

## ECTFE Film

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Norton® ECTFE fluoropolymer film is manufactured from ethylene-chlorotrifluoroethylene (Halar®)\* resin by Saint Gobain Advanced Films and Fabrics. This material offers the outstanding performance of fluoropolymer film over a temperature range from cryogenic -200°C (-328°F) to 165°C (330°F).

ECTFE film provides the highest abrasion resistance of any fluoropolymer film available. This film has superior chemical resistance and very high tensile strength and flexural modulus.

ECTFE film offers low surface energy, making it an excellent choice for release applications. The low specific gravity of ECTFE provides more square feet than FEP for composite fabrication.

The combination of heat stability, electrical characteristics and barrier properties provides insulator performance especially suited for the electrical and electronics industry. ECTFE film offers the highest dielectric strength of all fluoropolymer films.

ECTFE film has outstanding resistance to weathering and high energy radiation. This material is suitable for electrical tapes, cable insulation, printed circuits capacitors, chlorine cells, flat cable constructions and solar collectors.

ECTFE offers a UL V-0 rating for flammability. This provides performance suited for aircraft cabin interiors and fuel cell membranes.

### Features/Benefits:

- Superior release properties
- High dielectric strength
- Performance from -200°C (-328°F) to 165°C (330°F)
- Exceptional chemical, radiation, weather, and abrasion resistance

**Andrew Roberts Inc.** is a leading converter and fabricator of high performance coated fabrics tapes & belts. Our converting capabilities include:

**Die Cutting - Slitting - Sheeting - Heat Sealing - Sewing**

## ECTFE Film

*(continued)*

### Norton® ECTFE Fluoropolymer Film — Typical Physical Properties\*

Property	ASTM Method	Metric Value	Metric Units	English Value	English Units
<b>General</b>					
Specific Gravity	D-792	1.68		1.68	
Yield (1 mil film)		22	m <sup>2</sup> /kg	115	ft <sup>2</sup> /lb
Flammability	UL-94	V-0		V-0	
Water Absorption, 24 hrs		<0.01	%	<0.01	%
<b>Mechanical</b>					
Tensile Strength	D-882	55	MPa	8000	psi
Elongation, Ultimate	D-882	250	%	250	%
Tensile Modulus	D-882	1375	MPa	200000	psi
Initial Tear Strength, 1 mil	D-1004	4.4	N	450	gm/mil
Propagating Tear Strength, 1 mil	D-1922	11.6	N	>1200	gm/mil
Fold Endurance (M.I.T.)	D-2176	>250000	cycles	>250000	cycles
<b>Electrical</b>					
Dielectric Strength, 1 mil	D-149	216	kV/mm	5500	V/mil
Dielectric Constant, 1 kHz	D-150	2.55-2.63		2.55-2.63	
Dissipation Factor, 1 kHz	D-150	<0.005		<0.005	
<b>Thermal</b>					
Melt Point	D-3418	240	°C	465	°F
Continuous Service Temperature		150-170	°C	300-340	°F
Heat Sealing Temperature		245-260	°C	475-500	°F

\*Represent typical performance properties and should not be used for specification purposes.

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