KYNAR FLEX®

TECHNICAL DATA SHEET

KYNAR FLEX® 3121-50 POWDER

FLUORINATED COPOLYMER POWDER

KYNAR FLEX® resins are fluorinated thermoplastic copolymers.
KYNAR FLEX® 3121-50 is a pelletized flexible, semi-crystalline VF2 based copolymer. It can be molded or extruded and has a useful temperature range from -40°C - 150°C. KYNAR FLEX® 3120-50 has a UL RTI of 150°C. This product is NSF/ANSI/CAN 61 certified.
KYNAR FLEX® 3120-50 can be used in compounding for cross-linkable wire and cable as well as both wire applications requiring low temperature flexibility and high temperature resistance.
KYNAR FLEX® 3120-50 also finds use as a polymer processing aid (PPA) for polyolefins. The use of KYNAR FLEX® 3120-50 or KYNAR FLEX 3121-50 at 200 -1000 ppm levels reduces extruder pressure, improves surface finish, reduces die build up, and improves gauge control.

TYPE

PVDF

MAIN APPLICATIONS

- polymer processing aid

DELIVERY FORM

- Powder

RHEOLOGICAL PROPERTIES

PROPERTIES	TYPICAL VALUE	UNIT	TEST STANDARD
Melt viscosity, 230°C (446°F) at 100 s-1	20 - 26	kPo	ASTM D3835
Melt flow index (MFR), 230°C / 5 kg (446°F / 11 lb)	2.5 - 7.5	g/10min	ASTM D1238
Melt volume flow rate (MVR), 230°C / 5 kg (446°F / 11 lb)	0.5	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
Flexural modulus, 23°C (73°F)	621 - 827	MPa	ASTM D790
Compression strength, 23°C (73°F)	34.5 - 48.3	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
Hardness, shore D	65 - 70		ASTM D2240
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)	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	TYPICAL VALUE	UNIT	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	TYPICAL VALUE	UNIT	TEST STANDARD
Density, 23°C (73°F)	1.75 - 1.77	g/cm³	ISO 1183-1
Water absorption, at equilibrium at 23°C (73°F) / Immersion	0.03	%	ISO 62

PACKAGING

Available packaging:
- 100 kg / 220 lb rigid containers
- 20 kg / 45 lb metal drum
- 320 kg / 700 lb big bag
- 45 kg / 100 lb drums
- 500 kg / 1100 lb rigid containers

SPECIAL CHARACTERISTICS

- Flame & smoke

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