



# White Opaque Matte ETFE Fluoropolymer

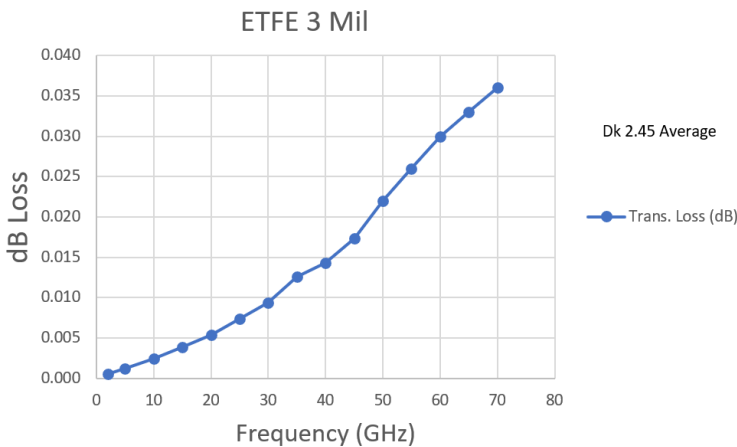
## ETHYLENE TETRAFLUOROETHYLENE FILM FOR USE IN RADOME APPLICATIONS

TCI Manufactures High-Performance ETFE film that can be bonded/laminated to a composite core to protect antennas. The film is formulated to protect high-performance antennas in the most challenging environments. Its superior mechanical properties, low dielectric constant and permanent hydrophobic surface provide excellent RF performance across multiple frequencies. The films are surface-treated to ensure excellent bonding to structural elements. The opaque UV blocking formulation of the material protects the integrity of the film / composite interface.



### TCI ETFE films feature the following attributes:

- Non-soiling / self-cleaning performance.
- Excellent UV resistance and weatherability.
- UV-blocking formulation.
- Environmentally stable from -150°F – 300°F (-101°C – 149°C)
- Low dielectric constant and low loss tangent with microwave frequencies.



			White Opaque Matte ETFE
General Properties	Units	Test Method	
Specific Gravity		ASTM D792	1.88
Area Yield	ft <sup>2</sup> /lb/mil (m <sup>2</sup> /kg/25μm)		102 (21.3)
Surface Roughness (RA)	μm	ISO 1997	2.0 +/- 1
Surface Roughness (RZ)	μm	ISO 1997	9.0 +/- 3
Flammability		UL-94	V-0
Water Absorption	%		<0.03
Mechanical Properties			
Tensile Strength	psi (MPa)	ASTM D882	7,000 (48)
Elongation at Break	%	ASTM D882	300
Tensile Modulus	Psi (MPa)	ASTM D882	140,000 (965)
Initial Tear Strength (2 mil film)	g	ASTM D1004	500
Propagation Tear Strength (2 mil film)	g	ASTM D1922	75
Folding Endurance (MIT)	cycles, ave.	ASTM D2176	>50,000
Thermal Properties			
Continuous Use Temp	°F (°C)	UL-746 B	330 (165)
Melt Point	°F (°C)	ASTM D3418	500 (260)
Coeff. of Lin. Thermal Expansion	in/(in °F)	ASTM D696	4x10 <sup>-5</sup>
Product Offering			
Width	inches (mm)		Up to 60" (1,524)
Thickness	mils (μm)		3 - 10 (75 - 250)
Surface Treatments Available			
Chemical Etching			•
Plasma Treatment			•

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TEXTILES COATED INTERNATIONAL | Manufacturer of High-Performance Fluoropolymer Films, Composites, and Laminates

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