

## Kynar Flex® 2800-00

PVDF

### Kynar Flex® 2800-00 resin

**Kynar Flex® resins** are fluorinated thermoplastic copolymers.

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

**Main applications:** flexible tubing, corrosion protection in the chemical industry, coating (painting, co-extrusion), off shore, wire and cable jacketing with and without cross-linking.

**Kynar Flex® 2800-00 resin** is a standard grade of granules, compared to the homopolymer grades, which exhibits a lower modulus, a better resistance to stress cracking in alkaline and oxidizing media, and a lower melting point.

For cable coating, extrusion of tube and plaque, compression molding of bulky parts.

#### Additional characteristics:

- Easily processed using conventional equipment
- Excellent thermal stability
- Retains properties after aging
- Pigmentable
- UL RTI temperature rating 125°C
- Radiation crosslinking

[UL Yellow Card](#)

#### Rheological properties

	Value	Unit	Test Standard
Melt volume-flow rate, MVR	<b>0.5</b>	cm <sup>3</sup> /10min	ISO 1133
Temperature	<b>230</b>	°C	-
Load	<b>5</b>	kg	-

#### Mechanical properties

	Value	Unit	Test Standard
Tensile Modulus	<b>700</b>	MPa	ISO 527-1/-2
Yield stress	<b>27</b>	MPa	ISO 527-1/-2
Yield strain	<b>15</b>	%	ISO 527-1/-2
Nominal strain at break	<b>&gt;50</b>	%	ISO 527-1/-2
Charpy notched impact strength, +23°C	<b>N</b>	kJ/m <sup>2</sup>	ISO 179/1eA
Charpy notched impact strength, -30°C	<b>5</b>	kJ/m <sup>2</sup>	ISO 179/1eA

#### Thermal properties

	Value	Unit	Test Standard
Melting temperature, 10°C/min	<b>143</b>	°C	ISO 11357-1/-3
Glass transition temperature, 10°C/min	<b>-36</b>	°C	ISO 11357-1/-2
Temp. of deflection under load, 1.80 MPa	<b>48</b>	°C	ISO 75-1/-2
Temp. of deflection under load, 0.45 MPa	<b>68</b>	°C	ISO 75-1/-2
Vicat softening temperature, 50°C/h 50N	<b>79</b>	°C	ISO 306
Coeff. of linear therm. expansion, parallel	<b>160</b>	E-6/K	ISO 11359-1/-2
Burning Behav. at 1.5 mm nom. thickn.	<b>V-0</b>	class	IEC 60695-11-10

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Thickness tested	<b>1.5</b>	mm	-
Yellow Card available	<b>yes</b>	-	-
Oxygen index	<b>43</b>	%	ISO 4589-1/-2

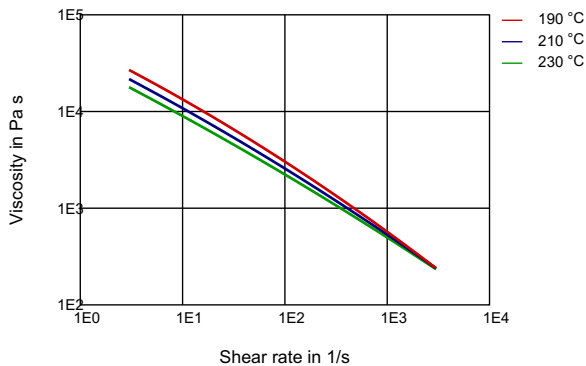
Electrical properties	Value	Unit	Test Standard
Relative permittivity, 100Hz	<b>11</b>	-	IEC 60250
Relative permittivity, 1MHz	<b>7</b>	-	IEC 60250
Dissipation factor, 100Hz	<b>520</b>	E-4	IEC 60250
Dissipation factor, 1MHz	<b>2330</b>	E-4	IEC 60250
Volume resistivity	<b>2E12</b>	Ohm*m	IEC 60093

Other properties	Value	Unit	Test Standard
Water absorption	<b>0.03</b>	%	Sim. to ISO 62
Humidity absorption	<b>0.015</b>	%	Sim. to ISO 62
Density	<b>1780</b>	kg/m <sup>3</sup>	ISO 1183

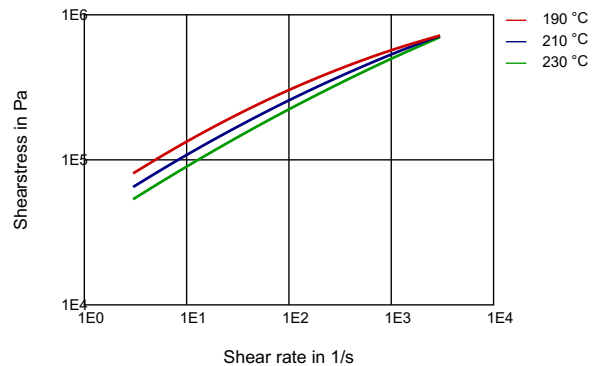
Test specimen production	Value	Unit	Test Standard
Compression Molding, molding temperature	<b>225</b>	°C	ISO 293
Compression Molding, molding time	<b>3</b>	min	ISO 293
Compression Molding, demolding temperature	<b>120</b>	°C	ISO 293

## Diagrams

### Viscosity-shear rate



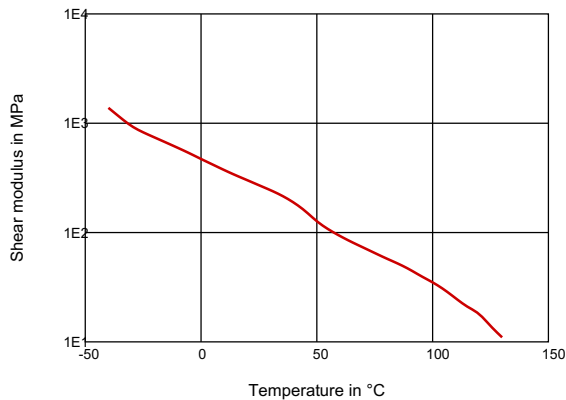
### Shearstress-shear rate



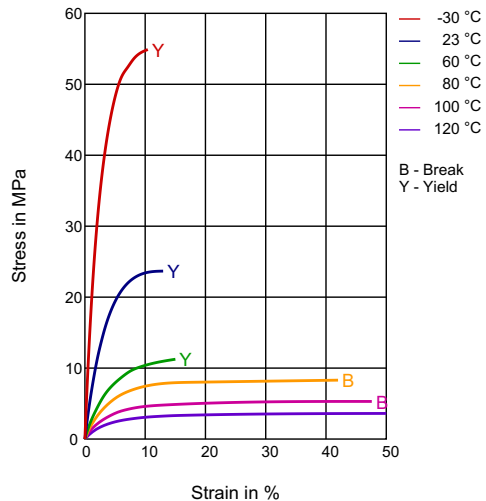
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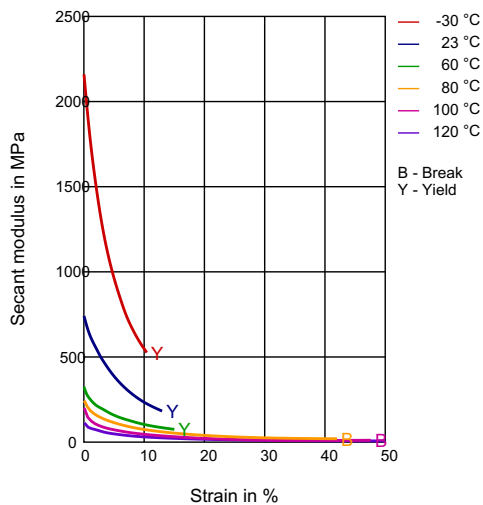
## Dynamic Shear modulus-temperature



## Stress-strain



## Secant modulus-strain



## Characteristics

### Processing

Profile Extrusion, Other Extrusion

### Delivery form

Pellets

## Chemical Media Resistance

### Acids

### Special Characteristics

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

### Regional Availability

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

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- ✓ 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)

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### **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)