

## Arkema Group KYNAR FLEX® 2850 Black Polyvinylidene Fluoride Copolymer - Extrusion & Molding

Category : Polymer , Thermoplastic , Fluoropolymer , PVDF , Polyvinylidene fluoride (PVDF), Molded/Extruded

### Material Notes:

Characteristics: Natural resin - translucent, off-white hemispheres. 150°C Temperature rating, pigmented. High stability in harsh thermal, chemical and ultraviolet environments. High toughness and mechanical strength, low permeability, abrasion resistance; high

purityApplications:Chemical processing – production, storage and transfer of corrosive fluidsElectronics – protective sheathing, plenum and wiring insulationSemi-conductor industryFood stuff and Healthcare industriesTransportation – fuel line and pipe, thermoformed body componentsInformation provided by Arkema Inc.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Arkema-Group-KYNAR-FLEX-2850-Black-Polyvinylidene-Fluoride-Copolymer-Extrusion-Molding.php](http://www.lookpolymers.com/polymer_Arkema-Group-KYNAR-FLEX-2850-Black-Polyvinylidene-Fluoride-Copolymer-Extrusion-Molding.php)

| Physical Properties | Metric                                                             | English                                                            | Comments                   |
|---------------------|--------------------------------------------------------------------|--------------------------------------------------------------------|----------------------------|
| Specific Gravity    | 1.77 - 1.80 g/cc                                                   | 1.77 - 1.80 g/cc                                                   | ASTM D792                  |
| Bulk Density        | 0.961 g/cc                                                         | 0.0347 lb/in <sup>3</sup>                                          |                            |
| Water Absorption    | 0.030 - 0.050 %<br>@Time 86400 sec                                 | 0.030 - 0.050 %<br>@Time 24.0 hour                                 | Immersion; ASTM D570       |
| Viscosity           | 1.60e+6 - 2.80e+6 cP<br>@Shear Rate 100 1/s,<br>Temperature 232 °C | 1.60e+6 - 2.80e+6 cP<br>@Shear Rate 100 1/s,<br>Temperature 450 °F | Melt Viscosity; ASTM D3835 |
| Melt Flow           | 4.0 - 18 g/10 min<br>@Load 12.5 kg,<br>Temperature 232 °C          | 4.0 - 18 g/10 min<br>@Load 27.6 lb,<br>Temperature 450 °F          | ASTM D1238                 |

| Mechanical Properties     | Metric                            | English                           | Comments   |
|---------------------------|-----------------------------------|-----------------------------------|------------|
| Hardness, Shore D         | 70 - 75                           | 70 - 75                           | ASTM D2240 |
| Tensile Strength at Break | 27.0 - 48.0 MPa                   | 3920 - 6960 psi                   | ASTM D638  |
| Tensile Strength, Yield   | 31.0 - 41.0 MPa                   | 4500 - 5950 psi                   | ASTM D638  |
| Elongation at Break       | 200 - 400 %                       | 200 - 400 %                       | ASTM D638  |
| Elongation at Yield       | 5.0 - 15 %                        | 5.0 - 15 %                        | ASTM D638  |
| Tensile Modulus           | 1.034 - 1.517 GPa                 | 150.0 - 220.0 ksi                 | ASTM D638  |
| Flexural Strength         | 20.0 - 34.0 MPa<br>@Strain 5.00 % | 2900 - 4930 psi<br>@Strain 5.00 % | ASTM D790  |

| Flexural Modulus<br>Mechanical Properties | 1.034 - 1.241 GPa<br>Metric | 150.0 - 180.0 ksi<br>English | ASTM D790<br>Comments |
|-------------------------------------------|-----------------------------|------------------------------|-----------------------|
| Compressive Strength                      | 41.0 - 58.0 MPa             | 5950 - 8410 psi              | ASTM D695             |
| Izod Impact, Notched                      | 1.07 - 4.27 J/cm            | 2.00 - 8.00 ft-lb/in         | ASTM D256             |
| Izod Impact, Unnotched                    | >= NB                       | >= NB                        | ASTM D256             |
| Coefficient of Friction, Dynamic          | 0.19                        | 0.19                         | vs. steel; ASTM D1894 |
| Coefficient of Friction, Static           | 0.26                        | 0.26                         | vs. steel; ASTM D1894 |
| Taber Abrasion, mg/1000 Cycles            | 6.0 - 9.0                   | 6.0 - 9.0                    | 1000 g pad; CS-17     |

| Thermal Properties                          | Metric                                                 | English                                                  | Comments                      |
|---------------------------------------------|--------------------------------------------------------|----------------------------------------------------------|-------------------------------|
| CTE, linear                                 | 126 - 185 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$  | 70.0 - 103 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$ | ASTM D696                     |
| Specific Heat Capacity                      | 1.17 - 1.51 J/g $\cdot^{\circ}\text{C}$                | 0.280 - 0.360 BTU/lb $\cdot^{\circ}\text{F}$             | DSC                           |
| Thermal Conductivity                        | 0.144 - 0.180 W/m-K                                    | 1.00 - 1.25 BTU-in/hr-ft $^2\cdot^{\circ}\text{F}$       | ASTM D433                     |
| Melting Point                               | 155 - 160 $^{\circ}\text{C}$                           | 311 - 320 $^{\circ}\text{F}$                             |                               |
| Deflection Temperature at 0.46 MPa (66 psi) | 60.0 - 75.0 $^{\circ}\text{C}$                         | 140 - 167 $^{\circ}\text{F}$                             | ASTM D648                     |
| Deflection Temperature at 1.8 MPa (264 psi) | 38.0 - 55.0 $^{\circ}\text{C}$                         | 100 - 131 $^{\circ}\text{F}$                             | ASTM D648                     |
| Glass Transition Temp, Tg                   | -40.0 - -38.0 $^{\circ}\text{C}$<br>@Frequency 1.00 Hz | -40.0 - -36.4 $^{\circ}\text{F}$<br>@Frequency 1.00 Hz   | DMA                           |
| Decomposition Temperature                   | 375 $^{\circ}\text{C}$                                 | 707 $^{\circ}\text{F}$                                   | 1% wt loss / in air; TGA      |
|                                             | 410 $^{\circ}\text{C}$                                 | 770 $^{\circ}\text{F}$                                   | 1% wt loss / in nitrogen; TGA |
| Flammability, UL94                          | V-0                                                    | V-0                                                      |                               |
| Oxygen Index                                | 43 %                                                   | 43 %                                                     | ASTM D2868                    |
|                                             | 75 %                                                   | 75 %                                                     | optional products; ASTM D2868 |

| Electrical Properties | Metric                                                  | English                                                 | Comments          |
|-----------------------|---------------------------------------------------------|---------------------------------------------------------|-------------------|
| Volume Resistivity    | 2.00e+14 ohm-cm<br>@Temperature 20.0 $^{\circ}\text{C}$ | 2.00e+14 ohm-cm<br>@Temperature 68.0 $^{\circ}\text{F}$ | 65% RH; ASTM D257 |
| Dielectric Constant   | 3.5<br>@Frequency 1.00e+8 Hz                            | 3.5<br>@Frequency 1.00e+8 Hz                            | ASTM D150         |

| Electrical Properties | Metric            | English           | Comments  |
|-----------------------|-------------------|-------------------|-----------|
|                       | @Frequency 100 Hz | @Frequency 100 Hz | ASTM D150 |
| Dielectric Strength   | 51.2 - 63.0 kV/mm | 1300 - 1600 kV/in | ASTM D149 |
| Dissipation Factor    | 0.010 - 0.22      | 0.010 - 0.22      | ASTM D150 |
|                       | @Frequency 100 Hz | @Frequency 100 Hz |           |

| Processing Properties     | Metric       | English      | Comments       |
|---------------------------|--------------|--------------|----------------|
| Rear Barrel Temperature   | 195 - 220 °C | 383 - 428 °F | Tube Extrusion |
| Middle Barrel Temperature | 210 - 240 °C | 410 - 464 °F | Tube Extrusion |
| Front Barrel Temperature  | 210 - 240 °C | 410 - 464 °F | Tube Extrusion |
| Die Temperature           | 210 - 250 °C | 410 - 482 °F | Tube Extrusion |
| Head Temperature          | 210 - 240 °C | 410 - 464 °F | Tube Extrusion |

## Contact Songhan Plastic Technology Co.,Ltd.

Website : [www.lookpolymers.com](http://www.lookpolymers.com)

Email : [sales@lookpolymers.com](mailto:sales@lookpolymers.com)

Tel : +86 021-51131842

Mobile : +86 13061808058

Skype : lookpolymers

Address : United North Road 215,Fengxian District, Shanghai City,China