KYNAR®

TECHNICAL DATA SHEET

KYNAR® 710

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® 710 resin is a grade of pellets for injection molding, rotomolding applications and multifilament extrusion. This product is NSF/ANSI/CAN 61 certified.
A powder form is available as KYNAR® 711 resin.

TYPE

PVDF

MAIN APPLICATIONS

- hi purity
- cpi - stock shape

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	4 - 8	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)	19 - 35	g/10min	ASTM D1238
Melt volume flow rate (MVR), 230°C / 5 kg (446°F / 11 lb)	14	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
Izod impact unnotched strength, 23°C (73°F)	1.07 - 4.27	kJ/m2	ASTM D256
Izod impact notched strength, 23°C (73°F)	0.0801 - 0.214	J/m	ASTM D256
Charpy unnotched impact strength, 23°C (73°F)	192	kJ/m2	ISO 179 1eU
Charpy unnotched impact strength, -30°C (-22°F)	208	kJ/m2	ISO 179 1eU
Charpy notched impact strength, 23°C (73°F)	8	kJ/m2	ISO 179 1eA
Charpy notched impact strength, -30°C (-22°F)	5	kJ/m2	ISO 179 1eA
Hardness, shore D	76 - 80		ASTM D2240
Nominal strain at break, 23°C (73°F)	>50	%	ISO 527-1/-2
Yield strain, 23°C (73°F)	9	%	ISO 527-1/-2
Flexural modulus, 23°C (73°F)	1380 - 2310	MPa	ASTM D790

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PROPERTIES	TYPICAL VALUE	UNIT	TEST STANDARD
Tensile modulus, 23°C (73°F)	2300	MPa	ASTM D638
Coefficient of friction dynamic vs steel, 23°C (73°F)	0.14		ASTM D1895
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	140	°C	ISO 306
Limiting oxygen index (LOI)	44	%	ASTM D2863
Yellow card available	yes		
Coefficient of linear thermal expansion, 23°C (73°F)	119 - 144	10E-6 / °K	ASTM D696
Specific heat temperature, 23°C (73°F)	665 - 958		ISO 11357-1/-2
Heat deflection temperature, 0.45 MPa	130	°C	ISO 75-1/-2
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
Thermal conductivity	0.17 - 0.19	W/m-K	ASTM D433
Melting temperature, 10°C/min	168	°C	ISO 11357-1/-3
Burning behavior, nominal thickness 1.5 mm	V-0		IEC 60695-11-10

ELECTRICAL PROPERTIES

PROPERTIES	TYPICAL VALUE	UNIT	TEST STANDARD
Dielectric constant, 1kHz	4.5 - 9.5		ASTM D150
Dielectric strength, 23°C (73,4°F)	1.7	kV/mm	ASTM D149
Relative permittivity, 100Hz	9		IEC 62631-2-1
Relative permittivity, 1MHz	6		IEC 62631-2-1
Relative thermal index	150		
Dissipation factor, 100Hz	350	E-4	IEC 62631-2-1
Dissipation factor, 1MHz	2060	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)	1.77 - 1.79	g/cm³	ISO 1183-1
Water absorption, at equilibrium at 23°C (73°F) / Immersion	0.03	%	ISO 62

PROCESSING CONDITIONS:

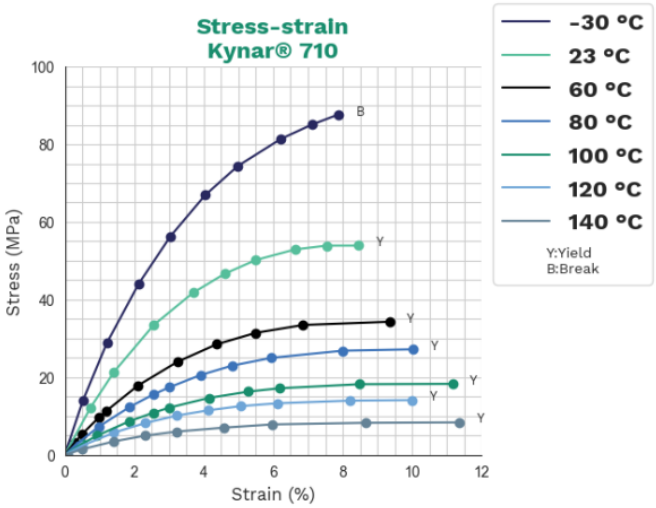
- Typical melt temperature (Min / Recommended / Max) - Injection Molding: 180°C / 210°C / 240°C (355°F / 410°F / 465°F)
- Typical mold temperature - Injection molding: 20-80°C (70-175°F)

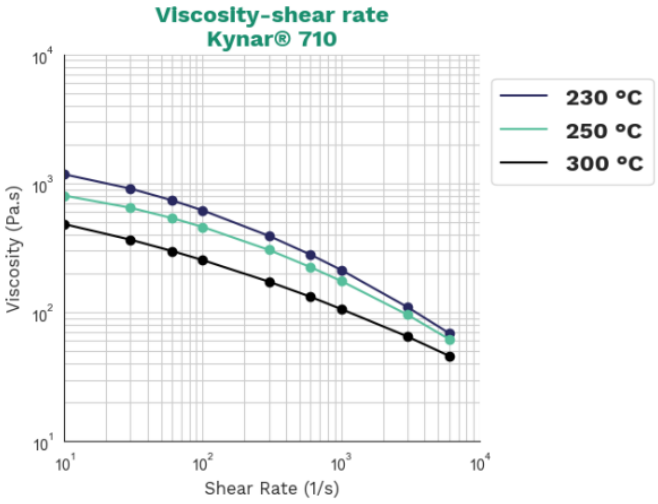
KYNAR® 710

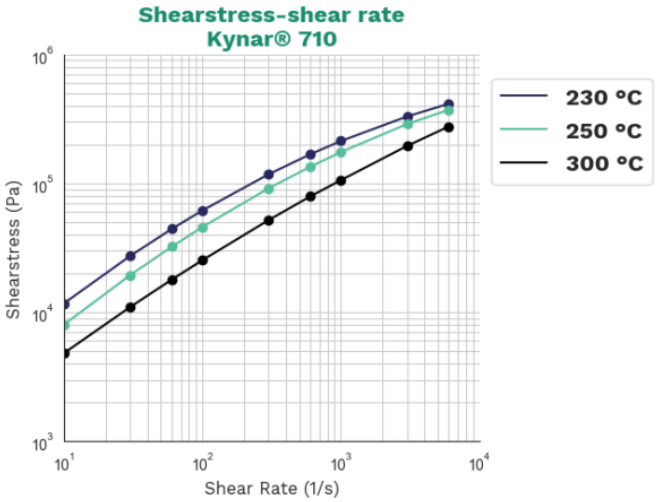
SPECIAL CHARACTERISTICS

- Flame & smoke

DIAGRAMS







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