Kynar® 710

PVDF

Kynar® 710 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® 710 resin is a grade of granules for injection molding, rotomolding applications and multifilament extrusion. This product is ANSI/NSF Standard 61 certified.

A powder form is available as **Kynar® 711 resin.**

Rheological properties	Value	Unit	Test Standard
Melt volume-flow rate, MVR	**20**	cm^3/10min	ISO 1133
Temperature	**230**	°C	-
Load	**5**	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	**2300**	MPa	ISO 527-1/-2
Yield stress	**54**	MPa	ISO 527-1/-2
Yield strain	**9**	%	ISO 527-1/-2
Nominal strain at break	**>50**	%	ISO 527-1/-2
Charpy impact strength, +23°C	**192**	kJ/m^2	ISO 179/1eU
Charpy impact strength, -30°C	**208**	kJ/m^2	ISO 179/1eU
Charpy notched impact strength, +23°C	**8**	kJ/m^2	ISO 179/1eA
Charpy notched impact strength, -30°C	**5**	kJ/m^2	ISO 179/1eA

Thermal properties	Value	Unit	Test Standard
Melting temperature, 10°C/min	**168**	°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	**110**	°C	ISO 75-1/-2
Temp. of deflection under load, 0.45 MPa	**130**	°C	ISO 75-1/-2
Vicat softening temperature, 50°C/h 50N	**140**	°C	ISO 306
Coeff. of linear therm. expansion, parallel	**150**	E-6/K	ISO 11359-1/-2
Burning Behav. at 1.5 mm nom. thickn.	**V-0**	class	IEC 60695-11-10
Thickness tested	**1.6**	mm	-
Yellow Card available	**yes**	-	-
Burning Behav. at thickness h	**V-0**	class	IEC 60695-11-10

Thickness tested	**0.8**	mm	-
Oxygen index	**43**	%	ISO 4589-1/-2

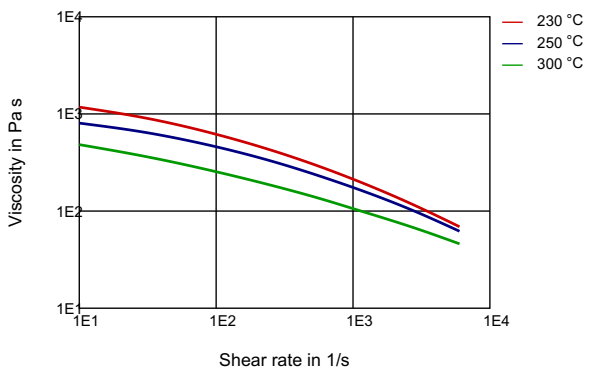
Electrical properties	**Value**	**Unit**	**Test Standard**
Relative permittivity, 100Hz	**9**	-	IEC 60250
Relative permittivity, 1MHz	**6**	-	IEC 60250
Dissipation factor, 100Hz	**350**	E-4	IEC 60250
Dissipation factor, 1MHz	**2060**	E-4	IEC 60250
Volume resistivity	**2E12**	Ohm*m	IEC 60093

Other properties	**Value**	**Unit**	**Test Standard**
Water absorption	**0.03**	%	Sim. to ISO 62
Density	**1780**	kg/m³	ISO 1183

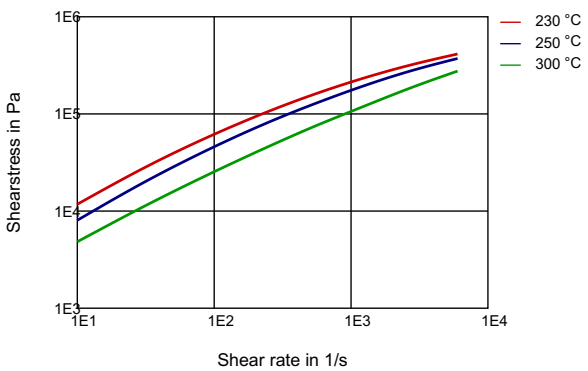
Test specimen production	**Value**	**Unit**	**Test Standard**
Injection Molding, melt temperature	**200**	°C	ISO 294
Injection Molding, mold temperature	**90**	°C	ISO 10724
Injection Molding, injection velocity	**10**	mm/s	ISO 294
Injection Molding, pressure at hold	**13**	MPa	ISO 294

Diagrams

Viscosity-shear rate



Shearstress-shear rate



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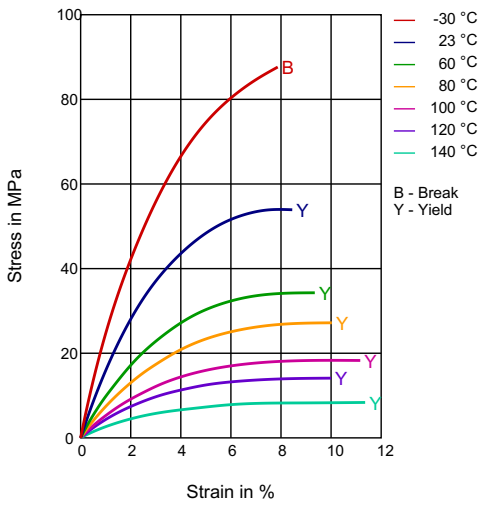
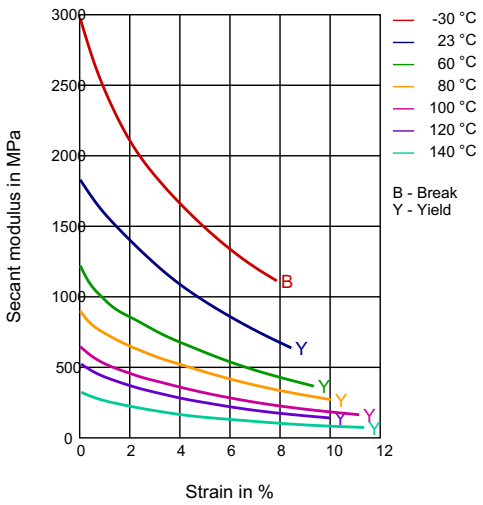
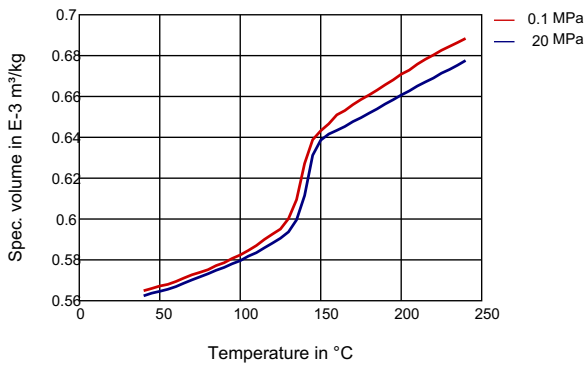
Stress-strain



Secant modulus-strain



Specific volume-temperature (pvT)



Characteristics

Processing
Injection Molding, Film Extrusion

Delivery form
Pellets

Special Characteristics
Light stabilized or stable to light, U.V. stabilized or stable to weather, Heat stabilized or stable to heat, Transparent

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

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)
- ✔ 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)