

# WeatherMAX<sup>TM</sup>

## Fabrication Manual

WeatherMax<sup>®</sup>, Outdoor Performance Fabric, was developed from the need for a fabric that would retain its color and strength in severe outdoor exposure yet still provide a beautiful, rich appearance that today's textile fabricator requires. This fabrication manual has been designed as a reference, focusing on the techniques found to be the most practiced and most efficient methods for WeatherMax<sup>®</sup> fabrication.

### WeatherMax 80

Fabric:	Woven SaturaMax <sup>®</sup>
Fiber:	100% Solution-dyed SaturaMax <sup>®</sup>
Finish:	HydroMax <sup>™</sup> water, dirt, mildew resistance
Weight:	8.0 oz. / yd. <sup>2</sup>
Width:	60" Fused Edges

### Cutting WeatherMax<sup>®</sup>

It is recommended that WeatherMax<sup>®</sup> is cut using a hot knife, ultrasonic cutting equipment, or laser cutting equipment to minimize fraying.

### Seam Formation

There are many seam types used for strength, simplicity, looks or feel, or to solve fraying problems of cut fabrics. Listed are a few seams that we recognize may provide solutions if you are experiencing seam leakage or loose seams.

A felled seam is a stress resistant seam made by turning under or folding together and stitching the seamed materials to avoid rough edges. This seam provides more strength and can prevent seam leakage.

A lap seam is created when the two pieces being joined are overlapped by the width of the seam. The fabric edges are laid flat on top of each other with no turn under.

### Thread Size & Tension

Generally, industrial threads that work well with acrylic fabrics will also work with WeatherMax<sup>®</sup>.

A 92 thread allows for smaller holes which will help reduce seam leakage, while a 138 thread will provide much more strength.

The tension on the thread will require nearly the same settings used with acrylic fabrics. If seam waving or puckering is present, relax the tension on the thread.

Due to the lighter "hand" of the fabric, using a finer tooth in conjunction with the feed dog mechanism will produce a better seam as well.

## Welding

WeatherMax® is weldable using hot air, heat, and ultrasonic technologies giving you confidence in the quality of your finished product. WeatherMax® FR is able to be RF welded. Listed below are settings that have been provided by manufacturers of hot air, heat, and ultrasonic welding equipment. These are to be used as a starting point and may require some minor adjustment. We suggest that you make sample welds to achieve the correct settings for heat, speed, and wedge alignment.

### ▪ Miller Wedge Welder

1" Hot Wedge	WeatherMax® 80	WeatherMax® FR
Temperature:	700 degrees F°	860 degrees F°
Speed:	200	300
Pressure:	45 psi	35 psi
Vari-drive:	0000.0	0000.0
Rear Roller:	On	
Outboard Puller		30 psi

### ▪ Miller Hot Air Welder

	WeatherMax® 80	WeatherMax® FR
Temperature:	1200 degrees F°	1350 degrees F°
Speed:	195	250
Pressure:	10 psi	45 psi
Torque:	0	0
Outboard Puller		40 psi

### ▪ Sinclair Triad Automatic Wedge Welder

1" Hot Wedge	WeatherMax® 80	WeatherMax® FR
Temperature:	430 degrees C°	425 degrees C°
Speed:	40%	30%
Note:		With FR Tape

### ▪ Sinclair Spec Automatic Wedge Welder

1" Hot Wedge	WeatherMax® 80	WeatherMax® FR
Temperature:	410-425 degrees C°	
Speed:	60%	
Note:	With FR Tape	

### ▪ Radio Frequency Welding

#### WeatherMax® FR

RF welding processes have a number of operating variables including RF field frequency, down stroke pressure, power, and cycle time. Successful welds require a significant amount of RF power as well as heat sealing tape as a buffer. w/Uniseam Heat Sealing Tape (543000061)

\* This section will be updated periodically as more manufacturer specifications become available.

## **Graphic Application**

Graphics can be applied to WeatherMax<sup>®</sup> using various techniques and allows for personalization of your awning, boat cover, or other outdoor fabric needs with specialty graphics and lettering. All of the following methods have proven successful for applying graphics:

- Hand Painted/Stenciled (Solvent Based paints recommended)
- Dye Sublimation
- Digital Printing (Solvent Inks recommended)
- Screen Printing
- Heat Applied Vinyl

## **Care & Cleaning**

WeatherMax<sup>®</sup> is bleach cleanable, with no unpleasant running, marking or color transfer. Due to our HydroMax finish, it is inherently more resistant to dirt and mildew, and requires much less maintenance than comparable woven fabrics. WeatherMax<sup>®</sup> may be spot washed by using a soapy solution of a mild detergent and lukewarm water. Rinse thoroughly with clean water to remove soap and allow to air dry.

Safety Components does not warranty or guarantee success by following these techniques, but we do state to users of the manual that the featured techniques have been found to be the most efficient and fastest way to produce high quality products.