DUPONT®
The miracles of science™

Long-lasting Protection for Interior and Exterior Architectural Applications

DuPont™ Tedlar® PVF Film - Over 50 Years of Proven Performance

DuPont Innovative Materials Provide New Solutions for Architecture Surface Protection

DuPont™ Tedlar® polyvinyl fluoride (PVF) film has been used in numerous commercial applications for over 50 years.

Tedlar® PVF film provides cost effective long lasting aesthetic protection that is easy to clean and safe for architectural applications. Even in the harshest environment, DuPont™ Tedlar® film demonstrates long-term durability. When laminated onto different substrate materials, DuPont™ Tedlar® film prevents the facade of buildings from fading, cracking or corroding thus extending the lifetime of building appearances. DuPont™ Tedlar® film can also help to reduce maintenance costs because it is easy to clean and stain resistant. In addition to great stain resistance, the chemical stability of Tedlar® allows the strongest cleaning agents to be used without damaging the film.

+50 YEARS

DuPont™ Tedlar® polyvinyl fluoride (PVF) film has been used in numerous commercial applications for over 50 years.

Long-term Protection

- Excellent weatherability
- Corrosion and chemical resistant
- Durable
- Keeps buildings looking new

Aesthetics

- Maintains color for years
- Available in a variety of gloss levels
- Smooth and fine texture
- Excellent formability

Easy to Clean

- Dirt shedding and stain resistant
- Easy to clean due to chemical inertness
- Cost reduction due to less maintenance

Safe for Important Environments

- Non-flammable
- Does not promote bacterial growth
- Non-reactive and inert

Long-term Protection

With excellent weatherability, corrosion, chemical resistance, and long lasting color, DuPont™ Tedlar® film keeps architecture appearance looking new for years.

Case 1:Virtually no color change observed

Outer walls of an R&D building for a steel plate factory in Japan (28 years after installation)

Source: Nippon Steel & Sumikin Metal Products Co., Ltd. NSMP

Case 2:No rusting and color changes observed in joints

Outer walls of Okinawa Thermal Power Station (Coastal, 27 years after installation)

Source: Nippon Steel & Sumikin Metal Products Co., Ltd. NSMP

Aesthetics

Low color differences

For the same batch of DuPont™ Tedlar® film, the color difference is $\Delta E<0.3$; for different batches it is $\Delta E<0.5$

Consistent surface finish, available in a variety of gloss levels

Prevents uneven thickness caused by factors in processing such as spraying, roller painting, etc. The finished surface is consistent.

Low gloss finish prevents glare

With a matte finish on the surface the visual effect is the same from all angles therefore preventing glare.

Color difference $\Delta E=3.2\sim4.2$ No bubbling or stripping.

Outer walls of Okinawa Thermal Power Station (27 years after installation)

Easy to Clean

DuPont™ Tedlar® film is stain resistant and able to withstand all types of dirt, such as bird droppings, watermarks, paint, cooking fumes, grease, dust, and acid rain, etc.

DuPont™ Tedlar® is chemically inert. A wide variety of cleansers can be used to remove stains such as pitch, tar, asphalt, grease, paint and sealant, etc.

With its smooth surface, the dirt on DuPont™ Tedlar® film can easily be washed away by rainwater; therefore, maintenance costs can be reduced.

DuPont™ Tedlar® film is fluoronated and stain resistant. It rarely needs cleaning or maintenance.

Solvent wiping test on black paint

Acrylic paint PVDF coating DuPont™ Tedlar® film

Safe for Important Environments

Excellent Fire Resistance

DuPont™ Tedlar® metal laminate complies with GB8624-2066 A2-S2 standard and has been certified as a nonflammable material. In Japan, DuPont™ Tedlar® metal laminates has also been certified as a nonflammable material (NM0710, NM1553). Tedlar® coated laminates have passed Federal Aviation Administration (FAA) heat and smoke standards and have been used in aircrafts for decades.

High-Level of Cleanliness

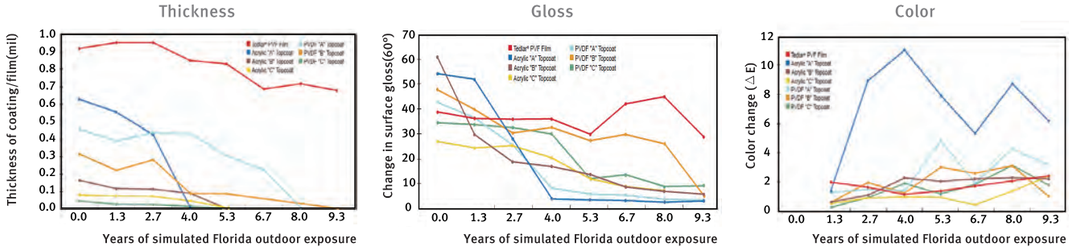
DuPont™ Tedlar® film does not support the growth of bacteria. It is especially suitable for places that require a high-level of cleanliness, such as hospitals, hotels and restaurants.

Applied in hospitals

Excellent Performance is Proven by Various Lab Tests

Excellent weatherability and resistance to aging

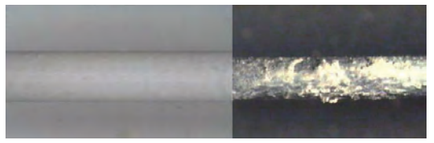
- Accelerated aging and UV exposure test



As test results show, compared with the surface protection coatings such as acrylic and PVDF, DuPont™ Tedlar® film can better resist UV and acid rain, prevent dust buildup, as well as keep its thickness, color and gloss for a longer time, thus maintaining the building's original appearance for longer.

Excellent resistance to corrosion

- Salt spray test with 1T bending for 2,000 hours



DuPont® Tedlar® film PVDF coating

First the DuPont™ Tedlar® laminated steel sheet and the 70% PVDF steel sheet were bent by 180° 1T, and then the salt spray test was carried out for 2,000 hours. The results show that PVDF coating is corroded severely, while DuPont™ Tedlar® film undergoes no changes.

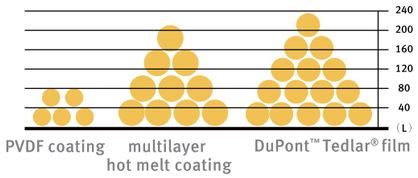
- Salt spray test for 1,000 hours with 5% saline solution

Acrylic paint PVDF coating DuPont® Tedlar® film

The Eriksen test was carried out on the DuPont™ Tedlar® laminated steel sheet, the 70% PVDF steel sheet, and the acrylic steel sheet, followed-but a salt spray test for 1,000 hours. The results show that the latter two steel sheets have very clear corrosion marks, while the steel sheet with DuPont™ Tedlar® film stays intact as before, indicating the DuPont™ Tedlar® film has excellent corrosion resistance.

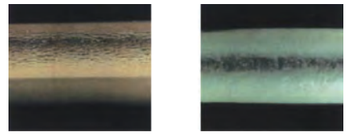
Strong resistance against abrasion and bending

- Abrasion resistance (falling sand abrasion test)



Falling sand abrasion tests (ASTM D968) were conducted using 25-micron PVDF coating,100-micron multilayer hot melt coating, and DuPont™ Tedlar® film. The results show the abrasion resistance of 38-micron DuPont™ Tedlar® film is identical to that of 100-micron multilayer hot melt coating; or 25-micron PVDF thermoplastic composite coating film.

- 1T bending test (amplification by 43 times)

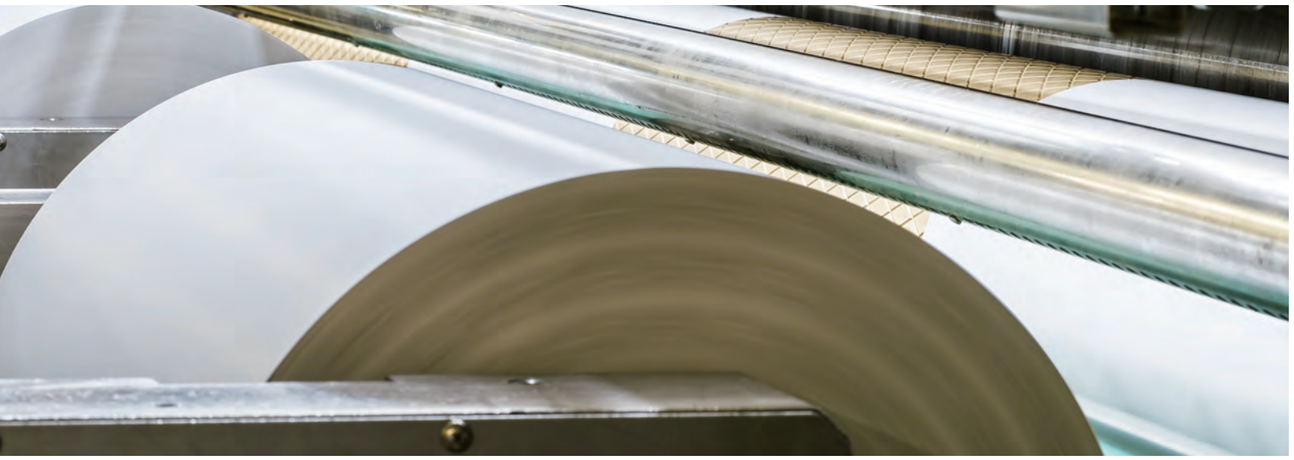


70% PVDF coating DuPont™ Tedlar® film

180°1T bending test shows that the PVDF coated steel sheet cracked, while the DuPont™ Tedlar® laminated steel plate shows no cracks.

—DuPont™ Tedlar® film elongation up to 100%
—Outstanding processability

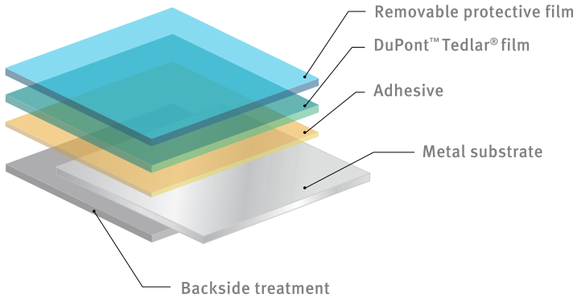
DuPont™ Tedlar® Film in Architecture



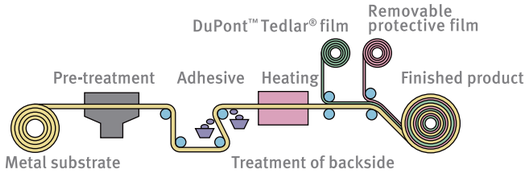
Metal Lamination

DuPont™ Tedlar® film can be laminated onto various metal substrates including galvanized steel, stainless steel, aluminum and aluminum-plastic composition. The metal laminations can be used in a number of industrial applications including exterior cladding, roofing, interior decoration of buildings, and industrial plants.

Structure of Metal Lamination



DuPont™ Tedlar® Film in Lamination Process

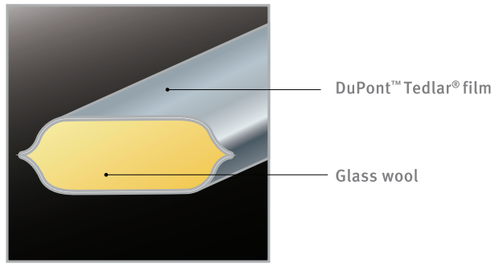


With the recommended adhesive (e.g.DuPont Adhesive 68070), DuPont™ Tedlar® film can be laminated to various substrates

Sound Barrier

Sound barrier bags made from DuPont™ Tedlar® film cover noise absorption materials (e.g. glass wool) to withstand rain and outdoor moisture. DuPont™ Tedlar® film can be applied to outdoor sound barriers to dissipate highway noise and in stadiums for better acoustics.

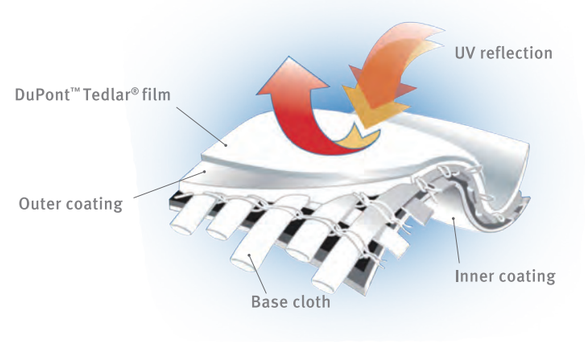
Structure of DuPont™ Tedlar® film-based Sound Barrier



Membrane Fabric Materials

DuPont™ Tedlar® film can be laminated with various coated fabrics to form membrane fabric structures at much lower construction costs than steel. With excellent weatherability and dirt-shedding properties, membrane fabric is a cost-effective material for buildings like stadiums, convention centers, commercial facilities and transportation hubs.

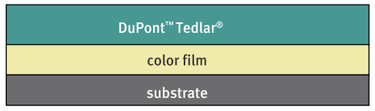
Composition of Membrane Fabric Materials



Protection for Outdoor Advertisement and Signage

DuPont™ Tedlar® transparent film has excellent UV resistance making it a cost-effective choice as a protective film for outdoor ads, logos, and signage. It is easy to clean, graffiti resistant and helps maintain the signs' original appearance for years.

Composition of Signage in DuPont™ Tedlar® film



DuPont™ Tedlar® Film Application Cases

Metal Laminates Applications

Commercial Buildings

1. Office Building (Japan)
2. Hongqiao Airport Tunnel Command Center (China)
3. Office Building (Japan)
4. DuPont China R&D Center (China)


1.


2.


3.


4.


1.


2.


3.


4.

Public Buildings

1. Samsan World Gymnasium in Incheon (Korea)
2. Interior decoration of Tokyo Metro Subway (Japan)
3. Exterior decoration of highway (Japan)
4. Akita Shinkansen Railway Station(Japan)

Industrial Buildings

1. Okinawa Power Station (Japan)
2. Huaneng Beijing Thermal Power Plant (China)
3. Claire County Power Plant (Ireland)


1.

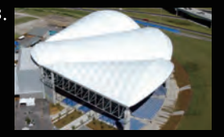

2.


3.

Membrane Fabric Structure Applications


1.


2.


3.

1. Atlanta Woodruff Arts Center in Georgia (US)
2. Tennis Court of Chaoyang Park in Beijing (China)
3. Ford's Theater (US)

Sound Barrier Applications


1.


2.


3.

1. Sound-proof Decoration of Second Keihan Highway (Japan)
2. Acoustic screen for expressways (Japan)
3. Shenzhen Swimming Pool (China)

Source: NSMP Nippon Steel & Sumikin Metal Products Co., Ltd.
Seaman Corporation

For more information about how DuPont can
help you grow your brand and your business,
visit www.tedlar.com
Toll-free hotline: 1-888-387-8337

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