

# KYNAR® 720

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® 720 resin** is a standard grade of granules for injection molding. This product is ANSI/NSF Standard 61 certified.

A powder form is available as **Kynar® 721 resin**.

## MAIN CHARACTERISTICS

PROPERTIES	VALUE	UNIT	TEST STANDARD
<b>RHEOLOGICAL PROPERTIES</b>			
Melt Volume-Flow Rate	10	cm <sup>3</sup> /10min	ISO 1133
Temperature	230	°C	-
Load	5	kg	-
Melt Flow Rate	5 - 26.5	g/10min	ASTM D1238
Temperature	230	°C	-
Load	3.8	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	6 - 12	kPoise	ASTM D3835
<b>MECHANICAL PROPERTIES</b>			
Tensile Modulus	2200	MPa	ISO 527-1/-2
Tensile Modulus, 73 °F	1380 - 2310	MPa	ASTM D638
Yield stress	54	MPa	ISO 527-1/-2
Tensile Strength at Yield, 73 °F	44.8 - 55.2	MPa	ASTM D638
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
Elongation at Break, 73 °F	20 - 100	%	ASTM D638
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
Flexural Strength @ 5% Strain, 73 °F	58.6 - 75.8	MPa	ASTM D790
Compressive Strength, 73 °F	68.9 - 103	MPa	ASTM D695
Charpy Impact Strength, +23°C	208	kJ/m <sup>2</sup>	ISO 179/1eU
Charpy Impact Strength, -30°C	189	kJ/m <sup>2</sup>	ISO 179/1eU
Charpy Notched Impact Strength, +23°C	8	kJ/m <sup>2</sup>	ISO 179/1eA
Charpy Notched Impact Strength, -30°C	5	kJ/m <sup>2</sup>	ISO 179/1eA

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<b>Unnotched Impact Strength, 73 °F</b>	1.07 - 4.27	kJ/m	ASTM D256
<b>Notched Impact Strength, 73 °F</b>	0.0801 - 0.214	kJ/m	ASTM D256
<b>Coefficient of Friction, Static vs. Steel, 73 °F</b>	0.2	-	ASTM D1894
<b>Coefficient of Friction, Dynamic vs. Steel, 73 °F</b>	0.14	-	ASTM D1894
<b>THERMAL PROPERTIES</b>			
<b>Melting Temperature, 10°C/min</b>	168	°C	ISO 11357-1/-3
<b>Melting Point, 73 °F</b>	165 - 172	°C	ASTM D3418
<b>Glass Transition Temperature, 10°C/min</b>	-40	°C	ISO 11357-1/-2
<b>Glass Transition Temperature (Tg)</b>	-40.6 - -38.3	°C	ASTM D7028
<b>Temperature Rating</b>	150	°C	UL RTI
<b>Temp. of Deflection Under Load, 1.80 MPa</b>	110	°C	ISO 75-1/-2
<b>Heat Deflection Temperature, 264 Psi, 248 °F/hr</b>	105 - 115	°C	ASTM D648
<b>Temp. of Deflection Under Load, 0.45 MPa</b>	132	°C	ISO 75-1/-2
<b>Heat Deflection Temperature, 66 Psi, 248 °F/hr</b>	125 - 140	°C	ASTM D648
<b>Vicat Softening Temperature, 50°C/h 50N</b>	139	°C	ISO 306
<b>Coeff. of Linear Thermal Expansion, parallel</b>	150	E-6/K	ISO 11359-1/-2
<b>Coefficient of Thermal Expansion, 73 °F</b>	11.9 - 14.4	10E-5/°C	ASTM D696
<b>Burning Behav. at 1.5 mm Nominal Thickness</b>	V-0	class	IEC 60695-11-10
<b>Thickness Tested</b>	1.6	mm	-
<b>Yellow Card available</b>	yes	-	-
<b>Burning Behav. at Thickness h</b>	V-0	class	IEC 60695-11-10
<b>Thickness Tested</b>	0.8	mm	-
<b>Oxygen Index</b>	43	%	ISO 4589-1/-2
<b>Limiting Oxygen Index, 73 °F</b>	44	%	ASTM D2863
<b>Thermal Conductivity</b>	0.17 - 0.19	W/(m K)	ASTM D433
<b>Specific Heat</b>	745 - 958	J/(kg K)	DSC
<b>Thermal Decomposition TGA, in air</b>	375	°C	1% wt. loss
<b>Thermal Decomposition TGA, in nitrogen</b>	410	°C	1% wt. loss
<b>Relative Thermal Index, Mechanical</b>	150	°C	UL 746B
<b>Relative Thermal Index, Electrical</b>	150	°C	UL 746B
<b>ELECTRICAL PROPERTIES</b>			
<b>Relative Permittivity, 100Hz</b>	9	-	IEC 60250
<b>Relative Permittivity, 1MHz</b>	7	-	IEC 60250
<b>Dielectric Constant, 1 kHz</b>	4.5 - 9.5	-	ASTM D150
<b>Dissipation Factor, 100Hz</b>	320	E-4	IEC 60250
<b>Dissipation Factor, 1MHz</b>	2140	E-4	IEC 60250
<b>Dissipation Factor, 100 kHz</b>	0.01 - 0.21	-	ASTM D150

# KYNAR® 720

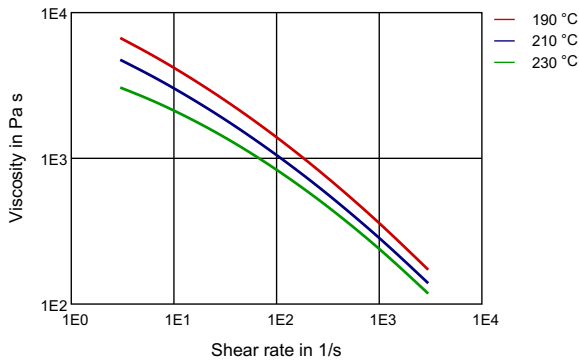
<b>Volume Resistivity</b>	2E12	Ohm*m	IEC 60093
<b>Volume Resistivity, DC 68 °F, 65% R.H.</b>	2E14	Ohm*cm	ASTM D257
<b>Surface Resistivity</b>	> 1E15	Ohm	IEC 60093
<b>Dielectric (Electric) Strength</b>	21	kV/mm	IEC 60243-1
<b>Dielectric (Electric) Strength, 73°F</b>	≥ 1.7	kV/mil	ASTM D149
<b>Comparative Tracking Index</b>	600	-	IEC 60112
<b>OTHER PROPERTIES</b>			
<b>Water Absorption</b>	0.03	%	Sim. to ISO 62
<b>Water Absorption</b>	0.01 - 0.03	%	ASTM D570
<b>Humidity Absorption</b>	0.015	%	Sim. to ISO 62
<b>Density</b>	1780	kg/m <sup>3</sup>	ISO 1183
<b>Specific Gravity, 73 °F</b>	1.77 - 1.79	-	ASTM D792
<b>OPTICAL PROPERTIES</b>			
<b>Refractive Index @ sodium D line</b>	1.42	-	ASTM D542

## MAIN APPLICATIONS:

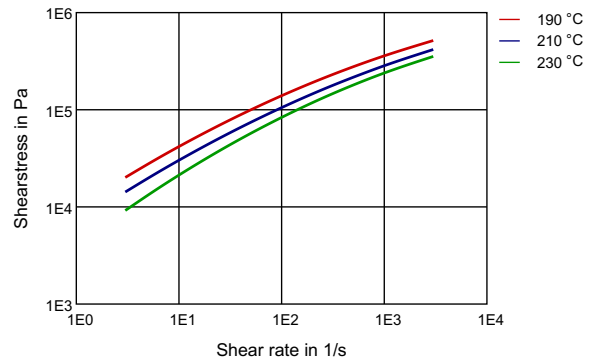
- corrosion protection in the chemical industry
- coating (painting, co-extrusion)
- off shore
- wire and cable

## DIAGRAMS

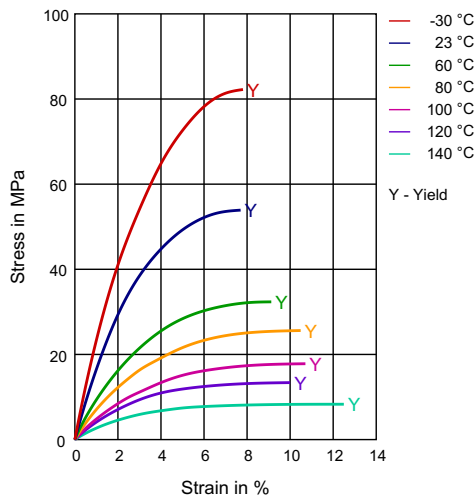
### VISCOSITY-SHEAR RATE



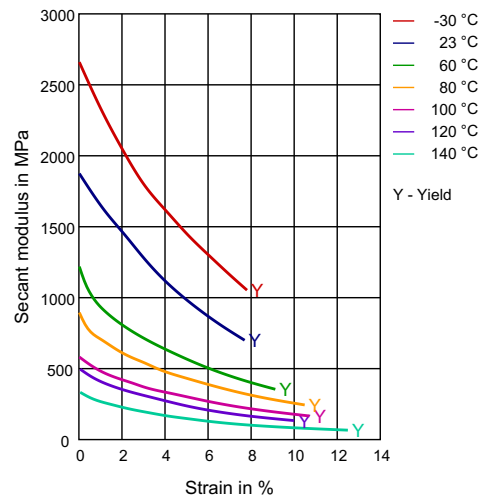
### SHEARSTRESS-SHEAR RATE



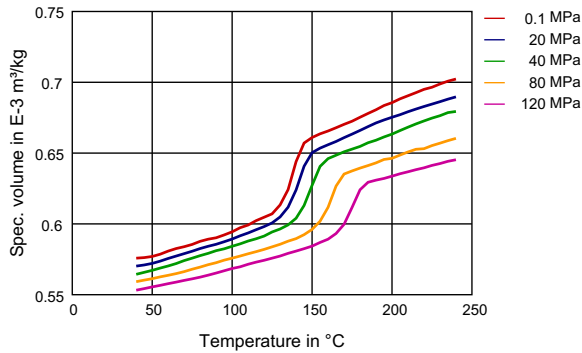
### STRESS-STRAIN



### SECANT MODULUS-STRAIN



## SPECIFIC VOLUME-TEMPERATURE (PVT)



## PROCESSING

Injection Molding, Film Extrusion, Sheet Extrusion, Casting, Thermoforming

## DELIVERY FORM

Pellets

## SPECIAL CHARACTERISTICS

Heat Stabilized, Light Stabilized

## REGIONAL AVAILABILITY

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

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