



DUPONT TEDLAR™ WALLCOVERINGS



AGENDA:

- TEDLAR® overview
- TEDLAR™ Wallcovering
- Performance of TEDLAR®
- Advantages versus competitive
- Series Overview
 - Essentials
 - Passport
 - Earth



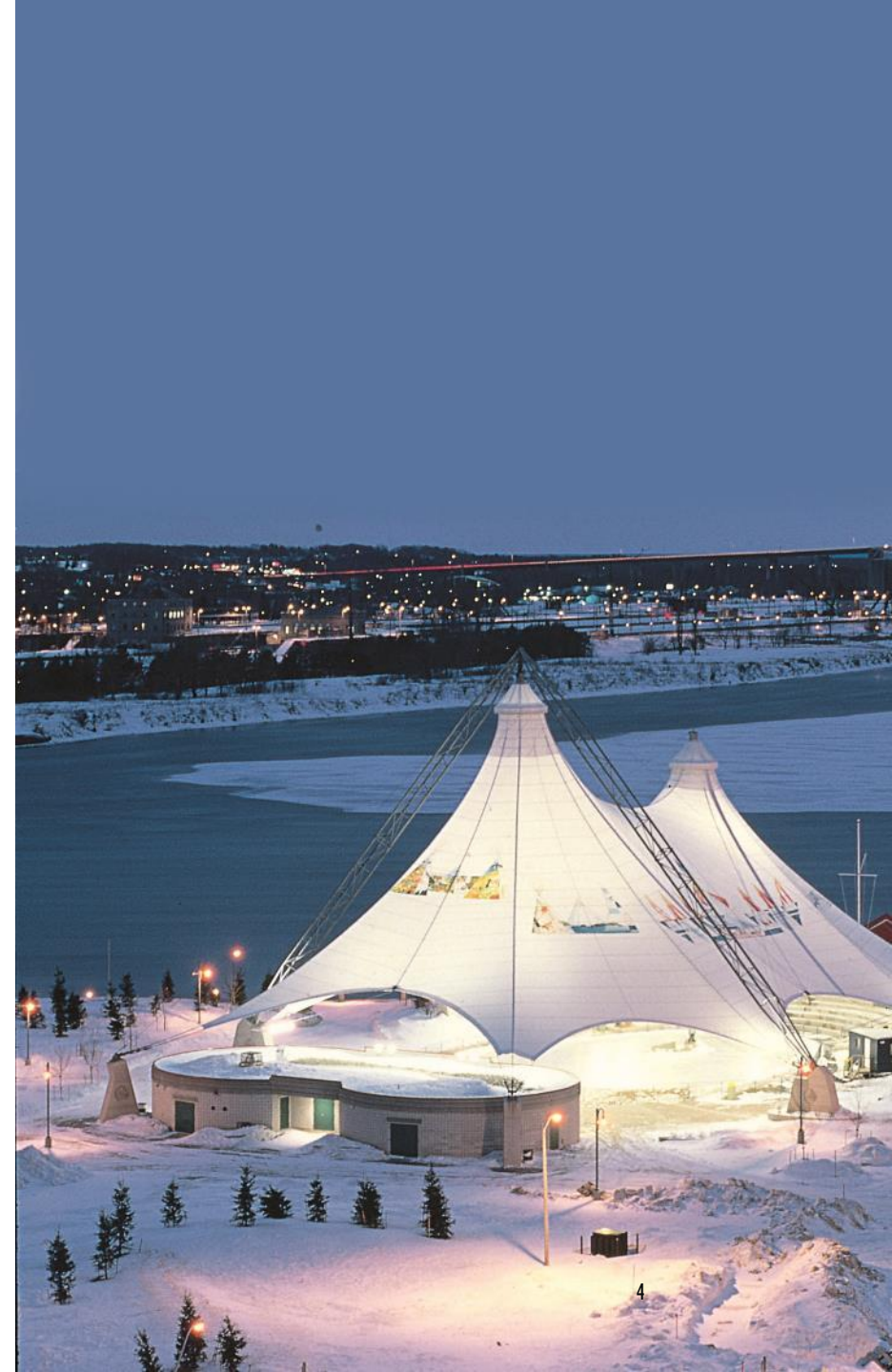
WHAT IS TEDLAR®?

- TEDLAR® is a highly versatile polyvinyl fluoride film (PVF)
- It provides a long-lasting finish to a wide variety of surfaces exposed to harsh environments
- Its inert, non-stick properties make it an excellent make it an excellent protective film for multiple applications and industries including wallcoverings
- In 1961, DuPont registered the TEDLAR® brand name in the US and construction started on its first production facility
- More than fifty years later, TEDLAR® film is recognized as the high-performance standard with proven durability in harsh operating environments



WHY TEDLAR®?

- Chemical /solvent resistant
- Stain / graffiti resistant
- Highly conformable
- Accepts tight bend radii
- UV & weather stability
- UV screen/barrier
- Mold & mildew resistant
- Range of surface gloss
- Low toxicity & volatiles
- Non-stick (no silicone)
- Ink & print receptive
- Heat sealable
- Low gas/vapor permeability



TEDLAR® IS USED ALL AROUND YOU



TEDLAR® offers attractive, easy-to-clean, scuff-resistant surface protection to aircraft interiors.

TEDLAR® is easily laminated to a wide range of architectural substrates to provide protection against extreme weather, fading, cracking and corroding.



TEDLAR® is used as a back sheet material give solar panels the ability to resist weathering, moisture and UV rays.



SO WHAT CAN TEDLAR® DO FOR YOU?



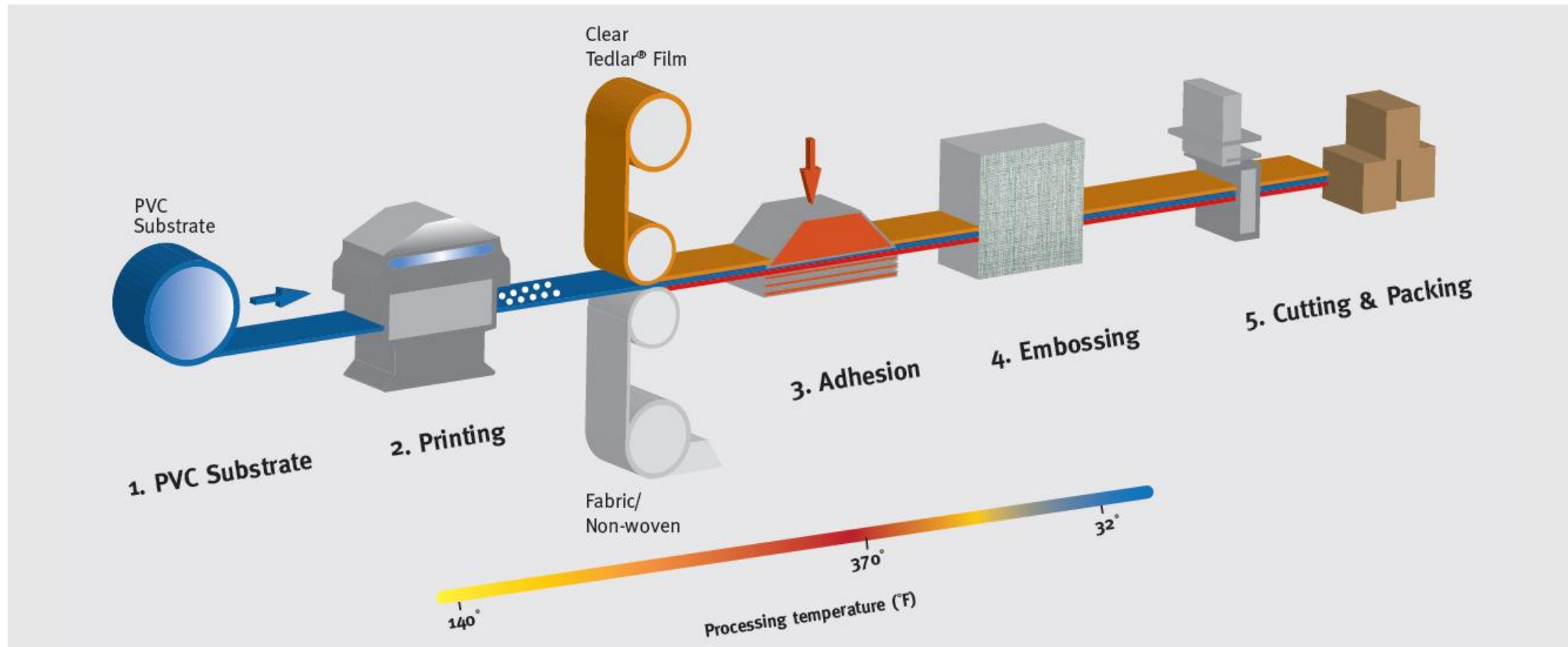
NOT YOUR TYPICAL WALLCOVERING

- Type II Vinyl with Type III durability
- Exceptional stain resistance
- Easy to clean, able to scrub
- Great abrasion resistance
- Holds-up to cleaning agents including bleach
- Long term durability
- Resists fading
- Mold, mildew, and bacteria resistant

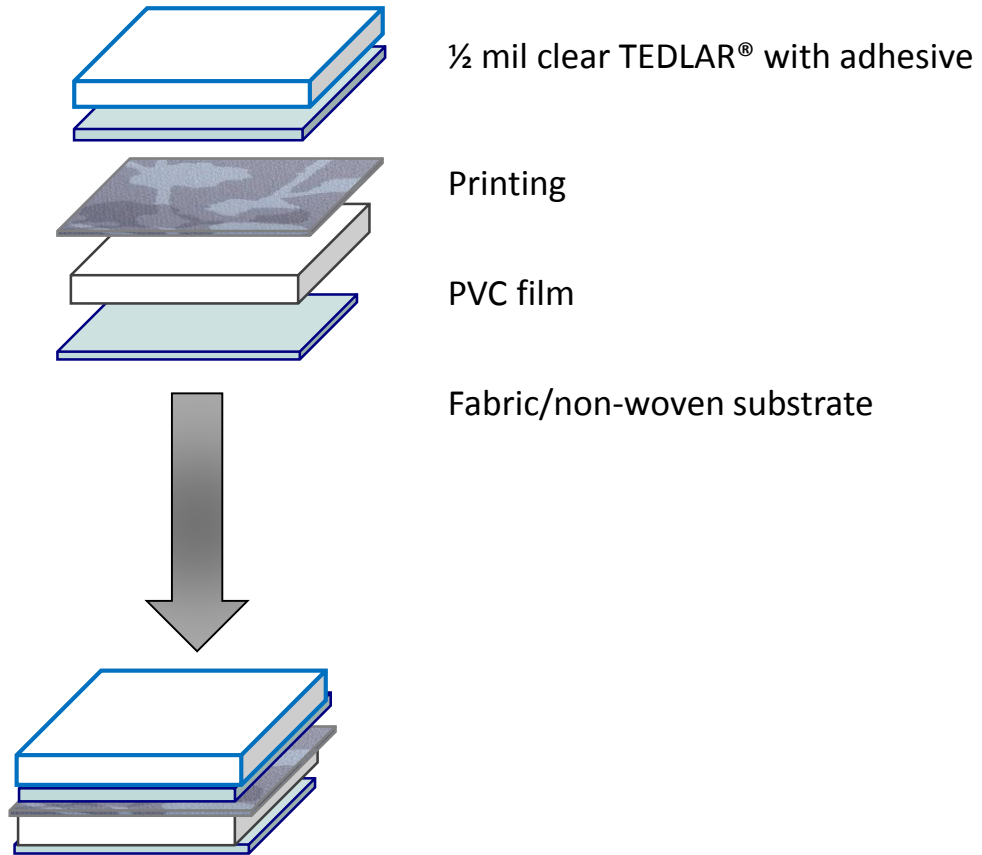


THE MAGIC IS IN THE MANUFACTURING

TEDLAR® film becomes a part of the wallcovering after being adhered at a high temperature; this means no peeling, or reapplying of the film, ever.



PRODUCT STRUCTURE



CASE STUDY: MEDICAL OFFICE

For the Omega Medical Center, the premier resource for occupational health and on-the-job Workers' Compensation injury care in Delaware and the mid-Atlantic region, a choice made more than 30 years ago is still delivering value: the decision to use Fidelity wallcoverings protected with DuPont™ TEDLAR® film in all high-use areas across its 14,500 square foot premises. While the painted sections of this state-of-the-art medical facility have had to be repainted multiple times over the past three decades, the walls protected by TEDLAR® are as durable, easy to clean and attractive as they were when the Center first opened, back in 1985.



Vinyl wallcovering protected with DuPont™ Tedlar® film, produced by Fidelity Wallcovering, Inc., is used in all high-traffic areas at Omega Medical Center

WALLCOVERING CLASSIFICATIONS

ASTM F793/F793M – 15

TABLE 1 Classification Criteria

Property	Section Reference	Category I Decorative Only	Category II Decorative with Medium Serviceability	Category III Decorative with High Serviceability	Category IV Type I Commercial Serviceability	Category V Type II Commercial Serviceability	Category VI Type III Commercial Serviceability
Minimum colorfastness	7.3		23 h	46 h	200 h	200 h	200 h
Minimum washability	7.4		100 cycles	100 cycles	100 cycles	100 cycles	100 cycles
Minimum scrubability	7.7			50 cycles	200 cycles (220 grit)	300 cycles (220 grit)	500 cycles (220 grit)
Minimum abrasion resistance	7.8				200 cycles (220 grit) 40 lb [18.1 kg] 30 lb [13.6 kg]	300 cycles (220 grit) 50 lb [22.7 kg] 55 lb [24.9 kg]	1000 cycles (220 grit) 100 lb [45.4 kg] 95 lb [43.1 kg]
Minimum breaking strength MD (machine direction) CMD (cross machine direction)	7.9						
Minimum crocking resistance	7.6		good	good	good	good	good
Minimum stain resistance	7.5		Reagents 1 to 9	Reagents 1 to 9	Reagents 1 to 9	Reagents 1 to 12	Reagents 1 to 12
Minimum tear resistance ^A	7.10				192 gr	800 gr	1600 gr
Maximum blocking resistance	7.11				2	2	2
Minimum coating adhesion	7.12				2 lb/in. [36 kg/m]	3 lb/in. [54 kg/m]	3 lb/in. [54 kg/m]
Minimum cold cracking resistance	7.13				no change	no change	no change
Minimum heat aging resistance	7.14				pass	pass	pass
Maximum flame spread index (Class A)	5.3.2		25	25	25	25	25
Maximum flame spread index (Class B)	5.3.2		75	75	75	75	75
Maximum flame spread index (Class C)	5.3.2		200	200	200	200	200
Maximum smoke developed index (Class A, B, or C)	5.3.2		450	450	450	450	450
Other Flammability	5.3.4 or 5.3.5		No flashover and heat release and smoke release as required by the codes in accordance with NFPA 286 (any wall covering) or NFPA 265 (textile and expanded vinyl wall coverings)				
Maximum shrinkage MD (machine direction) CMD (cross machine direction)	7.19				2 1	2 1	2 1.5

^A The "gr" is an abbreviation for gram force, consistent with pounds force as lbf.

Difference in classification lay in the cleansability and durability of the products.

Key Attributes

Type I	<ul style="list-style-type: none"> Heavy consumer and light commercial use
Type II	<ul style="list-style-type: none"> Exposure to wear is greater than normal
Type III	<ul style="list-style-type: none"> Manufactured for use in high traffic areas (TEDLAR® durability)

TYPE III SURFACE PROTECTION IN A TYPE II WEIGHT

TEDLAR™ Wallcoverings offer exceptional stain and abrasion resistance. They provide a protective barrier against most staining agents and cleaning solvents, including: bleach, alcohols, ketones (acetone, MEK) and even strong acids and alkalis. This barrier ensures staining agents can be easily cleaned, leaving an undamaged, good-as-new appearance that can be maintained over a long period of time. TEDLAR™ Wallcoverings Type II vinyl wallcovering passes the CCC-W-408D scrubability and abrasion test for Type III wallcovering.



COMMERCIAL TESTING RESULTS

TEDLAR™ Wallcoverings: Type III surface protection in a Type II weight.

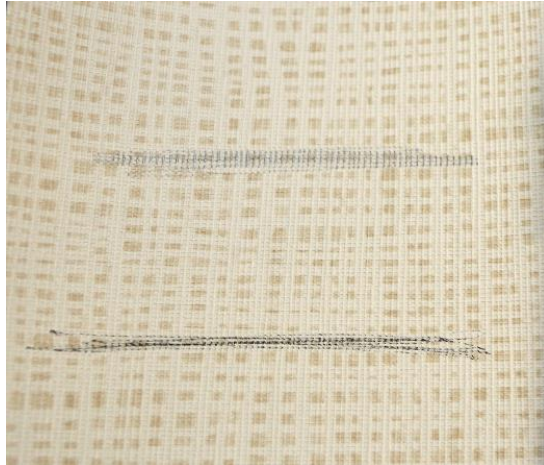
Property	Category V Type II Commercial Serviceability	Tedlar™ Wallcoverings	Category VI Type III Commercial Serviceability
Minimum colorfastness	200 h	200h	200 h
Minimum washability	100 cycles	100 cycles	100 cycles
Minimum scrubbability	300 cycles	500 cycles	500 cycles
Minimum abrasion resistance (220 grit)	300 cycles	1000 cycles	1000 cycles
Minimum breaking strength: MD (machine direction)	50 lb [22.7 kg]	106 lb	100 lb [45.4 kg]
Minimum breaking strength: CMD (cross machine direction)	55 lb [24.9 kg]	129 lb	95 lb [43.1 kg]
Minimum tear resistance Elmendorf Tear Scale (MD/CMD)	25/25	76.2/>100	50/50
Maximum blocking resistance	< 2	1	< 2
Minimum coating adhesion kg/m]	3 lb/in. [54 kg/m]	Could Not Be Separated	3 lb/in. [54 kg/m]

TEDLAR™ Wallcoverings offer exceptional scrubbability and abrasion resistance.



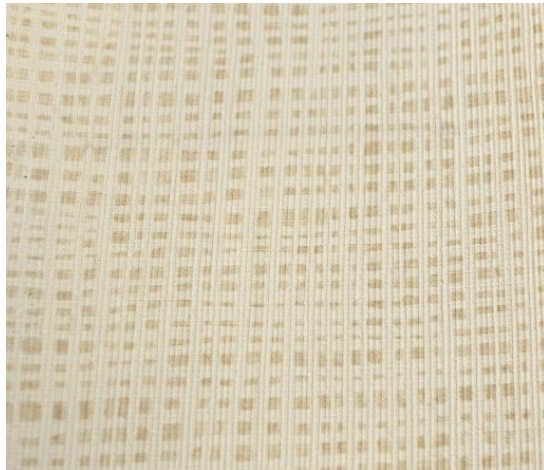
PENCIL AND PEN STAIN TESTING

TEDLAR™ Wallcovering



Pencil

Pen



Pencil

Pen

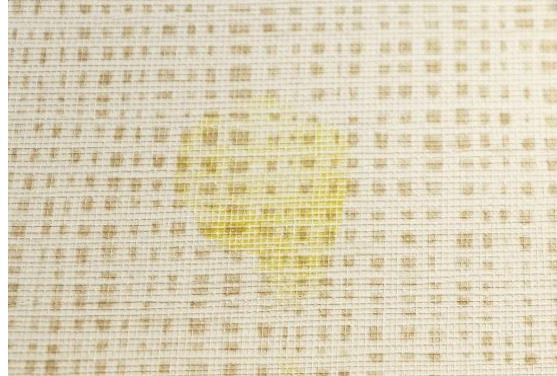
Standard Type II Wallcovering



Pencil and pen were applied to both wallcoverings at the same time. The wallcoverings were then cleaned using bleach and light scrubbing. The TEDLAR™ wallcovering came completely clean while the pencil remained on the standard wallcovering.

MUSTARD TEST

TEDLAR™ Wallcovering



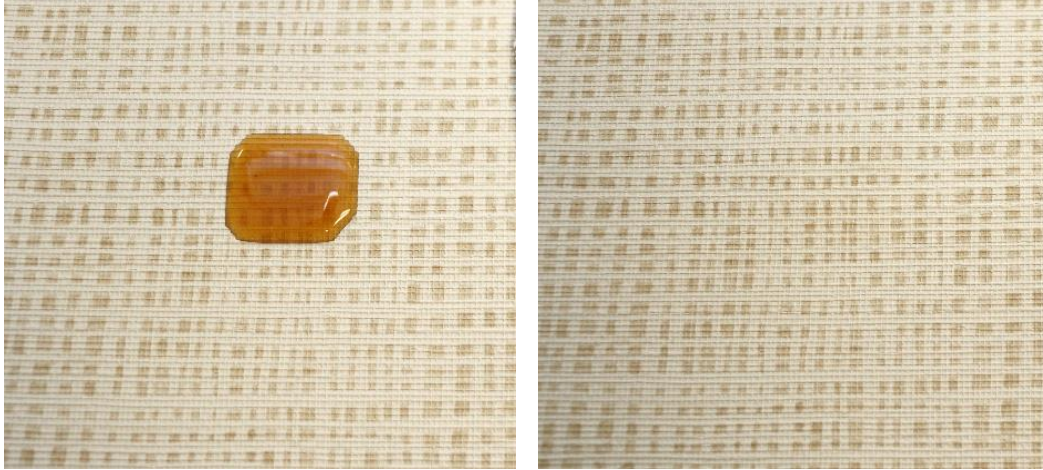
Standard Type II Wallcovering



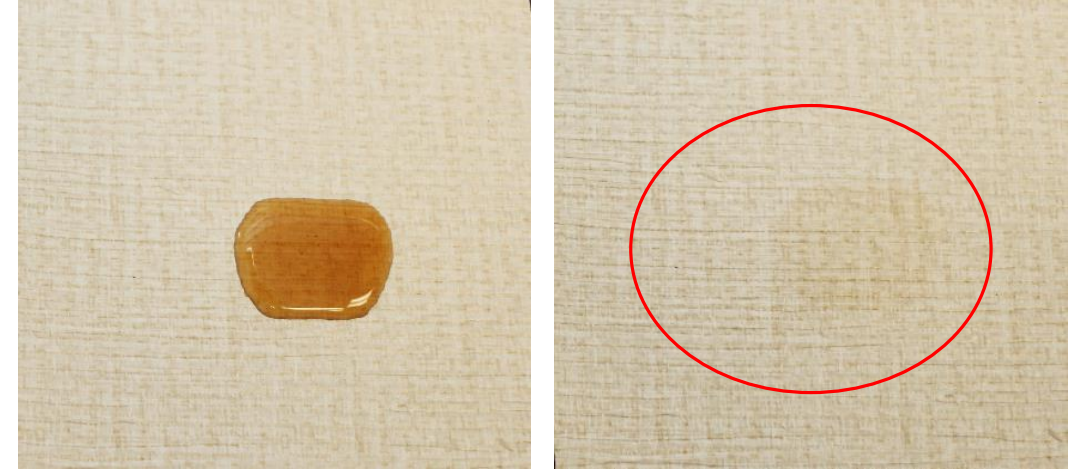
Yellow mustard was applied to both wallcoverings and allowed to sit for ~4 hours. A dry cloth was then used to wipe the surface. The standard wallcovering was cleaned with a wet cloth and then bleach but did not come clean. While the TEDLAR™ Wallcovering only needed to be cleaned with a wet cloth.

TEA TEST

TEDLAR™ Wallcovering



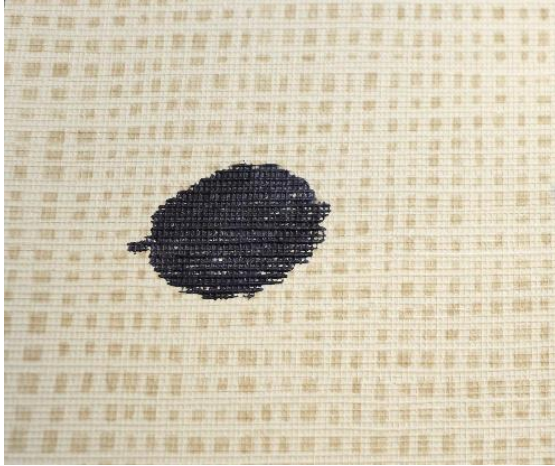
Standard Type II Wallcovering



Hot Tea was applied equally using a pipette to the wallcoverings. The tea was allowed to sit for ~4 hours before being wiped from the wallcoverings. The TEDLAR™ Wallcovering wiped clean with the dry cloth. The standard wallcovering could not be cleaned with a dry or wet cloth, only bleach worked to clean the stain.

SHARPIE TEST

TEDLAR™ Wallcovering



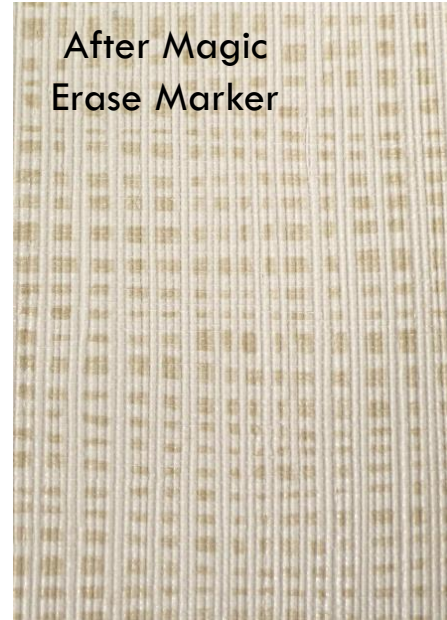
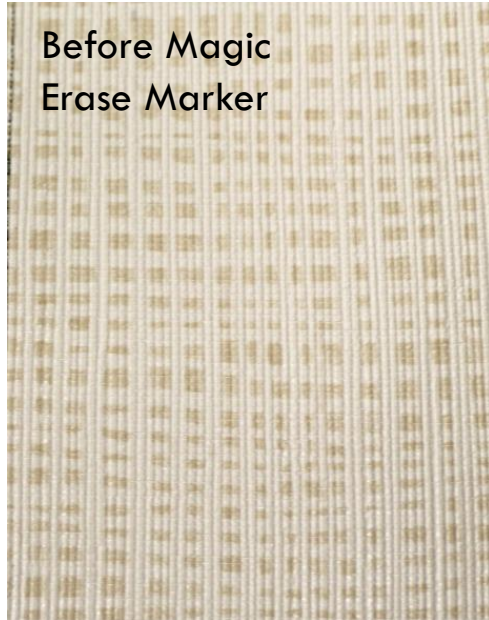
Standard Type II Wallcovering



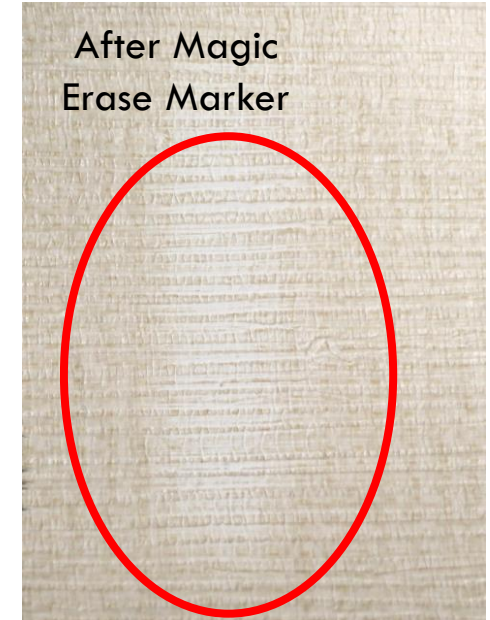
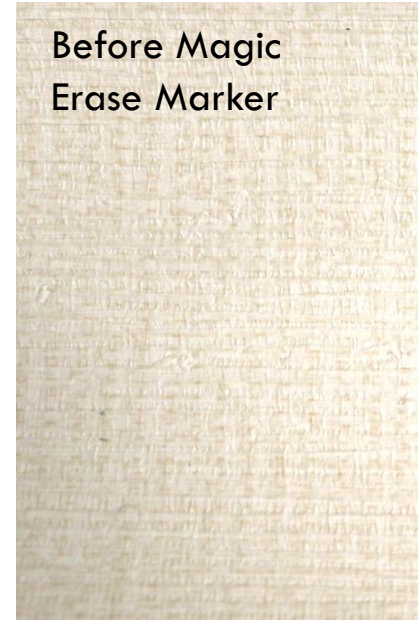
Sharpie Marker was applied to the TEDLAR™ Wallcovering and standard wallcovering. The marker left for ~4 hours before cleaning. Both wallcoverings were cleaned using bleach and a light scrubbing. The Standard wallcovering did not come clean and started to lose it's color unlike the TEDLAR™ Wallcovering which came completely clean without harm to the surface.

MAGIC ERASE MARKER TEST

TEDLAR™ Wallcovering



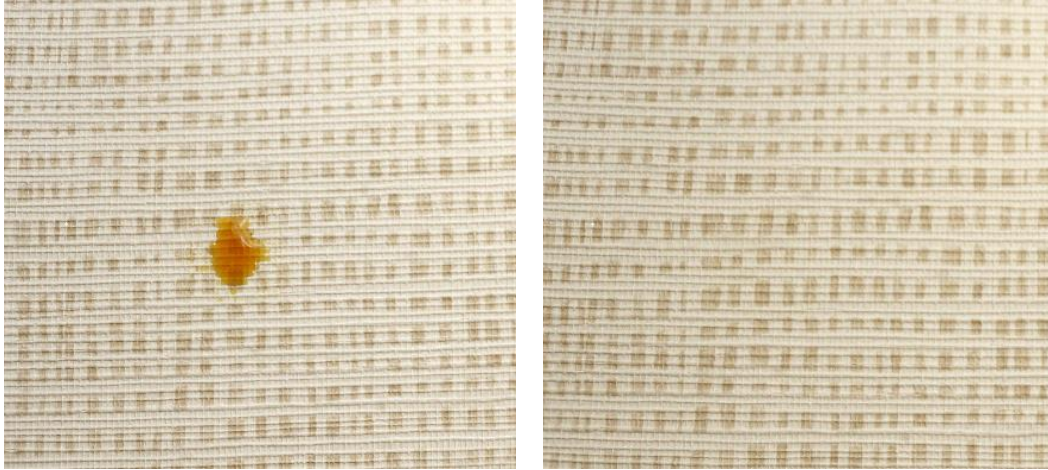
Standard Type II Wallcovering



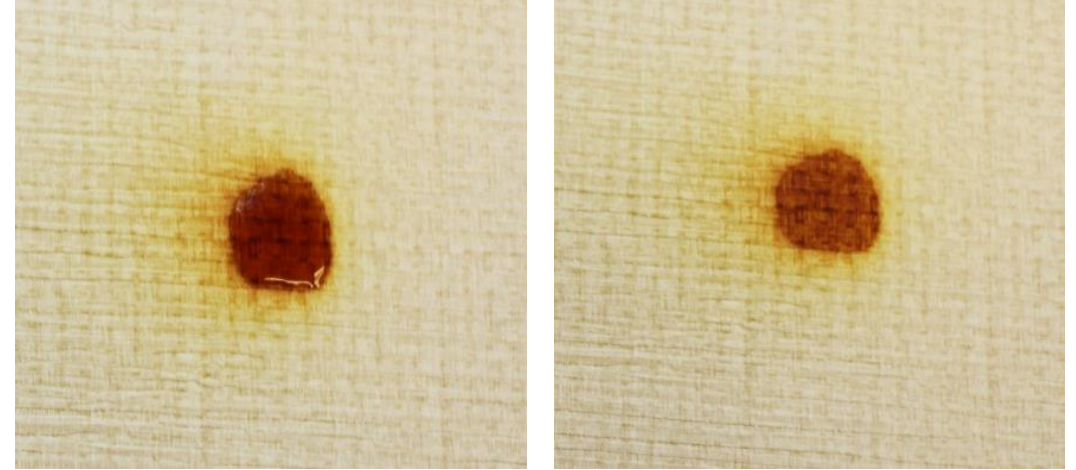
This test was completed by wetting a Magic Erase Marker with plain tap water than scrubbing the surface of the wallcovering. The Magic Eraser was chosen as it is a popular cleaning method for removal for scuff marks. The TEDLAR™ Wallcovering held up with no burnish while the pigment from the standard wallcovering was actually removed.

IODINE TEST

TEDLAR™ Wallcovering



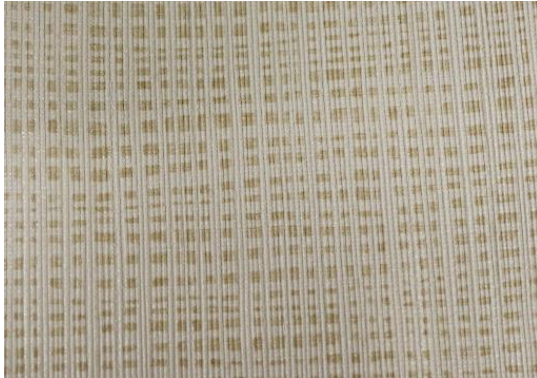
Standard Type II Wallcovering



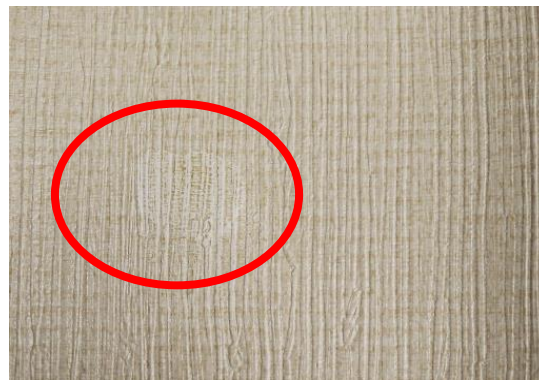
Iodine was applied in equal amounts to both wallcoverings and allowed to rest for 4 hours. During that time the iodine seeped into the surface of the Standard wallcovering. The iodine on the TEDLAR™ Wallcovering stayed on the surface. A dry cloth was used to wipe the TEDLAR™ Wallcovering clean while not even bleach could clean the standard wallcovering.

ACETONE TEST

TEDLAR™ Wallcovering



Standard Type II Wallcovering



Acetone was applied to both wallcoverings in equal amounts and let to rest for ~4 hours. The acetone evaporated from the TEDLAR™ Wallcovering while remaining on the standard. A dry cloth was then used to wipe the surfaces clean. The coloring from the standard wallcovering was removed in the area where the acetone sat. The TEDLAR™ Wallcovering remained unharmed.

STAINING AGENTS AND REQUIRED CLEANING METHODS

All products were applied to TEDLAR™ Wallcovering and allowed to set for 24 hours. Utilizing the following methods, all products were successfully removed from the TEDLAR™ wallcoverings.

Dry Cloth Cleaning	Wet Cloth Cleaning	Detergent	Solvent
Acid Solutions*	Coffee	Ketchup	Ball Point Pen
Acetone	Grape Juice	Black Crayons	Spray Paint
Butanone	Mustard Sauce	Brown Shoe Polish	
Ethylalcohol	Red Wine	Lipstick	
Gasoline	Tea Stains	Whire Board Marker	
Glycol	Worcestershire sauce	Oily Pen	
Toluene	Chocolate Syrup	Asphalt	
	Brake Fluid	Mercurochrome	
	Iodine		
	Sodium Hydroxide		



FIRE AND SMOKE



TEDLAR™ Wallcoverings have low flame spread and smoke development ratings, **exceeding** the ASTM E84 Class A rating.

NFPA 101 Classifications for ASTM E84		
	Flame Spread Index	Smoke Developed Index
Class A/I	0-25	450
Class B/II	26-75	450
Class C/III	76-200	450
Unclassifiable	>200	

MOLD AND BACTERIA RESISTANCE



The surface of TEDLAR™ Wallcoverings does not provide nutrients to enable mold or bacteria growth. TEDLAR™ Wallcoverings are certified by MicroStar Labs, Chicago, IL, to pass ASTM G21 and JIS Z 2801. Wallcoverings described as mildew-resistant shall be protected to resist fungi (mildew) growth on the decorative surface to achieve a rating of 0 or 1 when tested in accordance with Practice G21.

ASTM G21: Standard Practice for Determining Resistance of Synthetic Polymeric Materials to Fungi

Legend for Growth Rating

Observed Growth	Rating
None	0
Traces of Growth (less than 10%)	1
Light Growth (10% to 30%)	2
Medium Growth (30% to 60%)	3
Heavy Growth (60% to complete coverage)	4

TEDLAR™ WALLCOVERINGS IS THE PERFECT MATCH OF STYLE AND PERFORMANCE FOR A VARIETY OF APPLICATIONS

Hospitality



Corporate



Restaurants



Multi-Family



Healthcare



TEDLAR™ WALLCOVERINGS COMPARISON

	Paint	Typical Type II Vinyl	TEDLAR™ Wallcoverings	Tile/Stone	Painted Wall Panels
Cleansability	+	+++	++++	++	++
Durability	+	++	+++	+++	++++
Chemical Resistance	-	-	+++	++++	+
Mold and Mildew	+	+	++++	+	++
Flame Resistance	-	++	++	++++	+++
Installment	Easy	Medium	Medium	Difficult	Medium
Repair /Replacement	Easy	Medium	Medium	Difficult	Medium
Cost	\$	\$	\$	\$\$\$	\$\$\$

TEDLAR™ Wallcoverings offer **excellent cleansability, durability, and chemical resistance** with ability to be replaced easily when needed all while being **cost effective versus tile and stone**.

TEDLAR™ WALLCOVERING COLLECTIONS:



Essentials

- Essentials is a collection of neutral colors and simplistic patterns that can be used in hotels rooms, hospital patient rooms, and other calming areas.

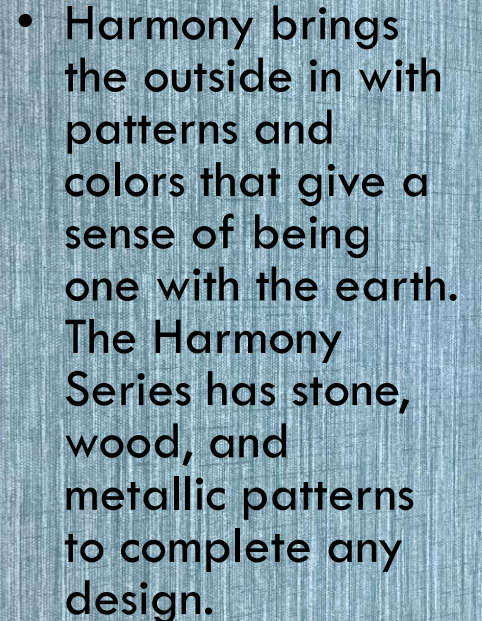


Passport

- The passport collections pairs style with durability bringing in colors and designs that will stand the test of time and look fabulous on any wall.



Harmony

- 
- COMING SPRING 2019**
- Harmony brings the outside in with patterns and colors that give a sense of being one with the earth. The Harmony Series has stone, wood, and metallic patterns to complete any design.

ESSENTIALS

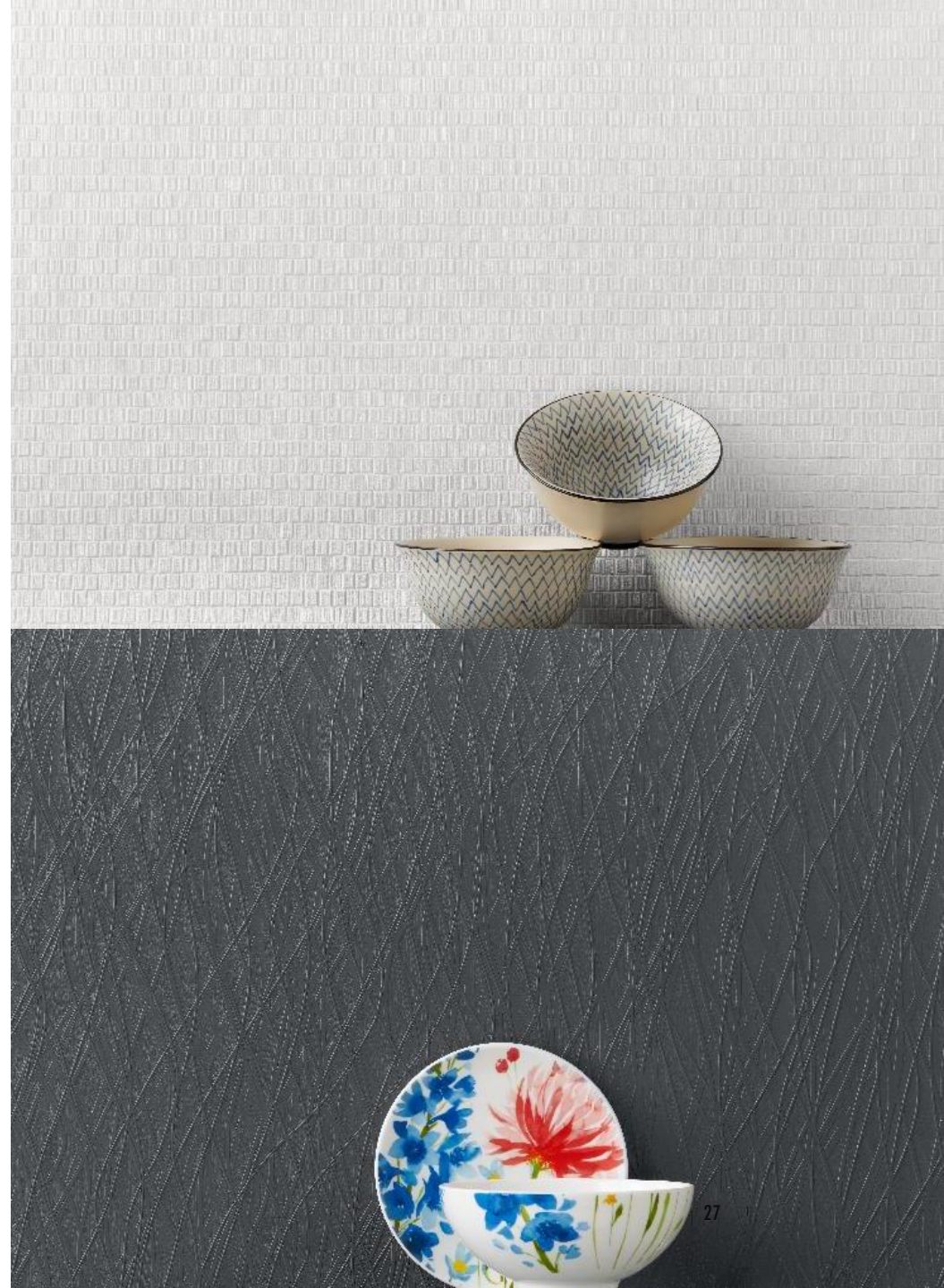
Essentials 1: Modern subtle raised rectangles in neutral colors.

Essentials 2: An organic movement to bring a sense of the outdoors in.

Available in 5 Neutral colors to match any décor.

Product Specifications

- Type I Wallcovering with Type III Durability
- Weight 15 oz./lin. yd.
- Width 52"-54"
- Finish TEDLAR® Film Laminate
- Backing Osnaburg
- Installation Random Match
- Standards Meets or exceeds criteria for CCC-W-408D, ASTM F793, ASTM E84 Class A, NFPA 286, ASTM G21, JIS Z 2801



PASSPORT

9 timeless patterns like Pacific Silk, Catalina Linen, and Bamboo Forest

Available in a range of soothing colors

Product Specifications

- Type II Wallcovering with Type III Durability
- Weight 20 oz./lin. yd.
- Width 52"-54"
- Finish TEDLAR® Film Laminate
- Backing Osnaburg/Nonwoven
- Installation Random Match/Straight Match
- Standards Meets or exceeds criteria for CCC-W-408D, ASTM F793, ASTM E84 Class A, NFPA 286, ASTM G21, JIS Z 2801



HARMONY:

COMING SPRING 2019

MORE PICTURES COMING SOON

10 harmonic patterns, to bring nature to your space.

Available in wide range of modern colors.

Product Specifications

- Type II Wallcovering with Type III Durability
- Weight 20 oz./lin. yd.
- Width 52"-54"
- Finish TEDLAR® Film Laminate
- Backing Osnaburg/Nonwoven
- Installation Random Match/Straight Match
- Standards Meets or exceeds criteria for CCC-W-408D, ASTM F793, ASTM E84 Class A, NFPA 286, ASTM G21, JIS Z 2801





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