

KYNAR® 705

Kynar® resins are fluorinated thermoplastic homopolymers.

Outstanding characteristics: chemical resistance, imperviousness to UV, high barrier properties, high purity, good mechanical and thermo-mechanical properties.

Kynar® 705 resin is a grade of granules for injection molding, rotomolding applications and multifilament extrusion.

PROPERTIES	VALUE	UNIT	TEST STANDARD
RHEOLOGICAL PROPERTIES			
Melt Volume-Flow Rate	40	cm³/10min	ISO 1133
Temperature	230	°C	-
	446	°F	-
Load	5	kg	-
	11	lb	-
Melt Flow Rate	25 - 40	g/10min	ASTM D1238
Temperature	230	°C	-
Load	2.16	kg	-
Molding Shrinkage, parallel	2.0	%	ISO 294-4, 2577
Molding Shrinkage, normal	2.0	%	ISO 294-4, 2577
Melt Viscosity, 230°C, 100 s-1	2 - 5	kPoise	ASTM D3835
MECHANICAL PROPERTIES			
Tensile Modulus	2400	MPa	ISO 527-1/-2
	348000	psi	
Tensile Modulus, 73 °F	1380 - 2310	MPa	ASTM D638
	200000 - 335000	psi	
Yield stress	54	MPa	ISO 527-1/-2
	7830	psi	
Tensile Strength at Yield, 73 °F	44.8 - 55.2	MPa	ASTM D638
	6500 - 8000	psi	
Yield strain	8	%	ISO 527-1/-2
Elongation at Yield, 73 °F	5 - 10	%	ASTM D638
Nominal Strain at Break	>50	%	ISO 527-1/-2
Tensile Strength at Break, 73 °F	34.5 - 55.2	MPa	ASTM D638
	5000 - 8000	psi	
Elongation at Break, 73 °F	10 - 50	%	ASTM D638

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Taber Abrasion, CS 17 1000g:pad	5 - 9	mg/1000 cycles	ASTM-G195-13A
Hardness, Shore D, 73 °F	76 - 80	-	ASTM D2240
Flexural Modulus, 73 °F	1380 - 2310	MPa	ASTM D790
	200000 - 335000	psi	
Flexural Stength @ 5% Strain, 73 °F	58.6 - 75.8	MPa	ASTM D790
	8500 - 11000	psi	
Compressive Strength, 73 °F	68.9 - 103	MPa	ASTM D695
	10000 - 15000	psi	
Charpy Impact Strength, +23°C	200	kJ/m²	ISO 179/1eU
	95.1	ftlb/in²	
Charpy Notched Impact Strength, +23°C	6	kJ/m²	ISO 179/1eA
	2.85	ftlb/in²	
Notched Impact Strength, 73 °F	0.0534 - 0.107	kJ/m	ASTM D256
	1 - 2	ftlb/in	
Coefficient of Friction, Static vs. Steel, 73 °F	0.2	-	ASTM D1894
Coefficient of Friction, Dynamic vs. Steel, 73 °F	0.14	-	ASTM D1894
THERMAL PROPERTIES			
Melting Temperature, 10°C/min	170	°C	ISO 11357-1/-3
Melting Point, 73 °F	165 - 172	°C	ASTM D3418
Glass Transition Temperature, 10°C/min	-40	°C	ISO 11357-1/-2
Glass Transition Temperature (Tg)	-40.6 - -38.3	°C	ASTM D7028
	-41 - -37	°F	
Temp. of Deflection Under Load, 1.80 MPa	112	°C	ISO 75-1/-2
	234	°F	
Heat Deflection Temperature, 264 Psi, 248 °F/hr	105 - 115	°C	ASTM D648
	221 - 239	°F	
Heat Deflection Temperature, 66 Psi, 248 °F/hr	125 - 140	°C	ASTM D648
	257 - 284	°F	
Coeff. of linear therm. expansion -40°C to +100°C, parallel	150	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion -40°C to +100°C, normal	150	E-6/K	ISO 11359-1/-2
Coefficient of Thermal Expansion, 73 °F	11.9 - 14.4	10E-5/°C	ASTM D696
	6.6 - 8	10E-5/°F	
Burning Behav. at 1.5 mm Nominal Thickness	V-0	class	IEC 60695-11-10

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Burning Behav. at Thickness h	V-0	class	IEC 60695-11-10
Thickness Tested	0.8	mm	-
	0.0315	in	
Oxygen Index	43	%	ISO 4589-1/-2
Limiting Oxygen Index, 73 °F	42	%	ASTM D2863
Thermal Conductivity	0.17 - 0.19	W/(m K)	ASTM D433
	1.18 - 1.32	BTU in /(hr ft2 F)	
Specific Heat	745 - 958	J/(kg K)	DSC
	0.28 - 0.36	BTU/(lb·°F)	
Thermal Decomposition TGA, in air	375	°C	1% wt. loss
	707	°F	
Thermal Decomposition TGA, in nitrogen	410	°C	1% wt. loss
	770	°F	
Relative Thermal Index, Mechanical	150	°C	UL 746B
	302	°F	
Relative Thermal Index, Electrical	150	°C	UL 746B
	302	°F	
ELECTRICAL PROPERTIES			
Dielectric Constant, 1 kHz	4.5 - 9.5	-	ASTM D150
Dissipation Factor, 100 kHz	0.01 - 0.21	-	ASTM D150
Volume Resistivity, DC 68 °F, 65% R.H.	2E14	Ohm*cm	ASTM D257
Dielectric (Electric) Strength, 73°F	1.6	kV/mil	ASTM D149
OTHER PROPERTIES			
Water Absorption	0.02	%	Sim. to ISO 62
Water Absorption	≤0.05	%	ASTM D570
Density	1780	kg/m³	ISO 1183
	1.78	g/cm³	
Specific Gravity, 73 °F	1.77 - 1.79	-	ASTM D792
Thermal conductivity of melt	0.19	W/(m K)	-
OPTICAL PROPERTIES			
Refractive Index @ sodium D line	1.42	-	ASTM D542

MAIN APPLICATIONS:

- corrosion protection in the chemical industry
- coating (painting, co-extrusion)
- off shore
- wire and cable

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PROCESSING	
Injection Molding	
DELIVERY FORM	
Pellets	