

## TECHNICAL DATA SHEET

# KYNAR® 1000 HD

## FLUORINATED HOMOPOLYMER PELLET

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

### DESIGNATION

PVDF

### MAIN APPLICATIONS

- Hi Purity
- CPI - Distribution
- Molding
- Tubing
- Plenum Pipe
- CPI - Stock Shape

### DELIVERY FORM

- Pellets

### TRANSFORMATION PROCESSES

- Injection Molding

## RHEOLOGICAL PROPERTIES

PROPERTIES	VALUE	TEST STANDARD
Melt viscosity, 230°C (445°F) at 100 s-1	15 - 20 kPo	ASTM D3835
Shrinkage, Normal (t+24h)	2.0 %	ISO 294-4
Shrinkage, Parallel (t+24h)	2.0 %	ISO 294-4
Melt flow index (MFR), 235°C / 5 kg (455°F / 11 lb)	1 - 3 g/10min	ASTM D1238
Melt volume flow rate (MVR), 230°C / 5 kg (446°F / 11 lb)	1.1 cm³/10min	ISO 1133

## MECHANICAL PROPERTIES

PROPERTIES	VALUE	TEST STANDARD
Yield stress, 23°C (73°F)	44.8 - 55.2 MPa	ISO 527-1/-2
Yield strain, 23°C (73°F), 50 mm/min	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 mm/min	>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), 1 mm/min	2000 MPa	ISO 527-1/-2

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## THERMAL PROPERTIES

PROPERTIES	VALUE	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	VALUE	TEST STANDARD
Comparative tracking index	600	IEC 60112
Relative permittivity, 100Hz	10.5	IEC 60250
Relative permittivity, 1MHz	7	IEC 60250
Relative thermal index	150	
Dissipation factor, 100Hz	270 E-4	IEC 60250
Dissipation factor, 1MHz	2400 E-4	IEC 60250

## OTHER PROPERTIES

PROPERTIES	VALUE	TEST STANDARD
Moisture absorption, At equilibrium at 23°C (73°F) / 50%HR	0.015 %	ISO 62
Specific gravity, 23°C (73°F)	1.77 - 1.79 g/cm <sup>3</sup>	
Water absorption, Saturated in water at 23°C (73°F)	0.03 %	ISO 62

## SPECIAL CHARACTERISTICS

- Flame & smoke

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