

Kynar® 1000 HD

May 2012

KYNAR 1000 HD is a semi-crystalline medium-high molecular weight pelletized polymer of vinylidene fluoride. It is a versatile engineering plastic with an outstanding balance of physical and chemical properties which qualify it for high performance service in a wide range of applications. It is a thermoplastic fluoropolymer capable of being fabricated in standard processing equipment. The molecular weight and molecular weight distribution have been carefully tailored to supply grades suitable for a variety of processing requirements and end-use applications. KYNAR 1000 HD is appropriate for use in most extrusion applications.

TECHNICAL DATA FOR KYNAR® 1000 HD PELLETS

	METHOD	CONDITIONS	ENGLISH/COMMON UNITS	VALUE
PHYSICAL PROPERTIES				
Specific Gravity	D792	73°F (23°C)	-	1.76 - 1.78
Refractive Index	D542	at Sodium D line, 77°F (25°C)	-	1.42
Water Absorption	D570	at 68°F (20°C) Immersion/24 hours	%	0.01 - 0.03
PROCESSING CHARACTERISTICS				
Melt Viscosity	D3835	450°F, 100 sec ⁻¹	poise	16,500 – 22,500
Melt Flow Rate	D1238	450°F, 5 kg.	g/10 min	1.0 – 3.0
THERMAL PROPERTIES				
Coefficient of Linear Thermal Expansion	D696	-	10E-5/°F	6.6 - 8.0
Deflection Temperature	D648	at 264 psi (1.82 MPa)	°F (°C)	221 – 239 (105 – 115)
Deflection Temperature	D648	at 66 psi (0.45 MPa)	°F (°C)	257 – 284 (125 – 140)
Melting Temperature	D3418	-	°F (°C)	329 – 342 (165 – 172)
FLAMMABILITY				
Limiting Oxygen Index (LOI)	D2868	-	% O ₂	75
Thermal Decomposition TGA	1% wt. loss	in air	°F (°C)	707 (375)
Thermal Decomposition TGA	1% wt. loss	in nitrogen	°F (°C)	770 (410)
Burning Rate	UL	Bulletin 94	-	V - O

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Technical Data Sheet

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	METHOD	CONDITIONS	ENGLISH/COMMON UNITS	VALUE
MECHANICAL PROPERTIES				
Tensile Yield Strength	D638	73°F (23°C)	psi (MPa)	6,500 - 8,000 (45 – 55)
Tensile Break Strength	D638	73°F (23°C)	psi	5,000 - 8,000 (34 – 55)
Tensile Break Elongation	D638	73°F (23°C)	%	20 - 100
Tensile Modulus	D638	73°F (23°C)	psi (MPa)	200,000 – 335,000 (1379 – 2310)
Flexural Strength	D790	73°F (23°C)	psi (MPa)	8,500 – 11,000 (58 – 76)
Flexural Modulus	D790	73°F (23°C)	psi (MPa)	200,000 - 335,000 (1379 – 2310)
Compressive Strength	D695	73°F (23°C)	psi (MPa)	10,000 – 15,000 (69 – 103)
Impact Strength Notched Izod	D256	73°F (23°C)	ft-lb/in	1.8 - 4
Izod Impact Strength Unnotched Izod	D256	73°F (23°C)	ft-lb/in	20 - 80
Hardness	D2240	73°F (23°C)	Shore D	76 - 80
ELECTRICAL PROPERTIES				
Volume Resistivity	D257	DC 68°F (20°C) 65% R.H.	ohm-cm	2×10^{14}
Dielectric Constant 73°F	D150	100 Hz – 100 Hz	-	4.5 - 9.5
Dissipation Factor 73°C	D150	100 Hz	-	0.01 – 0.21

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