KYNAR FLEX®

TECHNICAL DATA SHEET

KYNAR FLEX® 3120-15

FLUORINATED COPOLYMER PELLET

KYNAR FLEX® resins are fluorinated thermoplastic copolymers. 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 characteristicsKYNAR FLEX® 3120-15 resinmeets the smoke and flame requirements of UL 910 KYNAR FLEX® 3120-15 resinhas been specifically designed for use in wire and cable constructions which require a 150ºC rating and improve flame and smoke resistance

TYPE

PVDF

MAIN APPLICATIONS

- plenum conduit
- plenum cable

DELIVERY FORM

- Pellets

RHEOLOGICAL PROPERTIES

PROPERTIES	TYPICAL VALUE	UNIT	TEST STANDARD
Melt viscosity, 230°C (446°F) at 100 s-1	6 - 12	kPo	ASTM D3835
Melt flow index (MFR), 230°C / 5 kg (446°F / 11 lb)	4 - 18	g/10min	ASTM D1238
Melt volume flow rate (MVR), 230°C / 5 kg (446°F / 11 lb)	4	cm^3/10min	ISO 1133

MECHANICAL PROPERTIES

PROPERTIES	TYPICAL VALUE	UNIT	TEST STANDARD
Yield stress, 23°C (73°F)	24.1 - 34.5	MPa	ASTM D638
Yield strain, 23°C (73°F)	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	%	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
Abrasion resistance, wheel CS 17, load 1 kg, 1000 cycles	16 - 19	mg	ASTM G195-13A

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THERMAL PROPERTIES

PROPERTIES	TYPICAL VALUE	UNIT	TEST STANDARD
Glass transition temperature, 10°C/min	-40	°C	ISO 11357-1/-2
Limiting oxygen index (LOI)	95	%	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, 0.45 MPa	65	°C	ISO 75-1/-2
Heat deflection temperature, 1.8 MPa	48	°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	164	°C	ISO 11357-1/-3

ELECTRICAL PROPERTIES

PROPERTIES	TYPICAL VALUE	UNIT	TEST STANDARD
Dielectric constant, 1kHz	3.2 - 10.2		ASTM D150
Surface resistivity, 23°C (73,4°F)	5.9E+11 - 6.1E+11	ohm/sq	ASTM D257
Dielectric strength, 23°C (73,4°F)	1.3 - 1.5	kV/mm	ASTM D149
Relative permittivity, 100Hz	6.7		IEC 62631-2-1
Relative thermal index	150		
Dissipation factor, 100Hz	0.105	E-4	IEC 62631-2-1
Dissipation factor	0.02 - 0.19		ASTM D150

OTHER PROPERTIES

PROPERTIES	TYPICAL VALUE	UNIT	TEST STANDARD
Density, 23°C (73°F)	1.77 - 1.8	g/cm³	ISO 1183-1

PACKAGING

Available packaging:
- 25 kg / 55 lb rigid container
- 680 kg / 1500 lb big bag
- 680 kg /1500 lb rigid container

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

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