

## TECHNICAL DATA SHEET

### KYNAR FLEX® 3120-50

#### FLUORINATED COPOLYMER PELLETT

KYNAR FLEX® resins are fluorinated thermoplastic copolymers. KYNAR FLEX® 3120-15 resin has been specifically designed for use in wire and cable constructions which require a 150°C rating and improve flame and smoke resistance. KYNAR FLEX® 3120-15 resin is easily processed and has excellent physical, mechanical, thermal and flame resistant characteristics. Its low viscosity allows easy processing.

#### Additional Characteristics:

- Excellent thermal stability
- Excellent abrasion resistance
- High Limiting Oxygen Index
- Extremely low smoke emission characteristics

#### DESIGNATION

PVDF

#### MAIN APPLICATIONS

- Plenum Conduit
- Plenum Cable

#### DELIVERY FORM

- Pellets

#### ADDITIVES

- Lubricants

#### RHEOLOGICAL PROPERTIES

PROPERTIES	VALUE	TEST STANDARD
Melt viscosity, 230°C (445°F) at 100 s-1	20 - 26 kPo	ASTM D3835
Melt flow index (MFR), 235°C / 5 kg (455°F / 11 lb)	2.5 - 7.5 g/10min	ASTM D1238
Melt volume flow rate (MVR), 230°C / 12.5 kg (445°F / 27.5 lb)	0.5 cm³/10min	ISO 1133

#### MECHANICAL PROPERTIES

PROPERTIES	VALUE	TEST STANDARD
Yield stress, 23°C (73°F)	24.1 - 34.5 MPa	ASTM D638
Yield strain, 23°C (73°F), 50 mm/min	15 %	ISO 527-1/-2
Stress at break, 23°C (73°F)	34.5 - 48.3 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)	31 - 41.4 MPa	ASTM D695
Izod impact unnotched strength, 23°C (73°F)	No Break	ASTM D256
Izod impact notched strength, 23°C (73°F)	No Break	ASTM D256
Charpy notched impact strength, 23°C (73°F)	No Break	ISO 179 1eA
Hardness, Shore D	65 - 70	ASTM D2240
Flexural modulus, 23°C (73°F)	621 - 827 MPa	ASTM D790
Tensile modulus, 23°C (73°F)	700 MPa	ASTM D638
Coefficient of friction dynamic vs steel, 23°C (73°F)	0.3	ASTM D1895
Coefficient of friction static vs steel, 23°C (73°F)	0.31	ASTM D1894

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PROPERTIES	VALUE	TEST STANDARD
Abrasion resistance, Wheel CS 17, load 1 kg, 1000 cycles	16 - 19 mg	ASTM G195-13A

## THERMAL PROPERTIES

PROPERTIES	VALUE	TEST STANDARD
Glass transition temperature, 10°C/min	-40 °C	ISO 11357-1/-2
Limiting oxygen index (LOI)	42 %	ASTM D2863
Yellow card available	yes	
Coefficient of linear thermal expansion, 23°C (73°F)	126 - 185 10E-6 / °K	ASTM D696
Specific heat temperature, 23°C (73°F)	745 - 958	ISO 11357-1/-2
Heat deflection temperature, 1.8 MPa	50 °C	ISO 75-1/-2
Heat deflection temperature, 1.8 MPa, 138°C/h	43.3 - 54.4 °C	ASTM D648
Heat deflection temperature, 0.45 MPa, 138°C/h	54.4-76.7 °C	ASTM D648
Thermal conductivity	0.144 - 0.18 W/m-K	ASTM D433
Melting temperature, 10°C/min	165 °C	ISO 11357-1/-3

## ELECTRICAL PROPERTIES

PROPERTIES	VALUE	TEST STANDARD
Dielectric constant, 1kHz	3.2 - 10.2	ASTM D150
Surface resistivity, 23°C (73,4°F)	5.3E+11 - 5.5E+11 ohm/sq	ASTM D257
Dielectric strength, 23°C (73,4°F)	1.3 - 1.5 kV/mm	ASTM D149
Relative thermal index	150	
Dissipation factor	0.02 - 0.19	ASTM D150

## OTHER PROPERTIES

PROPERTIES	VALUE	TEST STANDARD
Specific gravity, 23°C (73°F)	1.75 - 1.77 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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