS-17

Thermal Properties	Metric	English	Comments
CTE, linear	89.0 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$	49.4 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$	
	@Temperature -40.0 $^{\circ}\text{C}$	@Temperature -40.0 $^{\circ}\text{F}$	
	122 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$	67.8 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$	
	@Temperature 0.000 $^{\circ}\text{C}$	@Temperature 32.0 $^{\circ}\text{F}$	
	119 - 144 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$	66.0 - 80.0 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$	ASTM D696
	@Temperature 22.8 $^{\circ}\text{C}$	@Temperature 73.0 $^{\circ}\text{F}$	
	183 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$	102 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$	
	@Temperature 70.0 $^{\circ}\text{C}$	@Temperature 158 $^{\circ}\text{F}$	
	204 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$	113 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$	
	@Temperature 85.0 $^{\circ}\text{C}$	@Temperature 185 $^{\circ}\text{F}$	
Specific Heat Capacity	1.17 - 1.51 J/g- $^{\circ}\text{C}$	0.280 - 0.360 BTU/lb- $^{\circ}\text{F}$	DSC
Thermal Conductivity	0.170 - 0.190 W/m-K	1.18 - 1.32 BTU-in/hr-ft ² - $^{\circ}\text{F}$	ASTM D433
Melting Point	165 - 172 $^{\circ}\text{C}$	329 - 342 $^{\circ}\text{F}$	
Deflection Temperature at 0.46 MPa (66 psi)	125 - 140 $^{\circ}\text{C}$	257 - 284 $^{\circ}\text{F}$	ASTM D648
Deflection Temperature at 1.8 MPa (264 psi)	105 - 115 $^{\circ}\text{C}$	221 - 239 $^{\circ}\text{F}$	ASTM D648
Glass Transition Temp, Tg	-40.0 - -38.0 $^{\circ}\text{C}$	-40.0 - -36.4 $^{\circ}\text{F}$	DMA
	@Frequency 1.00 Hz	@Frequency 1.00 Hz	
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 Thermal Properties	44 % Metric	44 % English	ASTM D2868 Comments
	60 %	60 %	select grades; 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
	9.5 @Frequency 100 Hz	9.5 @Frequency 100 Hz	ASTM D150
Dielectric Strength	66.9 kV/mm	1700 kV/in	ASTM D149
Dissipation Factor	0.010 - 0.21 @Frequency 100 Hz	0.010 - 0.21 @Frequency 100 Hz	ASTM D150

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

Contact Songhan Plastic Technology Co.,Ltd.

Website : www.lookpolymers.com

Email : sales@lookpolymers.com

Tel : +86 021-51131842

Mobile : +86 13061808058

Skype : lookpolymers

Address : United North Road 215,Fengxian District, Shanghai City,China