

Kynar® 460

PVDF

Kynar® 460 resin

Kynar® resins are fluorinated thermoplastic homopolymers.

Outstanding characteristics: chemical resistance, imperviousness to UV, high barrier properties, high purity, good mechanical and thermo-mechanical properties.

Main applications: corrosion protection in the chemical industry, coating (painting, co-extrusion), off shore, wire and cable.

Kynar® 460 resin is a standard grade of granules for extrusion of tubes, cables and plaques, compression and transfer molding.

Rheological properties	Value	Unit	Test Standard
Melt volume-flow rate, MVR	5.6	cm ³ /10min	ISO 1133
Temperature	230	°C	-
Load	21.6	kg	-
Molding shrinkage, parallel	2.0	%	ISO 294-4, 2577
Molding shrinkage, normal	2.0	%	ISO 294-4, 2577

Mechanical properties	Value	Unit	Test Standard
Tensile Modulus	1400	MPa	ISO 527-1/-2
Yield stress	42	MPa	ISO 527-1/-2
Yield strain	13	%	ISO 527-1/-2
Nominal strain at break	>50	%	ISO 527-1/-2

Thermal properties	Value	Unit	Test Standard
Melting temperature, 10°C/min	161	°C	ISO 11357-1/-3
Glass transition temperature, 10°C/min	-40	°C	ISO 11357-1/-2
Temp. of deflection under load, 1.80 MPa	85	°C	ISO 75-1/-2
Burning Behav. at 1.5 mm nom. thickn.	V-0	class	IEC 60695-11-10
Oxygen index	43	%	ISO 4589-1/-2

Electrical properties	Value	Unit	Test Standard
Relative permittivity, 100Hz	9	-	IEC 60250
Relative permittivity, 1MHz	6.7	-	IEC 60250
Dissipation factor, 100Hz	1300	E-4	IEC 60250
Dissipation factor, 1MHz	700	E-4	IEC 60250
Volume resistivity	2E12	Ohm*m	IEC 60093
Electric strength	63	kV/mm	IEC 60243-1

Other properties	Value	Unit	Test Standard
Water absorption	0.04	%	Sim. to ISO 62

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Density	1760	kg/m ³	ISO 1183
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Rheological calculation properties

	Value	Unit	Test Standard
Thermal conductivity of melt	0.19	W/(m K)	-

VDA Properties

	Value	Unit	Test Standard
Coeff. of linear therm. expansion -40°C to +100°C, parallel	114	E-6/K	ISO 11359-1/-2

Characteristics

Processing

Profile Extrusion, Other Extrusion

Delivery form

Pellets

Chemical Media Resistance

Acids

- ✓ Acetic Acid (5% by mass) (23°C)
- ✓ Citric Acid solution (10% by mass) (23°C)
- ✓ Lactic Acid (10% by mass) (23°C)
- ✓ Hydrochloric Acid (36% by mass) (23°C)
- ✓ Nitric Acid (40% by mass) (23°C)
- ✓ Sulfuric Acid (38% by mass) (23°C)
- ✓ Sulfuric Acid (5% by mass) (23°C)
- ✓ Chromic Acid solution (40% by mass) (23°C)

Bases

- ✓ Sodium Hydroxide solution (35% by mass) (23°C)
- ✓ Sodium Hydroxide solution (1% by mass) (23°C)
- ✓ Ammonium Hydroxide solution (10% by mass) (23°C)

Alcohols

- ✓ Isopropyl alcohol (23°C)
- ✓ Methanol (23°C)
- ✓ Ethanol (23°C)

Hydrocarbons

- ✓ n-Hexane (23°C)
- ✓ Toluene (23°C)
- ✓ iso-Octane (23°C)

Ketones

- ✗ Acetone (23°C)

Ethers

- ✓ Diethyl ether (23°C)

Mineral oils

- ✓ SAE 10W40 multigrade motor oil (23°C)
- ✓ SAE 10W40 multigrade motor oil (130°C)

Regional Availability

North America, Europe, Asia Pacific, South and Central America, Near East/Africa

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- ✓ SAE 80/90 hypoid-gear oil (130°C)
- ✓ Insulating Oil (23°C)

Standard Fuels

- ✓ ISO 1817 Liquid 1 (60°C)
- ✓ ISO 1817 Liquid 2 (60°C)
- ✓ ISO 1817 Liquid 3 (60°C)
- ✓ ISO 1817 Liquid 4 (60°C)
- ✓ Standard fuel without alcohol (pref. ISO 1817 Liquid C) (23°C)
- ✓ Standard fuel with alcohol (pref. ISO 1817 Liquid 4) (23°C)
- ✓ Diesel fuel (pref. ISO 1817 Liquid F) (23°C)
- ✓ Diesel fuel (pref. ISO 1817 Liquid F) (90°C)
- ✓ Diesel fuel (pref. ISO 1817 Liquid F) (>90°C)

Salt solutions

- ✓ Sodium Chloride solution (10% by mass) (23°C)
- ✓ Sodium Hypochlorite solution (10% by mass) (23°C)
- ✓ Sodium Carbonate solution (20% by mass) (23°C)
- ✓ Sodium Carbonate solution (2% by mass) (23°C)
- ✓ Zinc Chloride solution (50% by mass) (23°C)

Other

- ✗ Ethyl Acetate (23°C)
- ✓ Hydrogen peroxide (23°C)
- ✓ Ethylene Glycol (50% by mass) in water (108°C)
- ✓ Water (23°C)
- ✓ Deionized water (90°C)
- ✓ Phenol solution (5% by mass) (23°C)