

## Fluorinated Ethylene Propylene (FEP) Coatings



FEP (fluorinated ethylene propylene) is a copolymer of hexafluoropropylene and tetrafluoroethylene. FEP non-stick coatings provide smooth non-porous films. Because the coating is non-porous, FEP is chemically inert and has very low dielectric constant over a wide frequency range. FEP possesses high degree of stress crack resistance, very low coefficient of friction, exceptional dielectric properties, good heat resistance, retention of its properties at 400°F (204°C) with useful properties at -454°F (-270°C).

FEP has high transparency (with good transmittance of Ultraviolet and visible wavelengths.) It has long term weatherability and excellent resistance to ozone, sunlight and weather. FEP offers the lowest refractive index of all thermoplastics with low light reflection (the same as water.)

This coating is typically applied to a thickness of 1-2 mils.

PHYSICAL	
Density (g/cm <sup>3</sup> )	2.15
Water Absorption, 24 hrs (%)	< 0.01
MECHANICAL	
Tensile Strength (psi)	3,400
Tensile Elongation at Break (%)	325
Flexural Strength (psi)	No break
Folding Endurance (cycles)	5-80 x 10 <sup>3</sup>
Flexural Modulus (psi)	85,000
Hardness, Shore D	D56
IZOD Notched Impact (ft-lb/in)	--
THERMAL	
Melting Temp (°F / °C)	500 / 260
Max Operating Temp (°F / °C)	400 / 204
Flammability Rating	V-0
ELECTRICAL	
Dielectric Constant at 1 MHz	2.1
Dissipation Factor at 1 MHz	< 0.0007
Arc Resistance (sec)	< 300
Volume Resistivity (ohm-cm)at 50% RH	> 10 <sup>18</sup>