

Tedlar[®] Fabrics Processing Guidelines

What is Tedlar?

Tedlar is a thermoplastic, Poly Vinyl Fluoride (PVF) film that is supplied by DuPont. The Tedlar PVF film has many properties that are like Teflon, providing outstanding slip, self-cleaning, chemical resistance, and UV resistance properties. The Brite-White Tedlar film is 1.0 mil thick and the colored and clear Tedlar films are 1.5 mil thick; much thicker than a liquid applied top finish at .2 to .3 mils.

How is Tedlar applied to Shelter-Rite Architectural fabrics?

Tedlar films are applied to the Shelter-Rite Architectural fabrics in the manufacturing process at Seaman Corporation. The Tedlar film is laminated to PVC coated fabric with the use of a heat activated adhesive. A thin layer of solvent adhesive is applied to the Tedlar film, dried, and then bonded to the molten PVC compound with a combination of heat and pressure.

How to fabricate Tedlar coated fabrics.

When welding a Tedlar coated fabric to itself, you can NOT directly bond the Tedlar surface to a PVC surface. You need to bond the PVC compound on the top surface to the PVC compound on the bottom surface of the coated fabric. There are three options to do this:

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Remove the Tedlar from the edge of the fabric where it needs to be welded:

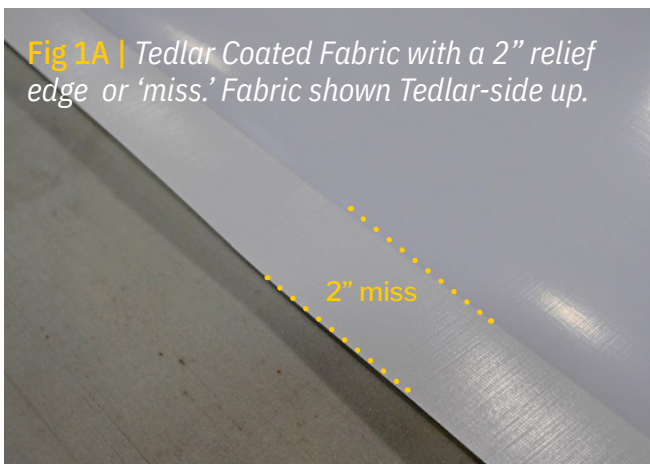
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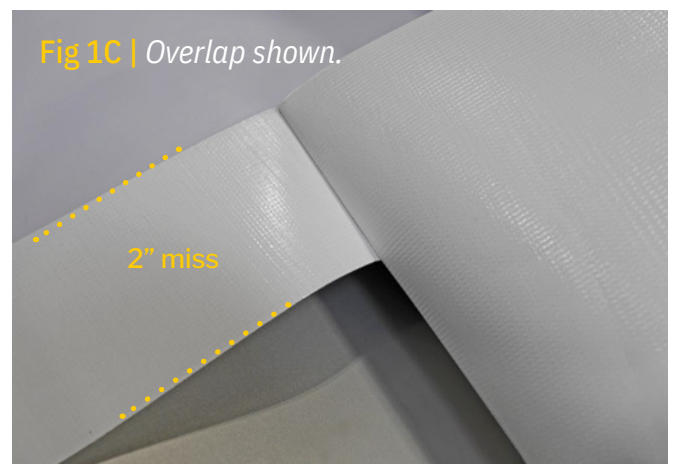
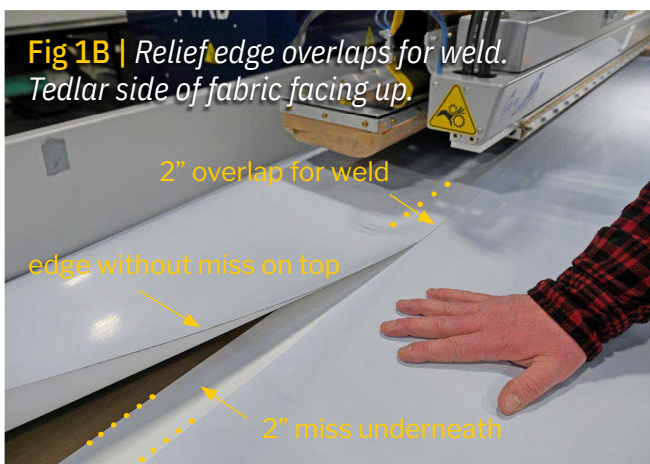


1. Material with a relief edge (miss)

Most companies that are fabricating Air Supported Structures or Pre-Engineered Frame Structures are welding straight seams. Most welding is with the edge of one piece of fabric overlapped to the next piece of fabric, forming an overlap seam. Seaman Corporation will produce a Tedlar coated Architectural fabric with a relief edge or miss on one side of the roll of fabric. This “miss” can be anywhere from 1” up to 3” depending on the width of the seam.



When using material with a “miss” simply overlap the bottom side of one piece of fabric over the PVC miss on the second piece of fabric and weld the material. It is important to get the one piece of fabric aligned as close as possible to edge of the Tedlar film so welding with the Tedlar side of the material facing up is preferred.

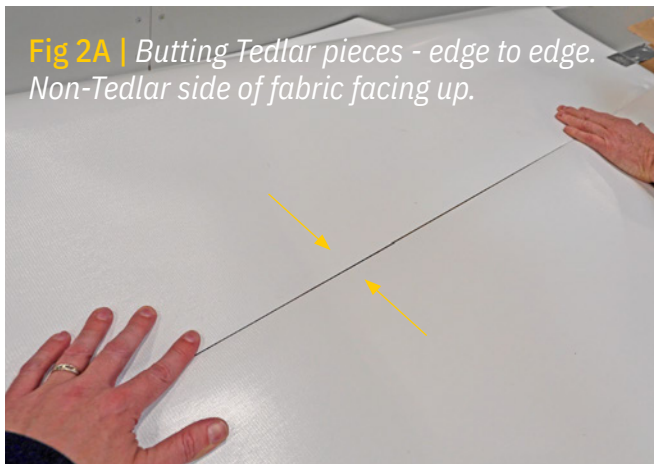


Note of Caution: It is highly recommended that the majority of the welding on Tedlar Architectural fabric is made with RF welding. The use of hot air or hot wedge welding can harm the Tedlar film that is near the weld or loosen the Tedlar adhesive.

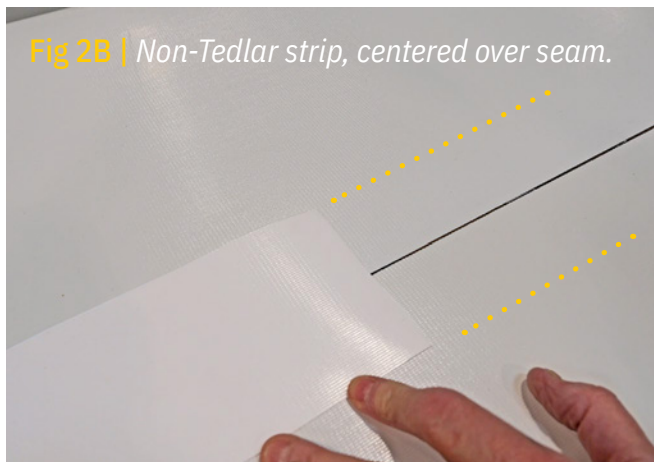
2. Making splices seams with no miss; butt seaming

If you need to weld two pieces of Tedlar coated fabric together and there is not a miss available, then a “butt” seam can be made.

Take the two pieces of Tedlar fabric that need to be bonded together, place them face down on the RF welding table, and butt the edges together.



Then take a third piece of *NON*-Tedlar fabric, cut into a 2” to 6” strip, centered over the joint of the first two pieces, and weld with a wide bar.



Care should be taken to keep the bottom two pieces from coming apart in the welding process. This method of welding is very useful when splicing the end of one roll of material to the beginning of a second roll of material.

3. Remove the Tedlar from the edge of the fabric where it needs to be welded

If you are making a Custom Designed Tension Structure, that requires welding two curved pieces of material together, then the best option may be to remove the Tedlar film on the edge of one of the cut panels, so you can then do an overlap seam. There are two ways to remove the Tedlar film from the Architectural fabric:

a. Grinding off the Tedlar to create a miss

Seaman Corporation offers the use of our Tedlar Grinding machine on a rental basis, when working with our Tedlar coated fabric. To use this machine, you will first cut the panels that need to be welded together and identify the edge of the panel that needs to have the Tedlar removed. You then run the panel through the grinder, face side down, and grind off the Tedlar film. *Care needs to be taken to NOT grind too deep and damage the Polyester fibers.*



Once the Tedlar is removed, you wipe the exposed PVC compound with a rag that has Acetone on it, to remove any dust particles. Now you can perform a simple overlap seam on this panel.

Note that you can rent the Seaman Tedlar Grinding Machine or use another Top Finish grinding machine, if one is available.

A second option is to provide Seaman Corporation your patterns and have our fabrication shop cut the panels and grind off the Tedlar edge. We can then ship you cut and ground panels or we can complete the welding process and provide you with a fabricated panel.

b. Removing Tedlar with a hot air gun, for field or factory welding

A second way of removing the Tedlar film from the surface of the Architectural fabric is to use a Liester hot air, hand welding gun. You will want to use the heat gun in a lower setting than you would to weld the PVC fabric.

Set the heat on the gun and aim the nozzle to the surface of the Tedlar film, the heat will soften the Tedlar adhesive and will melt back the Tedlar film.



The melting will happen quickly and the Tedlar film will roll back on the surface of the PVC coating. You can work along the area that need to be welded, removing the Tedlar film.

Once the Tedlar film is removed, then an overlap seam can be made in this area.

Note of caution: the removal of the Tedlar film with a hot air welding gun will be slow and will NOT yield an attractive edge of the Tedlar. This method is only recommended when no other option is available, such as field welds or welds in the middle of a panel.

Note of caution: you should NEVER heat the surface of the Tedlar film to the point that it generates smoke or “burns-off”. When Tedlar burns it generates hazardous fumes. Consult the SDS for Shelter-Rite Architectural fabric and for the Tedlar PVF film that can be provided by Seaman Corporation.

www.ArchitecturalFabrics.com



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