KYNAR®

TECHNICAL DATA SHEET

KYNAR® 1000 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® 1000 HD resin is a standard grade of pellets for compression and transfer molding, for extrusion of thick walled parts: blocks, rods, plaques, tubes

TYPE

PVDF

MAIN APPLICATIONS

- hi purity
- cpi - distribution
- molding
- tubing
- plenum pipe
- 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	15 - 20	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)	1 - 3	g/10min	ASTM D1238
Melt volume flow rate (MVR), 230°C / 5 kg (446°F / 11 lb)	1.1	cm^3/10min	ISO 1133

MECHANICAL PROPERTIES

PROPERTIES	TYPICAL VALUE	UNIT	TEST STANDARD
Yield stress, 23°C (73°F)	44.8 - 55.2	MPa	ISO 527-1/-2
Yield strain, 23°C (73°F)	9	%	ISO 527-1/-2
Stress at break, 23°C (73°F)	34.5 - 55.2	MPa	ASTM D638
Nominal strain at break, 23°C (73°F)	>50	%	ISO 527-1/-2
Compression strength, 23°C (73°F)	68.9 - 103	MPa	ASTM D695
Charpy unnotched impact strength, 23°C (73°F)	No Break		ISO 179 1eU
Charpy unnotched impact strength, -30°C (-22°F)	No Break		ISO 179 1eU
Charpy notched impact strength, 23°C (73°F)	22	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
Flexural modulus, 23°C (73°F)	1450 - 2310	MPa	ISO 178
Tensile modulus, 23°C (73°F)	2000	MPa	ISO 527-1/-2

KYNAR® 1000 HD

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	138	°C	ISO 306
Limiting oxygen index (LOI)	60	%	ASTM D2863
Coefficient of linear thermal expansion, 23°C (73°F)	11.9 - 14.4	10E-6 / °K	ASTM D696
Specific heat temperature, 23°C (73°F)	745 - 958		ISO 11357-1/-2
Heat deflection temperature, 1.8 MPa	104	°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	172	°C	ISO 11357-1/-3

ELECTRICAL PROPERTIES

PROPERTIES	TYPICAL VALUE	UNIT	TEST STANDARD
Comparative tracking index	600		IEC 60112
Relative permittivity, 100Hz	10.5		IEC 62631-2-1
Relative permittivity, 1MHz	7		IEC 62631-2-1
Relative thermal index	150		
Dissipation factor, 100Hz	270	E-4	IEC 62631-2-1
Dissipation factor, 1MHz	2400	E-4	IEC 62631-2-1

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

PACKAGING

Available packaging:
- 1000 kg / 2205 lb rigid container
- 25 kg / 55 lb bags
- 25 kg / 55 lb rigid container
- 680 kg /1500 lb rigid container
- 800 kg / 1765 lb big bag

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

Headquarters: Arkema France
51, Esplanade du Général de Gaulle
92800 Puteaux – France
T +33 (0)1 49 00 80 80

Disclaimer - Please consult Arkema's disclaimer regarding the use of Arkema's products on https://www.arkema.com/global/en/products/product-safety/disclaimer/ which is incorporated herein by reference and made a part hereof.
Arkema France, a French société anonyme registered at the Trade and Companies Register of Nanterre under the number 319 632 790
arkema.com