

KYNAR® 460

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® 460 resin is a standard grade of granules for extrusion of tubes, cables and plaques, compression and transfer molding.

MAIN CHARACTERISTICS

PROPERTIES	VALUE	UNIT	TEST STANDARD
RHEOLOGICAL PROPERTIES			
Melt Volume-Flow Rate	5.6	cm ³ /10min	ISO 1133
Temperature	230	°C	-
Load	21.6	kg	-
Melt Flow Rate	6 - 14	g/10min	ASTM D1238
Temperature	230	°C	-
Load	21.6	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-l	23.5 - 29.5	kPoise	ASTM D3835
MECHANICAL PROPERTIES			
Tensile Modulus	1400	MPa	ISO 527-1/-2
Tensile Modulus, 73 °F	1030 - 1380	MPa	ASTM D638
Yield stress	42	MPa	ISO 527-1/-2
Tensile Strength at Yield, 73 °F	34.5 - 51.7	MPa	ASTM D638
Yield strain	13	%	ISO 527-1/-2
Elongation at Yield, 73 °F	10 - 15	%	ASTM D638
Nominal Strain at Break	> 50	%	ISO 527-1/-2
Tensile Strength at Break, 73 °F	31 - 48.3	MPa	ASTM D638
Elongation at Break, 73 °F	50 - 250	%	ASTM D638
Taber Abrasion, CS 17 1000g:pad	7 - 9	mg/1000 cycles	ASTM-G195-13A
Hardness, Shore D, 73 °F	75 - 80	-	ASTM D2240
Flexural Modulus, 73 °F	1380 - 1790	MPa	ASTM D790
Flexural Strength @ 5% Strain, 73 °F	48.3 - 62.1	MPa	ASTM D790
Compressive Strength, 73 °F	55.2 - 68.9	MPa	ASTM D695
Unnotched Impact Strength, 73 °F	0.801 - 2.14	kJ/m	ASTM D256
Notched Impact Strength, 73 °F	0.0961 - 0.214	kJ/m	ASTM D256
Coefficient of Friction, Static vs. Steel, 73 °F	0.23	-	ASTM D1894
Coefficient of Friction, Dynamic vs. Steel, 73 °F	0.17	-	ASTM D1894
THERMAL PROPERTIES			
Melting Temperature, 10°C/min	161	°C	ISO 11357-1/-3

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Melting Point, 73 °F	155 - 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
Temp. of Deflection Under Load, 1.80 MPa	85	°C	ISO 75-1/-2
Heat Deflection Temperature, 264 Psi, 248 °F/hr	80 - 90	°C	ASTM D648
Heat Deflection Temperature, 66 Psi, 248 °F/hr	112 - 140	°C	ASTM D648
Coeff. of linear therm. expansion -40°C to +100°C, parallel	114	E-6/K	ISO 11359-1/-2
Coefficient of Thermal Expansion, 73 °F	9 - 12.6	10E-5/°C	ASTM D696
Burning Behav. at 1.5 mm Nominal Thickness	V-0	class	IEC 60695-11-10
Burning Behav. at Thickness h	V-0	class	IEC 60695-11-10
Thickness Tested	0.8	mm	-
Oxygen Index	43	%	ISO 4589-1/-2
Limiting Oxygen Index, 73 °F	44	%	ASTM D2863
Thermal Conductivity	0.17 - 0.19	W/(m K)	ASTM D433
Specific Heat	745 - 958	J/(kg K)	DSC
Thermal Decomposition TGA, in air	375	°C	1% wt. loss
Thermal Decomposition TGA, in nitrogen	410	°C	1% wt. loss
ELECTRICAL PROPERTIES			
Relative Permittivity, 100Hz	9	-	IEC 60250
Relative Permittivity, 1MHz	6.7	-	IEC 60250
Dielectric Constant, 1 kHz	4.5 - 9.5	-	ASTM D150
Dissipation Factor, 100Hz	1300	E-4	IEC 60250
Dissipation Factor, 1MHz	700	E-4	IEC 60250
Dissipation Factor, 100 kHz	0.01 - 0.21	-	ASTM D150
Volume Resistivity	2E12	Ohm*m	IEC 60093
Volume Resistivity, DC 68 °F, 65% R.H.	2E14	Ohm*cm	ASTM D257
Surface Resistivity, 73 °F	5.1E11 - 5.3E11	Ohm per square	ASTM D257
Dielectric (Electric) Strength	63	kV/mm	IEC 60243-1
Dielectric (Electric) Strength, 73°F	1.6	kV/mil	ASTM D149
OTHER PROPERTIES			
Water Absorption	0.04	%	Sim. to ISO 62
Water Absorption	≤0.04	%	ASTM D570
Density	1760	kg/m³	ISO 1183
Specific Gravity, 73 °F	1.75 - 1.77	-	ASTM D792
Thermal conductivity of melt	0.19	W/(m K)	-
OPTICAL PROPERTIES			
Refractive Index @ sodium D line	1.42	-	ASTM D542

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MAIN APPLICATIONS:

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

PROCESSING

Profile Extrusion, Other Extrusion

DELIVERY FORM

Pellets

REGIONAL AVAILABILITY

North America, Europe, Asia Pacific, South and Central America, Near East/Africa

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