

Fluon™ ETFE FILM, a high-performance fluoropolymer film, has become an essential material for release films in semiconductor back-end process*1. Over the past 50 years, we have expanded its use across a diverse range of applications.

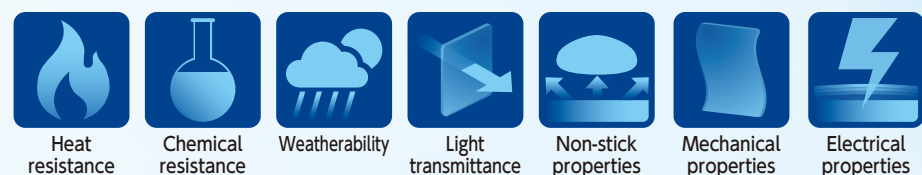
Thanks to its unique performance characteristics, Fluon™ ETFE FILM is used across a wide range of industries, including agriculture, electronics, solar energy, and architectural membrane structures. As a highly versatile material, it continues to evolve to meet emerging needs and unlock new possibilities through the following key benefits.

*1: The largest share of the global market for release films used in molding, part of back-end process of semiconductor manufacturing (by unit sales; our survey)

Fluon™ ETFE FILM, high-performance fluoropolymer film manufactured from Fluon™ ETFE resin

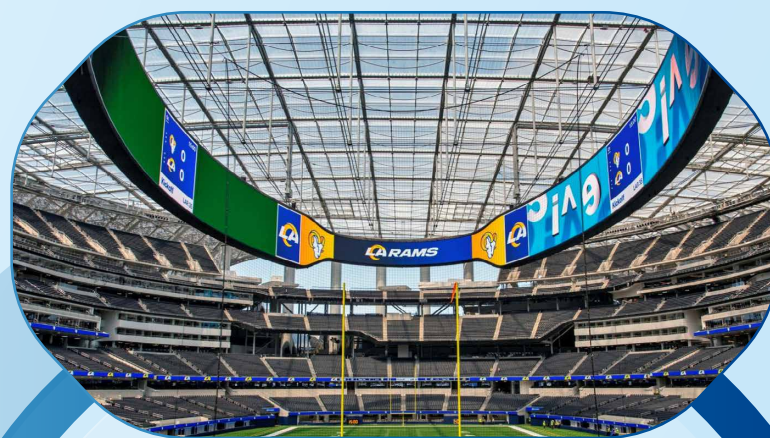
Fluon™ ETFE FILM is a high-performance fluoropolymer film manufactured by AGC, a global leader in ETFE resin production*2. Produced from AGC's own ETFE resin, it is trusted worldwide for its exceptional quality, unique technology, and seven key performance advantages.

*2: The world's number one in ETFE resin (fluoropolymer) (by unit sales; our survey)



Membrane Structures

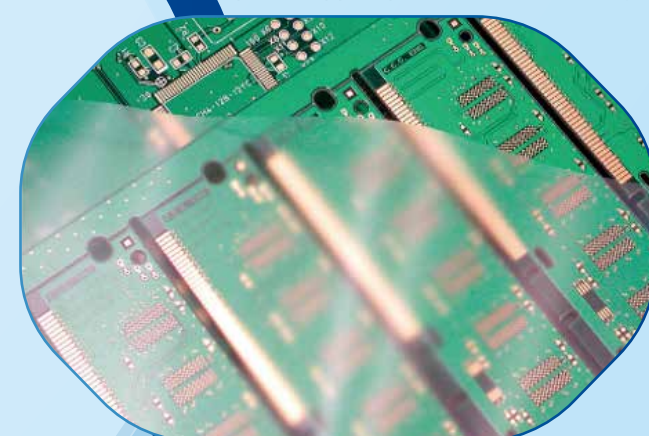
Lightweight, flexible and transparent membrane for stadiums and commercial facilities, creating bright, open architectural spaces.



SoFi Stadium (Los Angeles, USA)
(provided by FabriTec Structures LLC)

Electronics

Trusted in semiconductor, LED and PCB production for its reliable heat resistance, release performance and flexibility that support precision manufacturing.



Applications



Various Applications

Expanding into a diverse range of fields such as solar panels, noise barriers, surface protection for interiors, medical materials, and electrical insulation.



Agriculture

High light transmittance and long-term weatherability help create a bright horticultural environment and reduce the cost of film replacement.

1972
Fluon™ ETFE fluoropolymer was developed.



1985
F-CLEAN™ film for greenhouses was launched.
Full use of solar energy

1976
Mass production of Fluon™ ETFE FILM began.



1997
Fluon™ ETFE FILM was adopted for photovoltaic protection.
Material to support the evolution of batteries



2004
Fluon™ ETFE FILM was applied to the Allianz Arena (Munich, Germany).

2026
To the next stage



interview

Taking on the challenge of creating new functionality

Tetsuya Hasegawa
Director, Machining Process Office,
Process Development Division, Research & Development
General Division, Chemicals Company,
AGC Inc.

AGC developed a melt-processable ETFE resin and began commercial sales in 1972. Building on this innovation, AGC developed Fluon™ ETFE FILM and established full-scale production in 1976. For AGC, which was expanding its fluoropolymer and elastomer materials business at the time, this marked a significant step forward into downstream, value-added applications.

Compared to polymers such as polyethylene, ETFE resin has a high melting point and requires specialized processing equipment for film production. At our Chiba Plant, we operate a fully integrated manufacturing system, using AGC-produced raw materials and proprietary processing technology to produce high-quality ETFE films in thicknesses ranging from 12 μm to 500 μm.

In addition to offering a broad portfolio of standard grades, we work closely with customers to develop solutions tailored to their specific requirements. From resin design and film production to downstream processing and fabrication, we can optimize material performance and usability at every stage. This ability

to deliver customized solutions is one of our greatest strengths.

By incorporating functional additives into ETFE resin and applying precision surface treatments, we can optimize film performance for specific applications. Our commitment to continuous innovation allows us to meet the evolving needs of advanced industries, including the semiconductor sector, where technology and performance requirements continue to advance at an exceptional pace.

Looking ahead, we will continue to expand product development into downstream applications, including the integration of ETFE with other materials. By combining ETFE's unique performance characteristics with the functionality of complementary materials, we believe we can create entirely new value for our customers. We are also actively exploring the adoption of new manufacturing technologies to further enhance the value that ETFE films can deliver across a wide range of applications.



2020
Fluon™ ETFE FILM was adopted for Terminal 2 at Tokyo International Airport (Haneda Airport).

interview

Providing materials with features that meet specific needs

Takashi Nagai
General Manager, Fluoropolymers Division,
Integrated Chemicals General Division, Chemicals Company,
AGC Inc.

This year marks the 50th anniversary of mass production of high-performance fluoropolymer film. Overseas, it is marketed under the Fluon™ ETFE FILM brand. One of AGC's key strengths is its fully integrated production system, spanning from ETFE resin manufacturing to film production, built on its leadership position in the global ETFE market.

For 50 years, ETFE film has helped meet a wide range of societal and industrial needs by leveraging its unique combination of flexibility, durability, weather resistance, and chemical resistance. As a lightweight material that enables bright, naturally illuminated spaces, it has been widely adopted for large-scale membrane structures such as stadiums and other landmark architectural projects. It is also used as a protective surface layer for photovoltaic solar panels.

In agricultural applications, its exceptional transparency has made it a preferred material for greenhouse coverings under the F-CLEAN™ brand. In some installations, F-CLEAN™ has remained in service for more than 30 years. By significantly reducing the need for replacement, it helps extend facility lifespan while lowering maintenance and operating costs.

The electronics industry has become one of the



most important application areas for Fluon™ ETFE FILM. As the global market leader in ETFE release films for semiconductor back-end manufacturing processes, AGC supports the production of advanced electronic devices worldwide. The material's outstanding release performance, thermal stability, and electrical insulation properties, combined with its additive-free and plasticizer-free formulation, make it an ideal solution for high-purity manufacturing environments.

Sustainability is a key priority for AGC. In selected applications, we have established closed-loop recycling systems that enable used ETFE film to be recycled back into raw material, supporting resource conservation and reducing environmental impact.

As we look to the future, AGC will strengthen its leadership position in existing markets while driving growth in new applications, including next-generation perovskite solar cells. By expanding the possibilities of ETFE film, we aim to create greater value and contribute to a more sustainable and innovative society.