KYNAR®

TECHNICAL DATA SHEET

KYNAR® 9000 HD

FLUORINATED HOMOPOLYMER PELLET

KYNAR® resins are fluorinated thermoplastic homopolymers.
Outstanding characteristics: chemical resistance, resistance to UV, high barrier properties, high purity, good mechanical and thermo-mechanical properties.
KYNAR® 9000 HD resin is a standard grade of pellets for injection molding of thin walled parts and multifilament extrusion.

TYPE

PVDF

MAIN APPLICATIONS

- molding

DELIVERY FORM

- Pellets

TRANSFORMATION PROCESSES

- Injection Molding

RHEOLOGICAL PROPERTIES

PROPERTIES	TYPICAL VALUE	UNIT	TEST STANDARD
Melt viscosity, 230°C (446°F) at 100 s-1	6-10	kPo	ASTM D3835
Shrinkage, normal (t+24h)	2	%	ISO 294-4
Shrinkage, parallel (t+24h)	2	%	ISO 294-4
Melt flow index (MFR), 230°C / 5 kg (446°F / 11 lb)	16 - 30	g/10min	ASTM D1238
Melt volume flow rate (MVR), 230°C / 5 kg (446°F / 11 lb)	10	cm^3/10min	ISO 1133

MECHANICAL PROPERTIES

PROPERTIES	TYPICAL VALUE	UNIT	TEST STANDARD
Yield stress, 23°C (73°F)	44.8 - 55.2	MPa	ASTM D638
Stress at break, 23°C (73°F)	34.5 - 55.2	MPa	ASTM D638
Compression strength, 23°C (73°F)	68.9 - 103	MPa	ASTM D695
Charpy unnotched impact strength, 23°C (73°F)	232	kJ/m2	ISO 179 1eU
Charpy unnotched impact strength, -30°C (-22°F)	218	kJ/m2	ISO 179 1eU
Charpy notched impact strength, 23°C (73°F)	11	kJ/m2	ISO 179 1eA
Charpy notched impact strength, -30°C (-22°F)	5	kJ/m2	ISO 179 1eA
Izod impact unnotched strength, 23°C (73°F)	1070-4270	J/m	ASTM D256
Izod impact notched strength, 23°C (73°F)	96-214	J/m	ASTM D256
Hardness, shore D	76 - 80		ASTM D2240
Nominal strain at break, 23°C (73°F)	40	%	ISO 527-1/-2
Yield strain, 23°C (73°F)	8	%	ISO 527-1/-2
Flexural modulus, 23°C (73°F)	1380 - 2310	MPa	ASTM D790
Tensile modulus, 23°C (73°F)	2310	MPa	ASTM D638
Coefficient of friction dynamic vs steel, 23°C (73°F)	0.14		ASTM D1895

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PROPERTIES	TYPICAL VALUE	UNIT	TEST STANDARD
Coefficient of friction static vs steel, 23°C (73°F)	0.2		ASTM D1894
Abrasion resistance, wheel CS 17, load 1 kg, 1000 cycles	5 - 9	mg	ASTM G195-13A

THERMAL PROPERTIES

PROPERTIES	TYPICAL VALUE	UNIT	TEST STANDARD
Glass transition temperature, 10°C/min	-40	°C	ISO 11357-1/-2
Vicat softening temperature, 50N at 50°C/h	141	°C	ISO 306
Limiting oxygen index (LOI)	60	%	ASTM D2863
Coefficient of linear thermal expansion, 23°C (73°F)	119 - 144	10E-6 / °K	ASTM D696
Heat deflection temperature, 1.8 MPa	110	°C	ISO 75-1/-2
Heat deflection temperature, 1.8 MPa, 138°C/h	105 - 115	°C	ASTM D648
Heat deflection temperature, 0.45 MPa, 138°C/h	125-140	°C	ASTM D648
Melting temperature, 10°C/min	171	°C	ISO 11357-1/-3

ELECTRICAL PROPERTIES

PROPERTIES	TYPICAL VALUE	UNIT	TEST STANDARD
Dielectric constant, 1kHz	0.5 - 4.5		ASTM D150
Volumic (transversal) resistivity, DC, 20°C (68°F)/50%RH	2.0E+12	ohm*m	ASTM D257
Relative permittivity, 100Hz	10		IEC 62631-2-1
Relative permittivity, 1MHz	7.5		IEC 62631-2-1
Dissipation factor, 100Hz	310	E-4	IEC 62631-2-1
Dissipation factor, 1MHz	2160	E-4	IEC 62631-2-1
Dissipation factor	0.01 - 0.21		ASTM D150

OTHER PROPERTIES

PROPERTIES	TYPICAL VALUE	UNIT	TEST STANDARD
Density, 23°C (73°F)	1.76 - 1.78	g/cm³	ISO 1183-1
Water absorption, at equilibrium at 23°C (73°F) / Immersion	0.03	%	ISO 62
Water absorption, at equilibrium at 23°C (73°F) / 50%RH	0.015	%	ISO 62

PACKAGING

Available packaging:
- 1000 kg big bag
- 25 kg / 55 lb bags

PROCESSING CONDITIONS:

- Typical melt temperature (Min / Recommended / Max) - Injection Molding: 180°C / 210°C / 240°C (355°F / 410°F / 465°F)
- Typical mold temperature - Injection molding: 20-80°C (70-175°F)

SPECIAL CHARACTERISTICS

- Flame & smoke

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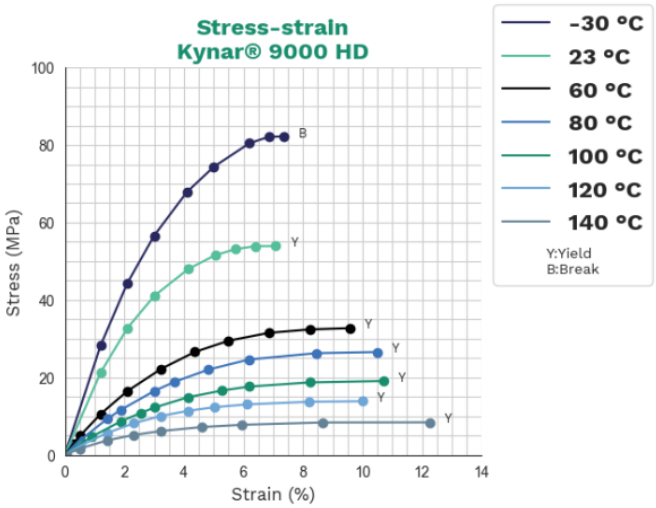
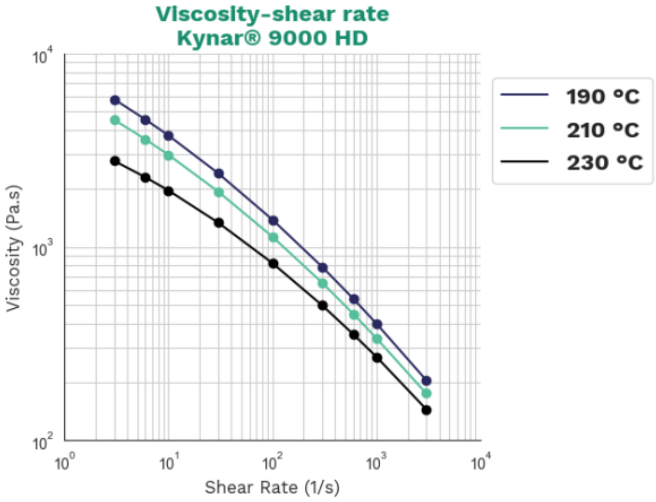
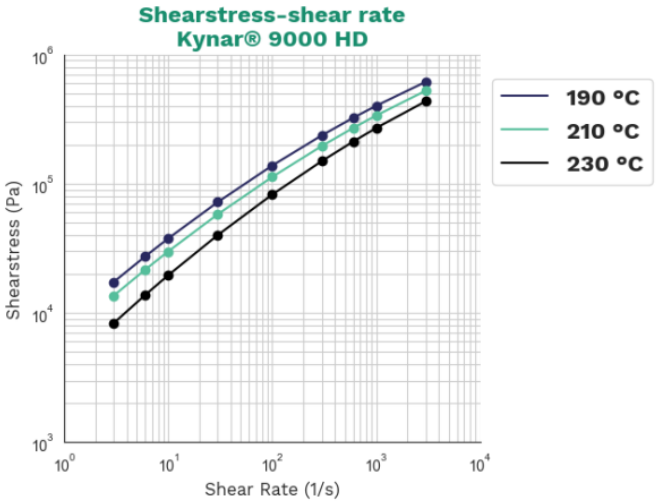
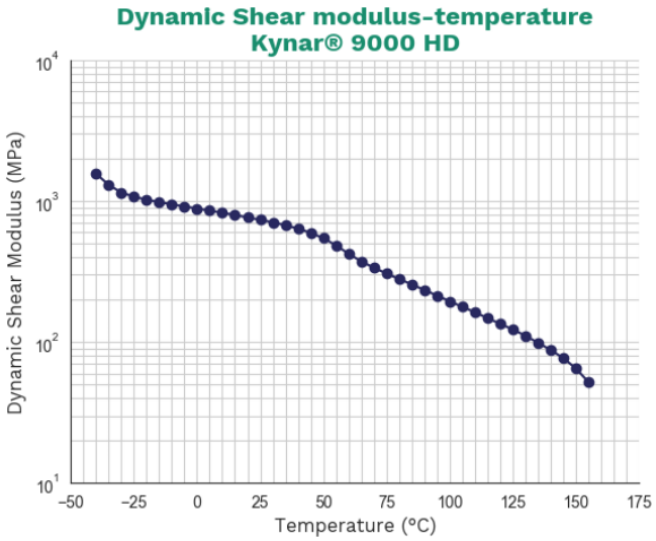
DIAGRAMS









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