

## Tedlar® - With Tedlar® your walls can survive almost anything!



With a Tedlar® coating, the change you make to your walls will survive staining from acid to spray paint.

### What is it?

Tedlar® is a polyvinyl fluoride (PVF) film which is specifically designed for application to substrates while maintaining superb cleanability, durability, colour stability, weather resistance, and chemical resistance on the surfaces it is applied to. Tedlar® as a surface protection film has been used in applications ranging from: Automotive parts, bus and rail interiors, fleet graphics to aircraft passenger areas and is now available on wallcoverings. Tedlar® used in combination with wallcoverings will ensure the surface survives almost anything.

### What protection does it provide?

The material offers exceptional stain resistance, providing a protective barrier against almost any staining agent and also most solvents including alcohols, ketones (acetone, MEK etc) and even strong acids and alkalis, ensuring the staining agents can be wiped away leaving an undamaged, clean and as 'new' wallcovering surface. The increased resistance to scratching and solvents will ensure a highly durable wallcovering that can be cleaned and maintained over a long period of time.

### What about graffiti?

Due to the inherent chemical resistance of Tedlar®, stains such as nicotine, permanent marker and spray paint graffiti can be readily removed by simply using the appropriate solvating cleaning agent.

### How is it applied?

The material is permanently bonded to the surface of the vinyl wallcovering in the final stage of the manufacturing process. As the Tedlar PVF film is laminated to the vinyl wallcovering, the film will not peel, separate, blister or fade. Nor will it abrade away as many of the top coated products do in high traffic usage under heavy cleaning.

NOTE: We believe this information is the best currently available on the subject. It is offered as a possible helpful suggestion in experimentation you may care to undertake along these lines. It is subject to revision as additional knowledge and experience are gained. Du Pont makes no guarantee of results and assumes no obligation or liability whatsoever in connection with this information. This publication is not license to operate under or intended to suggest infringement of any existing patents.

### Where should it be used?

Tedlar® film does not itself contain any active bactericide or biocide, it does not support the growth of mould, mildew or bacteria, therefore providing extra protection against contamination. The extra stain resistance of Tedlar® coated products makes them ideal for use in restaurants, canteens and kitchens, hospitals and healthcare environments, and high traffic areas such as corridors and stairwells. It will maintain an outstanding finish even after years of aggressive cleaning and sterilization with antiseptic cleaners.

### What does the lab say?

The stain resistance and cleanability characteristics of Tedlar® film have been tested by Du Pont in many real life conditions, particularly those where the staining agent has been permitted to “set” on the wallcoverings for 24hrs or more. Staining agents most likely to be encountered in high traffic areas of hospitals, schools, office buildings, hotels and other densely populated structures will not affect the Tedlar finish. More importantly the stains can be easily removed with an appropriate cleaning agent.

#### Results of Stain Tests on Vinyl based Wallcoverings

| Staining Agent   | Tedlar® laminated Vinyl |   |
|--|-------------------------|---|
|  | Cleaning Agent          | Result  |
| Alkali –concentrated   | 1                       | n/c   |
| Mustard – mild yellow  | 2-MEK                   | n/c   |
| Coffee – concentrated  | 1                       | n/c   |
| Hydrochloric Acid – 20%  | 0                       | n/c   |
| Spray Paint – Sears Black  | 1                       | n/c   |
| Blaisdell felt pen -#1100 black  | 2-MEK                   | n/c   |
| Mark-A-Lot Carter broadpoint pen   | 2-MEK                   | n/c   |
| Xerox toner - #5400  | 1                       | n/c   |
| Silver Nitrate-N/10 reagent  | 2-acetone               | n/c   |
| Gentian Violet – 1% aqueous  | 2-acetone               | n/c   |
| Iodine – 45% tincture  | 2-MEK                   | n/c   |
| Mercurochrome - 2%   | 2-acetone               | n/c   |
| Nicotine - concentrated  | 1                       | n/c   |
| <b>Key</b><br>0 = dry cloth<br>1 = Lestoil household detergent [manufactured by Standard Home Products inc. Holyoke, MA<br>2 = Solvent, as noted |                         | A = change in gloss or colour<br>B = blistering<br>C = softening<br>D = special event, ie; shadow<br>n/c = no apparent change in surface after cleaning |

Reference: Du Pont Tedlar Bulletin TD-36

Seven day stain tests were also conducted with many of these staining agents that showed even more outstanding performance by Tedlar® versus other protective materials.

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## What are the technical specifications?

**Bond Strength.** No peel after a 24hr soak in 50° C water.

**Light Stability.** No appreciable change after 200 hours exposure per US federal standard No. 19b

**Stain resistance.** No staining that cannot be removed by standard procedures when tested in accordance with ASTM D130b

**Chemical resistance.** Surface unaffected by common acids, bases or solvents.

**Fire and Smoke.** Tedlar® film has low smoke ratings and does not readily burn or support combustion. It is one of the safest materials designed for interiors. Tests at the University of San Francisco and Ohio State have been performed that verify the superior film performance versus all competitive products and industry standards.

**FDA and USDA Acceptance.** Unpigmented types of Tedlar® film may be used as components of food-contact coatings in compliance with FDA regulation 21 CFR 175.270. USDA requires that FDA-compliant materials be used in contact with foods prepared under federal inspections by USDA.

**Mould, Mildew, and Bacteria.** Laboratory tests have shown that bacteria do not degrade Tedlar® film, nor does the film provide nutrients to assist bacterial growth. Tedlar® film does not contain any additive to kill mould, mildew or bacteria. The Tedlar® surface does not help the mould to grow, but will not kill any mould that lands on the surface.

## How are stains removed?

The procedures for removing stains from Tedlar® protected vinyl based wallcoverings can be divided into three categories depending upon the staining agent.

### 1. Easy [Cloth only, Wet or Dry]

Tedlar® is inherently easier to clean than other protective materials. Thus many staining agents can simply be wiped from the surface with either a wet or dry cloth. This process is suitable for clear liquid stains, such as those found in hospital areas ie; alcohols, mild acids, etc... These can be wiped off and forgotten.

### 2. Mild [Soaps and household detergents]

Some staining agents, notably products such as lipstick, or ballpoint pen ink, require the use of warm full-strength solutions of standard household detergents such as 'Lestoil' all purpose cleaner. These stains should be removed with a soft cloth and detergent solution, then given a final rinse of clear water to effect maximum stain removal.

### 3. Moderate [Solvents]

Many staining agents, especially those with heavy oil or grease bases, will require the use of a solvent for removal. No common solvent will affect the Tedlar® finish on wallcoverings. To remove asphalt, tar, road oil, grease, fresh paint, or caulking compounds from wallcoverings protected with Tedlar® use a good grade of mineral spirits, kerosene, naphtha, turpentine, or commercial automotive or road oil removing agent. Follow the procedure with a detergent rinse and a clear water rinse. Commercial fabric cleaning fluids may also be used to remove stains from agents such as chewing gum or marking pen ink. Or for the most stubborn stains solvents such as acetone, toluene, or methyl ethyl ketone (MEK) may be used.

**NOTE:** in all cases cleaners should be applied generously using a soft cloth with very light pressure to avoid polishing the stained area.

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### What are some of the other applications?

Tedlar® is used in a number of different applications beyond wallcoverings:

**Automotive trucks and trailers:** Tedlar® is used as a capping film for high performance thermoformed plastic parts eg; automotive trim, bumpers, mirrors & other moving parts.

**Mass Transit.** Tedlar® is used on bus and rail interiors to provide outstanding resistance to abrasion, graffiti and stains. Tedlar® permits the use of solvents, cleaners and disinfectants that would otherwise harm the unprotected substrate.

**Fleet Graphics.** Tedlar® can also be used to provide significant protection for fleet graphics as an overlamine, or reverse printed with many water solvent based or UV cured inks. In this situation Tedlar® shields graphics from UV radiation and delays fading of bright colours. Replacement decals of Tedlar film match the original set even after many years on the road.

**Aircraft.** Tedlar® gives airlines maximum flexibility in creating passenger areas that are attractive, easy to clean and scuff resistant.