ETFE Film

ETFE Fluoropolymer melt extruded film

ETFE film is produced from ethylene-tetra-fluoro-ethylene（ETFE）resin by a melt extrusion casting process.

It offers all the excellent properties of fluoropolymers, such as hot welding, hot forming, and easy composite of other materials.And it serves as an ideal material of architecture,Solar energy and composite release materials.

ETFE Film Characteristics

- Continuous service temperature range from -80°C to 165°C
- Maximum service temperature up to 230°C
- Excellent resistance of high and low temperature
- Excellent non-stick properties and low coefficient of surface friction
- Chemically inert to most chemicals and solvents
- Free of plasticizers, processing aids or additives
- Excellent weather resistance
- Excellent electrical performance over a wide range of frequencies and temperatures
- Excellent light transmission and clarity (natural light transmission>92%)

ETFE Film Specifications

- Thickness range from 12μm to 500μm
- Standard width up to 1600mm
- Any syncopated widths available upon request
- Adhesive surface: plasma treatment and chemical etching treatment

ETFE Film Applications

- Composites release film
- Chemical process and equipment
- Hot sealing packaging/welding/hot melt adhesive
- Architecture/Green house
- Electrical / Electronics
- Photovoltaic / Solar Industry
- Protection and interior
- Medical / Pharmaceutical Industry
- Semiconductor

ETFE Film Classification

ETFE HP (High Performance Grade)

- Manufactured from 100% high-purity grade ETFE resin
- Often used in high dielectric properties or optical transparency applications
- A unique combination of transparency, high light transmission and long-term aging resistance
- A unique combination of high light transmission, clarity, and durability make it an invaluable material for applications such as semiconductors and integrated circuits
- Made into clear,one-side matte or double-side matte styles
- Suitable for decoration and anti-graffiti materials

ETFE MR (Mold Release Grade)

- Good release film used in high temperature composites process and keeps excellent non-stick properties.
- High elongation and excellent fit softness to complex contoured molds
- Standard colors include red,light blue matte and white, custom colors available upon request
- Available in a variety of perforated patterns
- Surface area weight lower than 20% of FEP film.

ETFE AG (Architecture Grade)

- Excellent properties of UV resistance, chemical inertness and non-stick properties
- Excellent mechanical properties applied in agriculture and buildings

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			ETFE HP	ETFE AG	ETFE MR
Basic Performance	**Unit**	**Test method**			
Specific Gravity		ASTM D792	1.74		
Flame Retardant Property		UL-94	V-0		
Water Absorption	%		<0.03		
Mechanical Properties					
Tensile Strength	MPa	ASTM D882	48		
Elongation Of Break	%	ASTM D882	300		
Tensile Modulus	MPa	ASTM D882	965		
Initial Tear Strength (50μm)	N	ASTM D1004	4.2		
Tensile Tear Strength (50μm)	N	ASTM D1922	2.9		
Thermal Properties					
Continuous Use Temp	°C	UL-746 B	165		
Melt Point	°C	ASTM D3418	260		
Optical Properties					
Solar Transmittance	%	ASTM E424	>90		n/a
Product Size					
Width	mm		25-1600		
Thickness	μm		12.7 - 500		
Standard Colors			Clear, Matte	Clear,matte,white, blue,red,printed, IR cut	Clear,matte, red,blue
Available Surface Treatments					
Chemical Etching			Chemical Treatment		
Plasma Treatment			Plasma Treatment		

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

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