



Fabrics for Architectural Structures

**Shelter-Rite**<sup>®</sup>  
ARCHITECTURAL FABRICS  
BY SEAMAN CORPORATION



MADE IN THE  
**USA**



**Seaman Corporation**

1000 VENTURE BLVD, WOOSTER, OHIO 44691 USA [www.ArchitecturalFabrics.com](http://www.ArchitecturalFabrics.com)  
Phone 011.1.330.262.1111, Fax 011.1.330.263.6950

# Seaman Corporation

## World Leader in the Manufacturing of Industrial Coated Fabrics since 1949

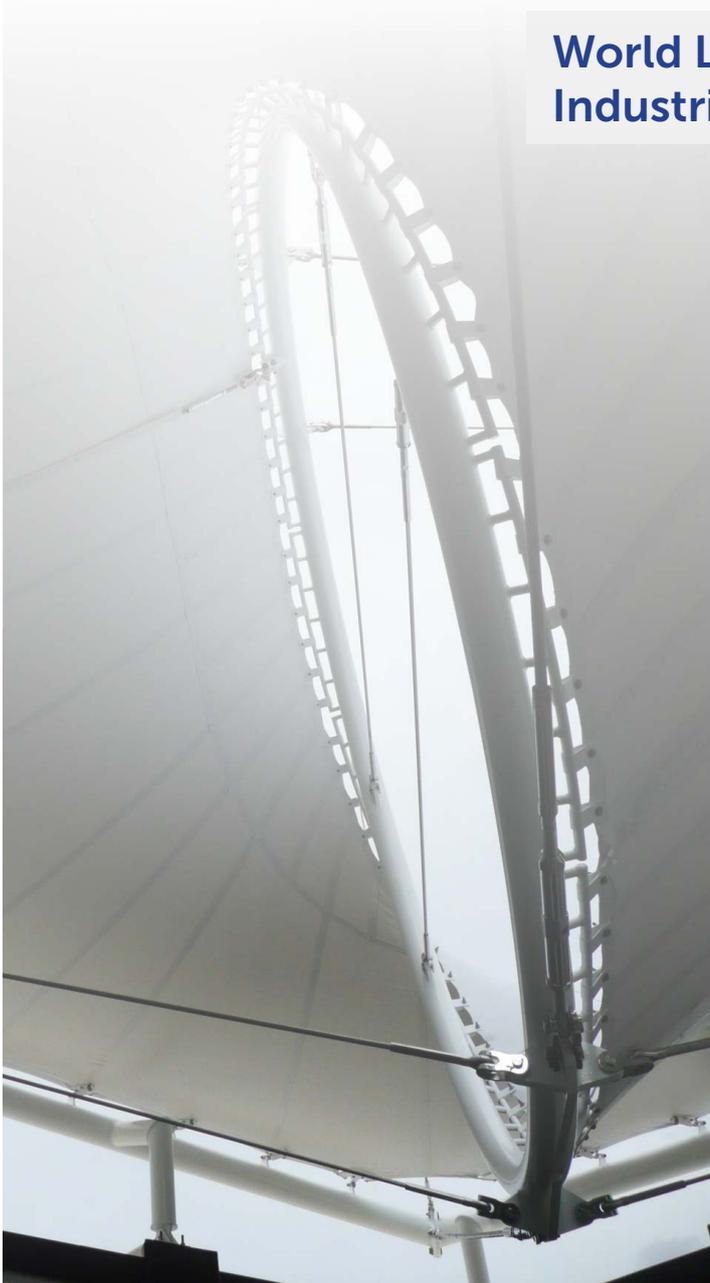
Seaman Corporation, manufactures Shelter-Rite® Architectural Fabrics. A vertically integrated company, Seaman Corporation develops proprietary formulations, knits, weaves, and coats fabric in two U.S.-based plants.

Seaman Corporation's leadership in the Architectural Fabrics Market dates back to the mid-1950s. Shelter-Rite® Architectural Fabrics have been the material of choice of architects, designers, and fabricators for commercial and military projects in the United States and throughout the world.

In addition to Shelter-Rite® Architectural Fabrics, Seaman Corporation also produces high performance FiberTite® Roof Systems, XR® Geomembrane Liners, Shelter-Rite® Truck Tarps, Shelter-Rite® Dock Seals, and military fabrics used for flexible fuel and water tanks, and military tents.



Company and History



The company is founded in Canal Fulton, Ohio by Norman Seaman

Seaman opens its Building System Division to fabricate structures in 1966



Seaman is awarded patent for its Portomod Tension Fabric Structure  
Image: original US Patent, 1972

1949 ..... 1955 ..... 1960 ..... 1965 ..... 1970 ..... 1975 ..... 1980 ..... 1985

Production of Shelter-Rite® Architectural Fabrics begins  
Pictured: Holmesville, Ohio weaving mill

The first Tedlar® coated Architectural Fabric is produced by Seaman Corporation in 1970

In 1986, a new corporate headquarters and manufacturing plant is opened in Wooster, Ohio  
Pictured: Seaman Corporations corporate headquarters, circa 1986

## Where Our Fabrics Are Used

Fabrics for Architectural Structures



### Air-Supported Structures

Buildings that are created by using an exterior architectural membrane which is supported by interior air pressure. The architectural membrane is attached at the perimeter (usually at ground level) and the building is inflated with the use of air blowers; there are no frames used. Air structures require high strength materials.

*Shelter-Rite styles 8028 and 9032 are typically used.*



### Pre-Engineered Frame Structures

Fabric buildings that start with either a steel or aluminum frame that is then covered with an architectural membrane. The metal frames are either arches or trusses that are engineered to be a certain length and designed to be spaced a certain distance from one another. Depending on how these Pre-Engineered buildings are designed the strength requirements for the architectural membrane can vary.

*Shelter-Rite styles 8520, 8324, and 8028 are typically used.*



### Custom Designed Tension Structures

High profile fabric structures that start with an Architect's concept and ends up as custom, one-of-a-kind buildings. Examples of Custom Designed Tension Structures include stadiums, amphitheaters, and canopies. Because of the wide range in building sizes, the Architectural Membrane used on these buildings can range from low strength to very high strength.

*Shelter-Rite 8324, 8028, and 9032 are typically used, almost always with Tedlar PVF film*



Seaman Corporation celebrates 50 years of business in 1999

Seaman Corporation introduces Kynar® coated Architectural Fabrics in 2011



1990 • 1995 • 2000 • 2005 • 2010 • 2015 • 2020 • 2025



Seaman begins selling Tedlar® coated Architectural Fabrics into China in 2008

*Pictured: Sun Park tennis domes, Beijing, China*



Seaman broadens its product line in 2015 with Shelter-Rite Tent fabric

*Pictured: Clearspan for Azimut Yachts, Fort Lauderdale Boat Show*



# Fabric Strength Considerations

## Seaman Corporation Offers a Range of High-Performance Architectural Fabric Materials

Fabric tensile strength is the first consideration when selecting an architectural fabric. A structural engineer will determine the maximum loads (wind, snow, dead loads) on the building and then apply the appropriate safety factor to determine the minimum tensile strength needed.

Seaman Corporation offers a wide range of fabric tensile strengths, ideal for varying applications.

	Type I	Type II	Type III
	style 8520	style 8028	style 9032
Weight <i>ASTM D751</i>	20 oz/yd <sup>2</sup> (680 g/m <sup>2</sup> )	28 oz/yd <sup>2</sup> (950 g/m <sup>2</sup> )	32 oz/yd <sup>2</sup> (1085 g/m <sup>2</sup> )
<b>Strip Tensile</b> <i>ASTM D751</i>	<b>325 lb<sub>f</sub>/in</b> <b>2580 N/5 cm</b>	<b>515 lb<sub>f</sub>/in</b> <b>4500 N/5 cm</b>	<b>650 lb<sub>f</sub>/in</b> <b>5700 N/5 cm</b>
Trap Tear <i>ASTM D751</i>	50 lb <sub>f</sub> (220 N)	85 lb <sub>f</sub> (380 N)	100 lb <sub>f</sub> (445 N)
Adhesion <i>ASTM D751 Dielectric Weld</i>	10 lb <sub>f</sub> /in (90 N/5 cm)	10 lb <sub>f</sub> /in (90 N/5 cm)	10 lb <sub>f</sub> /in (90 N/5 cm)
Low Temperature <i>ASTM D2136 1/8" mandrel, 4 hr</i>	LTC Pass -40° F (-40° C) LTA not offered	Pass -40° F (-40° C) Pass -67° F (-55° C)	Pass -40° F (-40° C) Pass -67° F (-55° C)
Flame Resistance <i>ASTM E84 Class A</i>	Pass	Pass	
<i>California Fire Marshall</i>	Pass	Pass	Pass
<i>NFPA 701</i>	Pass	Pass	Pass
<i>EN 13501-1</i>		B-s2, d0	B-s2, d0

Sample specifications shown.  
Ask our representatives for details on our full range of fabrics.

Fabric Options: Tensile Strength

# Light Transmission & Color Options

## White Shelter-Rite Fabric Can be Produced at Different Light Transmission Levels

The standard products can be made to have high light transmission (6% to 10%); low light transmission (3% to 5%); or completely opaque.

If heat gain inside the building is a concern then opaque white fabric is the best option.

	style 8520	style 8028	style 9032
DC184 Translucent White/BW Tedlar	not offered	10%	10%
DC6 White	4%	4%	4%
DC6/OP/DCS White/Opaque/White	0%	0%	0%

Percent light transmission is measured using a MacBeth Colorimeter and is approximate in the 400nm to 700nm visible light range. Seaman Corporation Technical Department should be consulted for product applications.

## Available in Standard or Custom Color Options

Colors are produced with an opaque layer and either a white interior or matching interior color.

<p><b>Standard Colors, 20-year warranty</b></p> <ul style="list-style-type: none"> <li>DC-6 White</li> <li>DC-4 Gray</li> <li>DC-113 Beige</li> <li>DC-128 Sandstone</li> <li>DC-146 Eggshell</li> </ul>	
<p><b>Standard Colors, 10-year warranty</b></p> <ul style="list-style-type: none"> <li>DC-24 Green</li> <li>DC-46 Royal Blue</li> <li>DC-42 Yellow</li> <li>DC-174 Vermillion Red</li> <li>DC-260 Forrest Green</li> </ul>	

Note: color charts are approximations only and are not recommended for accurate color matching. Due to limitations of digital color reproduction and printing conditions, colors shown here may vary from actual membrane colors.

Shelter Rite Architectural fabrics can also be produced in a wide variety of custom colors to meet specific architectural requirements. Submit a color sample or specify a color chip to receive a color match.

[ArchitecturalFabrics.com/contact-us](http://ArchitecturalFabrics.com/contact-us)

# Aesthetics & Top Finishes

## Long-term Aesthetics of Fabric Structures Depend on the Top Finish System

All structures will look great when new, but the long-term aesthetics of a fabric building will be greatly affected by dirt pick-up and any color fading. Dirt pick up is controlled by the quality of the top finish system that is applied to the material. Color fading depends on the pigment selection in the PVC compound combined with the level of protection the top finish system can provide.



## Shelter-Rite Architectural Fabric Top Coating Systems

**Tedlar®:** Brite-White Tedlar or colored Tedlar films provide the greatest resistance to dirt pick-up and are basically self-cleaning. The Shelter-Rite Tedlar products are extremely colorfast and are the only product backed by a 20 year warranty that covers dirt resistance and colorfastness.

**Kynar®:** Kynar top coating system is another fluoropolymer finish with great dirt resistance and colorfastness. The unique property with Kynar top coating system is that it can be made in any custom color.

**PVDF and Acrylic Top Finish:** Solution applied PVDF or Acrylic top finish provide a basic level of dirt resistance. Both finishes have a reasonable life expectancy.

	Acrylic	PVDF	Kynar®	Tedlar®
Retention of Color	●●●	●●●	●●●●	●●●●●
Retention of Gloss	●●●	●●●●	●●●●	●●●●
Stain Resistance	●●	●●●	●●●●●	●●●●●
Dirt Pick-up	●●●	●●●	●●●●	●●●●●
Mildew Resistance	●●●	●●●	●●●●●	●●●●●
Resistance to Environmental Pollutants	●	●●	●●●●●	●●●●●
Cleanability	●●●	●●●	●●●●●	●●●●●
<b>Overall Life Expectancy</b> *based on field performance	●●●	●●●	●●●●●	●●●●●

Scale: Good ●●●●● Best

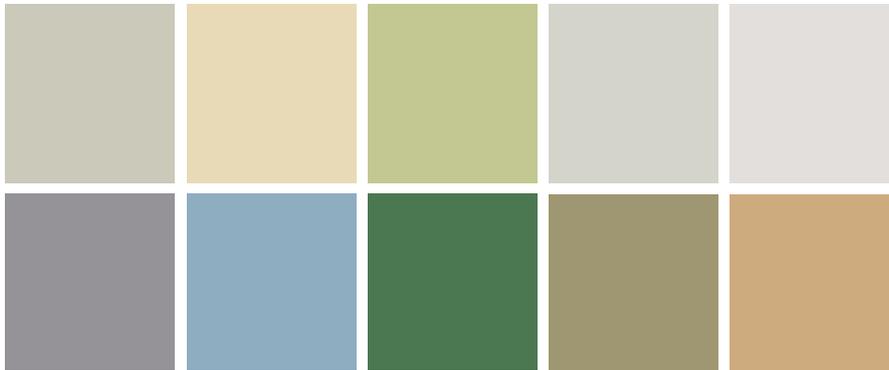
## Top Finish Options



### Tedlar®

The use of Brite-White or colored Tedlar films provide the greatest resistance to dirt pick-up; the longest colorfastness; and best UV protection for any architectural fabric. The Brite-White Tedlar can be applied to translucent or opaque materials.

Colored Tedlar is available in the following 10 colors:



Seaman Corporation offers the only line of 10 DuPont™ Tedlar® (PVF) film color for the entire line of Shelter-Rite Architectural Products.

(top row, left to right):

Granite Gray, Sand Stone, Spruce Green, Misty Gray, Dawn Gray

(bottom row, left to right):

Salem Blue, High Sky, Highway Green, Bayberry, & Desert Sand.



### Kynar®

The Kynar top coating is a fluoropolymer finish, similar to Tedlar, except with the ability to be made in any custom color. Kynar coatings have excellent dirt resistance and generally great colorfastness; dependent on color selected.



### PVDF and Acrylic Top Finish

PVDF or acrylic finishes offer aesthetic protection while maintaining the weldability of the material. PVDF and acrylic top finishes are transparent so they can be applied to any color of PVC coated fabric.



Top Row:

Boston Logan Airport Hangar

2001 by Rubb Building Systems, Inc.

Roberta Bondar Park, Sault Ste Marie, Ontario

1992 by Birdair, Inc.

Westin Bear Mountain Resort, Victoria, British Columbia

2018 by The Farley Group

Center Row:

Verizon Wireless Amphitheatre at Encore Park

2008 by KKE Architects, Minneapolis

Martensville Athletic Pavilion, Martensville, Saskatchewan 2013 by Sprung Structures

The Nautica Stage in Cleveland, Ohio 2004 by Fabrtitec LLC, Tensys Consultants, LTD., & Sundance Awnings (Sundance Architectural Products)

Bottom Row:

Roanoke City Schools, Preston Park Elementary 2012 by Sprung Structures

Arizona Cardinals Practice Dome, Tempe, Arizona 2013 by Yeadon Fabric Structures

Van Wezel Performing Arts Center Awning 2019 by Lightweight Manufacturing & Signature Structures



Every architectural project is unique.

No matter the scope or application, Seaman has a fabric solution.

Browse some of our past projects at:

[ArchitecturalFabrics.com/gallery](https://www.ArchitecturalFabrics.com/gallery)





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