

## KYNAR® 740 PVDF natural - Stock Shapes (rods, plates, tubes)

### Chemical Designation

PVDF (Polyvinylidene fluoride)

### Colour

white translucent

### Density

1.78 g/cm<sup>3</sup>

### Main features

- excellent chemical resistance
- inherent flame resistance
- high gamma radiation resistance
- good UV and weather resistance
- good mechanical properties
- low moisture absorption
- good machinability

### Target Industries

- chemical plant engineering
- process engineering
- medical technology
- cleanroom technology

### Mechanical properties

|                                       | condition           | value   | test method | comment  |
|---------------------------------------|---------------------|---------|-------------|--|
| Modulus of elasticity (tensile test)  | @ 73 °F             | 300,000 | psi         | ASTM D 638<br>(1) Data obtained from public source |
| Tensile strength at yield             | @ 73 °F             | 8,000   | psi         | ASTM D 638<br>1)                                   |
| Tensile strength at break             | @ 73 °F             | 8,000   | psi         | ASTM D 638   |
| Elongation at break (tensile test)    | @ 73 °F             | 35      | %           | ASTM D 638   |
| Flexural strength                     | @ 73 °F             | 13,000  | psi         | ASTM D 790   |
| Modulus of elasticity (flexural test) | @ 73 °F             | 400,000 | psi         | ASTM D 790   |
| Compression strength                  | @ 73 °F, 10% strain | 10,500  | psi         | ASTM D 695   |
| Compression strength                  | @ 73 °F, 1% strain  | 1,200   | psi         | ASTM D 695   |
| Compression modulus                   | @ 73 °F             | 160,000 | psi         | ASTM D 695   |
| Impact strength (Izod)                | @ 73 °F             | 1.9     | ft-lbs/in   | ASTM D 256   |
| Rockwell hardness                     | M Scale             | 79      |             | ASTM D 785   |

### Thermal properties

|                          | condition | value                | test method                   | comment           |
|--------------------------|-----------|----------------------|-------------------------------|-------------------|
| Melting temperature      |           | 342                  | °F                            | -<br>1)           |
| Deflection temperature   | @ 264 psi | 221-239              | °F                            | ASTM D 648<br>2)  |
| Deflection temperature   | @ 66 psi  | 257-284              | °F                            | ASTM D 648<br>3)  |
| Service temperature      | Long Term | 300                  | °F                            | -<br>4)           |
| Thermal expansion (CLTE) |           | 7.3*10 <sup>-5</sup> | in/in/°F                      | ASTM D 696<br>5)  |
| Specific heat            |           | 0.28-0.36            | BTU/lb-°F                     | *** new ***<br>6) |
| Thermal conductivity     |           | 1.18-1.32            | BTU-in/hr-ft <sup>2</sup> -°F | ASTM C 177<br>7)  |

### Electrical properties

|                     | condition        | value              | test method | comment          |
|---------------------|------------------|--------------------|-------------|------------------|
| volume resistance   | @ 73 °F, 65% RH  | 2*10 <sup>14</sup> | Ω*cm        | ASTM D 257<br>1) |
| Dielectric strength |                  | 1700               | V/mil       | ASTM D 149<br>2) |
| Dissipation factor  | @ 100 Hz, 73 °F  | 0.01-0.21          |             | ASTM D 150<br>3) |
| Dielectric constant | @ 100 MHz, 73 °F | 4.5                |             | ASTM D 150<br>4) |

### Other properties

|                     | condition       | value | test method | comment  |
|---------------------|-----------------|-------|-------------|--|
| Moisture absorption | @ 24 hrs, 73 °F | 0.02  | %           | ASTM D 570<br>(1) Thickness greater tan 0.1mm Injection molded samples |
| Flammability (UL94) |                 | V0    | -           | 1)   |

→ Resin specification:  
ASTM D3222-05 (Reapproved 2015), I2  
Shapes specification:

ASTM D 6713-01(Reapproved 2009) S-PVDF0110 X0000000

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