

# KYNAR FLEX®

## 2850 WR

Kynar Flex® resins are fluorinated thermoplastic copolymers.

Kynar Flex® 2850 WR resin is a copolymer powder designed for rotomolding and rotolining with processing properties and high chemical resistance equivalent to Kynar Flex® 2850 resin.

| PROPERTIES                                 | VALUE           | UNIT                    | TEST STANDARD |
|--------------------------------------------|-----------------|-------------------------|---------------|
| RHEOLOGICAL PROPERTIES                     |                 |                         |               |
| Melt Volume-Flow Rate                      | 7.5             | cm <sup>3</sup> /10 min | ISO 1133      |
| Temperature                                | 230             | °C                      | -             |
|                                            | 446             | °F                      | -             |
| Load                                       | 3.8             | kg                      | -             |
|                                            | 8.38            | lb                      | -             |
| Melt Flow Rate                             | 8 - 25          | g/10min                 | ASTM D1238    |
| Temperature                                | 230             | °C                      | -             |
| Load                                       | 3.8             | kg                      | -             |
| Melt Viscosity, 230°C, 100 s <sup>-1</sup> | 4 - 8           | kPoise                  | ASTM D3835    |
| MECHANICAL PROPERTIES                      |                 |                         |               |
| Tensile Modulus, 73 °F                     | 1030 - 1520     | MPa                     | ASTM D638     |
|                                            | 150000 - 220000 | psi                     |               |
| Yield Stress                               | 35              | MPa                     | ISO 527-1/-2  |
|                                            | 5080            | psi                     |               |
| Tensile Strength at Yield, 73 °F           | 31 - 41.4       | MPa                     | ASTM D638     |
|                                            | 4500 - 6000     | psi                     |               |
| Yield Strain                               | 10              | %                       | ISO 527-1/-2  |
| Elongation at Yield, 73 °F                 | 5 - 15          | %                       | ASTM D638     |
| Nominal Strain at Break                    | >50             | %                       | ISO 527-1/-2  |
| Tensile Strength at Break, 73 °F           | 27.6 - 48.3     | MPa                     | ASTM D638     |
|                                            | 4000 - 7000     | psi                     |               |
| Elongation at Break, 73 °F                 | 30 - 200        | %                       | ASTM D638     |
| Taber Abrasion, CS 17 1000g:pad            | 6 - 9           | mg/1000 cycles          | ASTM-G195-13A |
| Hardness, Shore D, 73 °F                   | 70 - 75         | -                       | ASTM D2240    |
| Flexural Modulus, 73 °F                    | 1030 - 1240     | MPa                     | ASTM D790     |
|                                            | 150000 - 180000 | psi                     |               |
| Flexural Strength @ 5% Strain, 73 °F       | 20.7 - 34.5     | MPa                     | ASTM D790     |
|                                            | 3000 - 5000     | psi                     |               |

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

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|                                                   |               |                               |                 |
|---------------------------------------------------|---------------|-------------------------------|-----------------|
| Compressive Strength, 73 °F                       | 41.4 - 58.6   | MPa                           | ASTM D695       |
|                                                   | 6000 - 8500   | psi                           |                 |
| Unnotched Impact Strength, 73 °F                  | No Break      | kJ/m                          | ASTM D256       |
| Notched Impact Strength, 73 °F                    | 0.16 - 0.427  | kJ/m                          | ASTM D256       |
|                                                   | 3 - 8         | ftlb/in                       |                 |
| Coefficient of Friction, Static vs. Steel, 73 °F  | 0.25          | -                             | ASTM D1894      |
| Coefficient of Friction, Dynamic vs. Steel, 73 °F | 0.19          | -                             | ASTM D1894      |
| THERMAL PROPERTIES                                |               |                               |                 |
| Melting Temperature, 10°C/min                     | 158           | °C                            | ISO 11357-1/-3  |
| Melting Point                                     | 155 - 160     | °C                            | ASTM D3418      |
| Glass Transition Temperature (Tg)                 | -40.6 - -38.3 | °C                            | ASTM D7028      |
|                                                   | -41 - -37     | °F                            |                 |
| Temperature Rating                                | 140           | °C                            | UL RTI          |
|                                                   | 284           | °F                            |                 |
| Temp. of Deflection Under Load, 1.80 MPa          | 46            | °C                            | ISO 75-1/-2     |
|                                                   | 115           | °F                            |                 |
| Heat Deflection Temperature, 264 Psi, 248 °F/hr   | 37.8 - 55     | °C                            | ASTM D648       |
|                                                   | 100 - 131     | °F                            |                 |
| Heat Deflection Temperature, 66 Psi, 248 °F/hr    | 60 - 75       | °C                            | ASTM D648       |
|                                                   | 140 - 167     | °F                            |                 |
| Coefficient of Thermal Expansion, 73 °F           | 12.6 - 18.5   | 10E-5/<br>°C                  | ASTM D696       |
|                                                   | 7 - 10.3      | 10E-5/<br>°F                  |                 |
| Burning Behav. at Thickness h                     | V-0           | class                         | IEC 60695-11-10 |
| Thickness Tested                                  | 0.8           | mm                            | -               |
|                                                   | 0.0315        | in                            |                 |
| Oxygen Index                                      | 43            | %                             | ISO 4589-1/-2   |
| Limiting Oxygen Index                             | 43            | %                             | ASTM D2863      |
| Thermal Conductivity                              | 0.144 - 0.18  | W/(m<br>K)                    | ASTM D433       |
|                                                   | 1 - 1.25      | BTU in<br>/hr ft <sup>2</sup> |                 |
| Specific Heat                                     | 745 - 958     | J/(kg<br>K)                   | DSC             |
|                                                   | 0.28 - 0.36   | BTU/(l<br>b °F)               |                 |
| Thermal Decomposition TGA, in air                 | 375           | °C                            | 1% wt. loss     |
|                                                   | 707           | °F                            |                 |
| Thermal Decomposition TGA, in nitrogen            | 410           | °C                            | 1% wt. loss     |
|                                                   | 770           | °F                            |                 |
| ELECTRICAL PROPERTIES                             |               |                               |                 |

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|                                        |             |            |               |
|----------------------------------------|-------------|------------|---------------|
| Dielectric Constant, 1 kHz             | 3.5 - 10.2  | -          | ASTM D150     |
| Dissipation Factor, 100 kHz            | 0.01 - 0.22 | -          | ASTM D150     |
| Volume Resistivity                     | 2E12        | Ohm*<br>m  | IEC 62631-3-1 |
| Volume Resistivity, DC 68 °F, 65% R.H. | 2E14        | Ohm*c<br>m | ASTM D257     |
| Dielectric (Electric) Strength, 73°F   | 1.3 - 1.6   | kV/mil     | ASTM D149     |
| OTHER PROPERTIES                       |             |            |               |
| Specific Gravity, 73 °F                | 1.77 - 1.8  | -          | ASTM D792     |
| OPTICAL PROPERTIES                     |             |            |               |
| Refractive Index @ sodium D line       | 1.42        | -          | ASTM D542     |

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

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