

# HIRAOKA PVF

A culture of innovative technical fabrics



## Main features

- Remarkable weatherability
- Lasting aesthetic appearance
- REACH compliant
- 20-year warranty

**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 for architectural applications, even in extreme outdoor environments.

### Application

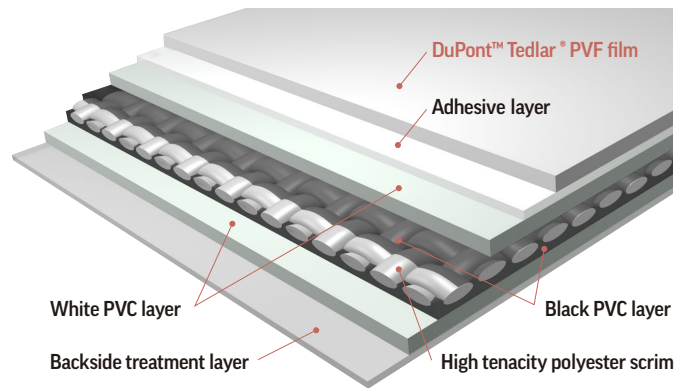
- Air domes
- Roof structures
- Tension structures



## Hiraoka PVF Architectural Membrane Series - An Architect's Dream

Hiraoka PVF Series are extraordinary, architecturally friendly membranes. A global genius in patented membrane technology, Hiraoka's creative, provocative membrane solutions and artistic textile innovations are taking the market by storm by expanding design potentials and possibilities for architects worldwide.

Exceptional architectural solutions for air domes, tension and roof structures, Hiraoka PVF architectural membranes are environmentally sustainable and friendly, lightweight yet extremely strong, durable, and dependable performance materials that have undergone extensive accelerated weather and contamination testing. Backed by a 20 year warranty and REACH compliant, these architectural membranes promise a lasting aesthetic appearance and a low maintenance semi-gloss finish that will endure the test of time.



Composition of HIRAOKA PVF

\*Tedlar® is the trademark property of E. I. du Pont de Nemours and Company or its affiliates

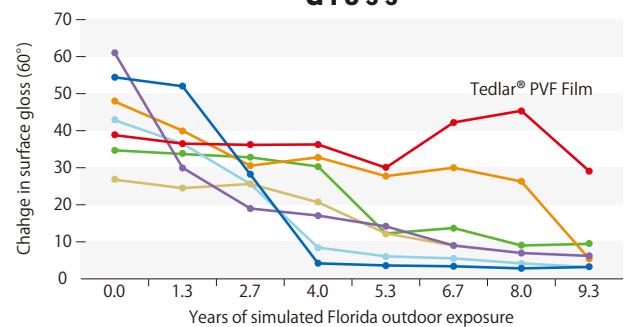
### Excellent weatherability of DuPont™ Tedlar® Film

Accelerated aging and UV exposure test

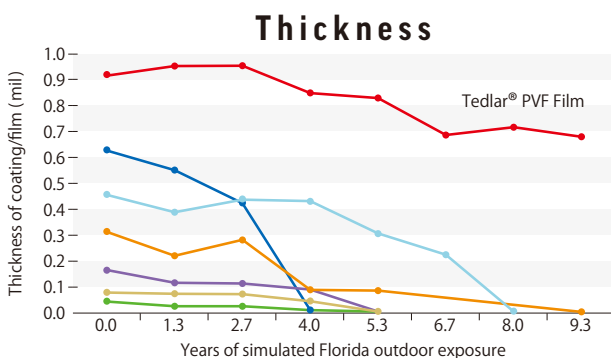
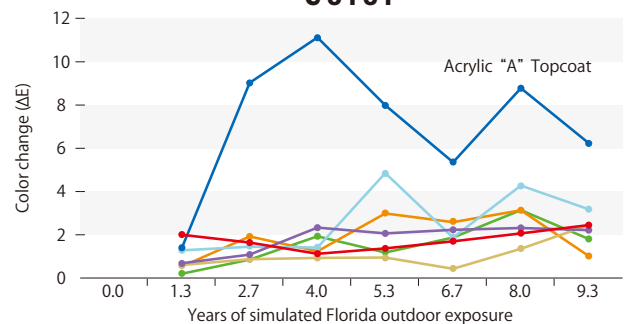
As test results show, compared with the surface protection coatings such as acrylic and PVDF, DuPont™ Tedlar® film can better resist UV and acid rain, prevent dust buildup, as well as keep its thickness, color and gloss for a longer time, thus maintaining the building's original appearance for longer.

\*Reprinted from DuPont™ Tedlar® Film Brochure (by courtesy of Du Pont Kabushiki Kaisha)

#### Gloss



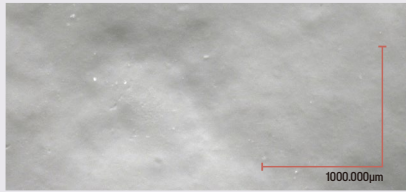
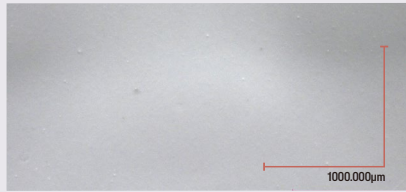
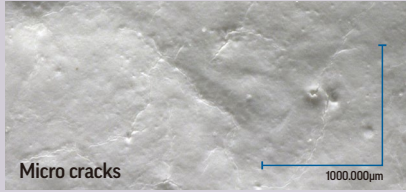
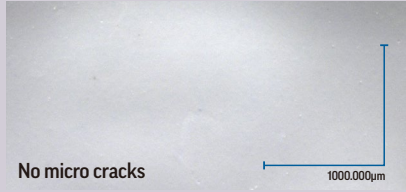
#### Color



- Tedlar® PVF Film
- Acrylic "A" Topcoat
- Acrylic "B" Topcoat
- Acrylic "C" Topcoat
- PVDF "A" Topcoat
- PVDF "B" Topcoat
- PVDF "C" Topcoat

## Excellent weatherability

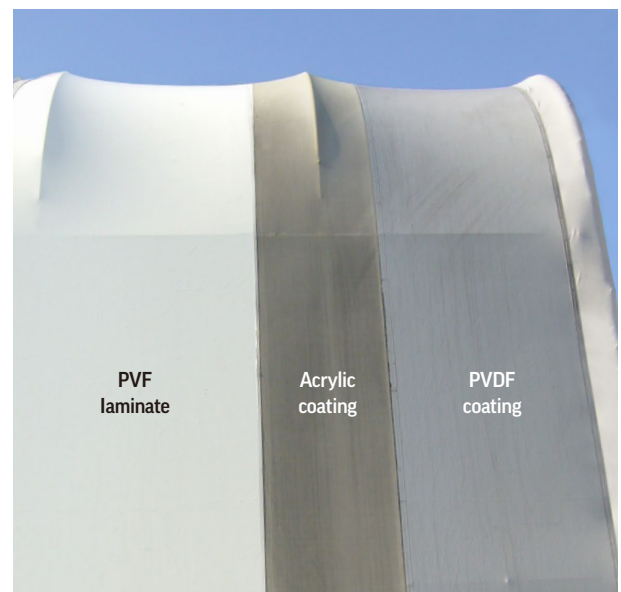
The HIRAOKA PVF series does not experience any yellowing or cracking even after an accelerated weathering test simulating 22 years of use.

Product Finish type	Comperitr's fabric PVDF coating (non weldable)	HIRAOKA PVF series Tedlar® film (non weldable)
After accelerating - 360H <b>4 year outdoor exposure Eq.</b>		
After accelerating - 2160H <b>22 year outdoor exposure Eq.</b>		

## Lasting aesthetic appearance

The photograph below compares three kinds of membrane materials with antifouling treatment (PVF laminate, acrylic coating, and PVDF coating) after 15 years of use.

Even 15 years after installation, the PVF laminate (HIRAOKA PVF series) on the left-hand side still retains its original appearance.



Physical Properties

Test Items	Test Method	Unit	PVF102	PVF212	PVF313	PVF412	
Width	ASTM D 751	mm	2040	2040	2040	2040	
Total Mass	ASTM D 751	g/m <sup>2</sup>	800	950	1100	1470	
Thickness	ASTM D 751	mm	0.63	0.79	0.93	1.2	
Tensile Strength (Cut Strip)	Warp	ASTM D 751	N/5cm	3100	5100	6100	8300
	Weft			2800	5200	5900	7000
Tear Strength (Trapezoid)	Warp	ASTM D 751	N	160	400	670	950
	Weft			160	400	670	900
	Warp	DIN 53363	N	300	630	1100	1300
	Weft			300	630	1100	1200
Adhesion	ASTM D 751	N/5cm	100	130	140	150	
Temperature Resistance	ASTM D2136 MSAJ/M-03-2003	°C	-40 / +70				
Flame Retardancy	EN13501-1		B-s2,d0	B-s2,d0	B-s2,d0	C-s2,d0	
	NFPA-701		meet	meet	meet	meet	

The above data reflects average measured values.

We can offer HIRAOKA original HEAT SHIELD TYPE (PVF-SHS) which other companies do not have.

Item	Method	Unit	HIRAOKA PVF series (Type II)			Other's (Type II)	
			PVF212	PVF212-SHS	PVF212(B)	Normal	Blackout
Warranty		year	20	25	20	-	-
Light Transmission	ISO9050	%	8	2	0	1.5	0
*Infrared Reflectance	ISO9050	%	81	90	74	82	78

\*Measurement was made according to ISO 9050(780~2100nm).



## Hiraoka... the Pioneer of Tent Fabrics since 1902

Hiraoka's innovative production techniques and processing technology have elevated the level of Tent Sheet Fabric worldwide. Our application of high quality polymer coatings to various textiles has created specialized membranes for countless applications. Years of expertise, research and experience have enabled us to meet the ongoing demands of our consumers and the global community.

When Hiraoka commenced business in 1902, we scoured and dyed cotton and hemp products. Today, our mission is to design and develop an extensive range of products that reflect our customer's changing demands and the environments in which we live. Currently, we supply a wide range of creative membrane fabrics, including specialized materials for architectural structures, to clients all over the world.

## ACCREDITATION

Our ISO 9001 compliant Quality Management System ensures absolute quality, consistency, and customer satisfaction. Our business system are accredited by the United Kingdom Accreditation Service (UKAS).



## CERTIFICATION

We offer clients the professional services of an in-house team of registered, practising engineers. It's another quality assurance that ensures we deliver full certification that meet all international standards.

## SUSTAINABILITY

We proudly support many ecological initiatives. Our Research & Development Division continue to produce newer and greener products.



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