



DuPont Delrin AF Blend

PTFE Filled, extruded, Acetal homopolymer

| Physical Properties | Metric | English | Comments |
|--------------------------------|----------|---------------------------|-------------------------------|
| Specific Gravity | 1.5 g/cc | 0.0542 lb/in ³ | ASTM D792 |
| Water Absorption | 0.2 % | 0.2 % | Immersion, 24hr; ASTM D570(2) |
| Water Absorption at Saturation | 1 % | 1 % | Immersion; ASTM D570 (2) |

Mechanical Properties

| | | | |
|----------------------------|---|--|------------------------------|
| Hardness, Rockwell M | 85 | 85 | ASTM D785 |
| Hardness, Rockwell R | 115 | 115 | ASTM D785 |
| Hardness, Shore D | 83 | 83 | ASTM D2240 |
| Tensile Strength, Ultimate | 55.2 MPa | 8000 psi | ASTM D638 |
| Elongation at Break | 15 % | 15 % | ASTM D638 |
| Tensile Modulus | 3 GPa | 435 ksi | ASTM D638 |
| Flexural Modulus | 3.07 GPa | 445 ksi | ASTM D790 |
| Flexural Yield Strength | 82.7 MPa | 12000 psi | ASTM D790 |
| Compressive Strength | 110 MPa | 16000 psi | 10% Def.; ASTM D695 |
| Compressive Modulus | 2.41 GPa | 350 ksi | ASTM D695 |
| Shear Strength | 52.4 MPa | 7600 psi | ASTM D732 |
| Coefficient of Friction | 0.19 | 0.19 | Dry vs. Steel; QTM55007 |
| K (wear) Factor | 121 x 10 ⁻⁸ mm ³ /N-M | 60 x 10 ⁻¹⁰ in ³ -min/ft-lb-hr | QTM 55010 |
| Limiting Pressure Velocity | 0.291 MPa-m/sec | 8300 psi-ft/min | 4:1 safety factor; QTM 55007 |
| Izod Impact, Notched | 0.374 J/cm | 0.7 ft-lb/in | ASTM D256 Type A |

Electrical Properties

| | | | |
|--------------------------------|----------------|----------------|-----------------------|
| Surface Resistivity per Square | Min 1e+013 ohm | Min 1e+013 ohm | EOS/ESD S11.11 |
| Dielectric Constant | 3.1 | 3.1 | 1MHz; ASTM D150 |
| Dielectric Strength | 15.7 kV/mm | 400 V/mil | Short Term; ASTM D149 |
| Dissipation Factor | 0.01 | 0.01 | 1MHz; ASTM D150 |

Thermal Properties

| | | | |
|---|------------|--------------|-------------------------------|
| CTE, linear 68°F | 90 µm/m-°C | 50 µin/in-°F | (-40°F to 300°F); ASTM E831 |
| Melting Point | 175 °C | 347 °F | Crystalline, Peak; ASTM D3418 |
| Maximum Service Temperature, Air | 82.2 °C | 180 °F | Long Term |
| Deflection Temperature at 1.8 MPa (264 psi) | 118 °C | 244 °F | ASTM D648 |
| Flammability, UL94 (Estimated Rating) | HB | HB | 1/8 inch |

Qualitative Processing Properties

| | | |
|-----------------------------------|---------------|---------------------------|
| Compliance - FDA | Not Compliant | |
| Machinability | 1 | 1-10, 1=Easier to Machine |
| Service in Alcohols | Acceptable | |
| Service in Aliphatic Hydrocarbons | Acceptable | |
| Service in Aromatic Hydrocarbons | Acceptable | |
| Service in Chlorinated Solvents | Limited | |
| Service in Ethers | Acceptable | |
| Service in Ketones | Acceptable | |
| Service in Strong Acids | Unacceptable | |
| Service in Strong Alkalies | Unacceptable | |
| Service in Sunlight | Limited | |
| Service in Weak Acids | Limited | |
| Service in Weak Alkalies | Acceptable | |

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