

KYNAR FLEX®

2821-00

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. This product is **NSF/ANSI/CAN 61** certified.

Kynar Flex® 2821 resin is the powder form of the **Kynar Flex® 2820-20 resin**. To be used as an additive in polyethylene to improve the extrusion rate.

[UL Yellow Card](#)

| PROPERTIES | VALUE | UNIT | TEST STANDARD |
|--|----------------|-------------------------|---------------|
| RHEOLOGICAL PROPERTIES | | | |
| Melt Volume-Flow Rate | 3 | cm ³ /10 min | ISO 1133 |
| Temperature | 230 | °C | - |
| | 446 | °F | - |
| Load | 5 | kg | - |
| | 11 | lb | - |
| Melt Flow Rate | 1 - 8 | g/10min | ASTM D1238 |
| Temperature | 230 | °C | - |
| Load | 5 | kg | - |
| Melt Viscosity, 230°C, 100 s ⁻¹ | 12 - 20 | kPoise | ASTM D3835 |
| MECHANICAL PROPERTIES | | | |
| Tensile Modulus | 700 | MPa | ISO 527-1/-2 |
| | 102000 | psi | |
| Tensile Modulus, 73 °F | 552 - 896 | MPa | ASTM D638 |
| | 80000 - 130000 | psi | |
| Yield Stress | 27 | MPa | ISO 527-1/-2 |
| | 3920 | psi | |
| Tensile Strength at Yield, 73 °F | 20 - 34.5 | MPa | ASTM D638 |
| | 2900 - 5000 | psi | |
| Yield Strain | 15 | % | ISO 527-1/-2 |
| Nominal Strain at Break | >50 | % | ISO 527-1/-2 |
| Tensile Strength at Break, 73 °F | 17.2 - 34.5 | MPa | ASTM D638 |
| | 2500 - 5000 | psi | |
| Elongation at Break, 73 °F | 100 - 300 | % | ASTM D638 |

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Source: automatically generated TDS from Material Database on 12-08-2024

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| Taber Abrasion, CS 17 1000g:pad | 16 - 9 | mg/1000 cycles | ASTM-G195-13A |
| Hardness, Shore D, 73 °F | 60 - 70 | - | ASTM D2240 |
| Flexural Modulus, 73 °F | 483 - 758 | MPa | ASTM D790 |
| | 70000 - 110000 | psi | |
| Compressive Strength, 73 °F | 31 - 41.4 | MPa | ASTM D695 |
| | 4500 - 6000 | psi | |
| Charpy Notched Impact Strength, +23°C | No Break | kJ/m ² | ISO 179/1eA |
| Unnotched Impact Strength, 73 °F | No Break | kJ/m | ASTM D256 |
| Notched Impact Strength, 73 °F | 0.534 - 1.07 | kJ/m | ASTM D256 |
| | 10 - 20 | ftlb/in | |
| Coefficient of Friction, Static vs. Steel, 73 °F | 0.33 | - | ASTM D1894 |
| Coefficient of Friction, Dynamic vs. Steel, 73 °F | 0.33 | - | ASTM D1894 |
| THERMAL PROPERTIES | | | |
| Melting Temperature, 10°C/min | 143 | °C | ISO 11357-1/-3 |
| Melting Point | 140 - 145 | °C | ASTM D3418 |
| Glass Transition Temperature, 10°C/min | -40 | °C | ISO 11357-1/-2 |
| Glass Transition Temperature (Tg) | -41.1 - -39.4 | °C | ASTM D7028 |
| | -42 - -39 | °F | |
| Temperature Rating | 130 | °C | UL RTI |
| | 266 | °F | |
| Temp. of Deflection Under Load, 1.80 MPa | 48 | °C | ISO 75-1/-2 |
| | 118 | °F | |
| Heat Deflection Temperature, 264 Psi, 248 °F/hr | 40 - 55 | °C | ASTM D648 |
| | 104 - 131 | °F | |
| Heat Deflection Temperature, 66 Psi, 248 °F/hr | 60 - 75 | °C | ASTM D648 |
| | 140 - 167 | °F | |
| Vicat Softening Temperature, 50°C/h 50N | 76 | °C | ISO 306 |
| | 169 | °F | |
| Coeff. of Linear Thermal Expansion, parallel | 160 | E-6/K | ISO 11359-1/-2 |
| Coefficient of Thermal Expansion, 73 °F | 12.6 - 18.5 | 10E-5/°C | ASTM D696 |
| | 7 - 10.3 | 10E-5/°F | |
| Burning Behav. at 1.5 mm Nominal Thickness | V-0 | class | IEC 60695-11-10 |
| Thickness Tested | 1.5 | mm | - |
| | 0.0591 | in | |

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|--|--------------|-------------------|-----------------|
| Yellow Card available | yes | - | - |
| Burning Behav. at Thickness h | V-0 | class | IEC 60695-11-10 |
| Thickness Tested | 0.8 | mm | - |
| | 0.0315 | in | |
| Yellow Card available | yes | - | - |
| Burning Behav. 5V at Thickness h | 5VB | class | IEC 60695-11-20 |
| Thickness Tested | 1.5 | mm | - |
| | 0.0591 | in | |
| Oxygen Index | 42 | % | ISO 4589-1/-2 |
| Limiting Oxygen Index | 42 | % | ASTM D2863 |
| Thermal Conductivity | 0.144 - 0.18 | W/(m | ASTM D433 |
| | 1 - 1.25 | K) BTU in | |
| Specific Heat | 745 - 958 | J/(kg | DSC |
| | 0.28 - 0.36 | K) BTU/(l | |
| Thermal Decomposition TGA, in air | 375 | °C | 1% wt. loss |
| | 707 | °F | |
| Thermal Decomposition TGA, in nitrogen | 410 | °C | 1% wt. loss |
| | 770 | °F | |
| Relative Thermal Index, Mechanical | 130 | °C | UL 746B |
| | 266 | °F | |
| Relative Thermal Index, Electrical | 130 | °C | UL 746B |
| | 266 | °F | |
| ELECTRICAL PROPERTIES | | | |
| Relative Permittivity, 1MHz | 6 | - | IEC 60250 |
| Dielectric Constant, 1 kHz | 3.5 - 10.6 | - | ASTM D150 |
| Dissipation Factor, 100Hz | 570 | E-4 | IEC 60250 |
| Dissipation Factor, 1MHz | 2340 | E-4 | IEC 60250 |
| Dissipation Factor, 100 kHz | 0.02 - 0.21 | - | ASTM D150 |
| Volume Resistivity | 2E12 | Ohm* m | IEC 62631-3-1 |
| Volume Resistivity, DC 68 °F, 65% R.H. | 2E14 | Ohm*c m | ASTM D257 |
| Dielectric (Electric) Strength, 73°F | 1.3 - 1.5 | kV/mil | ASTM D149 |
| OTHER PROPERTIES | | | |
| Water Absorption, 23°C, immersion, equilibrium | 0.03 | % | ISO 62 |
| Density | 1770 | kg/m ³ | ISO 1183 |
| | 1.77 | g/cm ³ | |

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| | | | |
|-------------------------|------------|---|-----------|
| Specific Gravity, 73 °F | 1.77 - 1.8 | - | ASTM D792 |
|-------------------------|------------|---|-----------|

OPTICAL PROPERTIES

| | | | |
|----------------------------------|------|---|-----------|
| Refractive Index @ sodium D line | 1.41 | - | ASTM D542 |
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MAIN APPLICATIONS:

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

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| DELIVERY FORM | Headquarters: Arkema France 420 rue d'Estienne d'Orves 92705 Colombes Cedex France T +33 (0)1 49 00 80 80 hpp.arkema.com |
| Powder | |
| SPECIAL CHARACTERISTICS | |
| Heat Stabilized, Light Stabilized | |
| REGIONAL AVAILABILITY | Arkema Inc. – High Performance Polymers 900 First Avenue King of Prussia, PA 19406 Tel.: +1 610 205 7000 hpp.arkema.com |
| North America, Europe, Asia Pacific, South and Central America, Near East/Africa | |
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