



Teflon® FEP
Teflon® PFA
Tefzel® ETFE
Halar® ECTFE

NORTHWIRE Fluoropolymers

High Reliability. Extreme Temperature Performance.

Northwire fluoropolymers are designed to exceed requirements for applications such as:

- Aerospace control and data
- Military combat vehicles
- Medical equipment
- Wastewater
- Petrochemical/Down-hole
- Oil field exploration
- And more

Performance Characteristics

- Broad operating temperature ranges from -200°C to 260°C
- Resistance to flame, acids, solvents, chemicals, oils and more
- Superior insulation characteristics for miniaturization applications
- Excellent material for cable designs, requiring miniaturization and high-speed data transmission capabilities
- High-impact strength and abrasion resistance

Custom Options

- Northwire fluoropolymers are customizable in color and design
- Standard or custom color options
- Composite constructions combining power, data and control all in one cable
- Special put-ups, footage markers, legends, private labeling and more

Northwire fluoropolymers are available in as little as five days with no minimum-length or -order quantity requirements.

Northwire Fluoropolymers Specifications

| Technical Properties of Northwire Fluoropolymers | | | | | |
|--|-------------|---------------------|-------------------|-------------------|-------------------|
| Property | Test Method | Teflon® FEP | Teflon PFA | Tefzel® ETFE | Halar® ECTFE |
| Physical | | | | | |
| Specific Gravity | ASTM D-792 | 2.14-2.17 | 2.15 | 1.70 | 1.68 |
| Durometer Hardness (Shore "D") | ASTM D-2240 | 59 | 60 | 72 | 72 |
| Tensile Strength psi Min. | ASTM D-412 | 2700-3100 | 4000 | 6000 | 7000 |
| Elongation % Min. | ASTM D-412 | 250-300 | 300 | 150 | 260 |
| Environmental Stress Cracking | - | G | E | G | G |
| Abrasion Resistance | - | F | G | E | F |
| Cut-Through Resistance | - | F | F | E | E |
| Water Resistance | - | E | E | E | G |
| Thermal | | | | | |
| Maximum Operating Temperature | - | 200°C | 260°C | 150°C | 150°C |
| Brittle Temperature, 50% Non-Failure | ASTM D-476 | -80°C | -200°C | -80°C | <-76°C |
| Flame Resistance, LOI | - | 95 | >95 | 30-32 | 52 |
| Electrical | | | | | |
| Dielectric Constant @ 1 MHz | ASTM D-150 | 2.1 | 2.06 | 2.6 | 2.57 |
| Dissipation Factor @ 1 MHz | ASTM D-150 | 0.0006 | 0.0001 | 0.007 | 0.013 |
| Volume Resistivity Ohm-cm | ASTM D-257 | >2x10 ¹⁸ | >10 ¹⁵ | >10 ¹⁶ | >10 ¹⁵ |
| Dry Dielectric V/mil | ASTM D-149 | 1200 | 2000 | 1100-1300 | 500 |
| Wet Dielectric V/mil | ASTM D-149 | 1000 | - | 1000 | - |
| E - Excellent G - Good F - Fair | | | | | |



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