

Fabrication Manual

WeatherMAX[®], 3D Outdoor Performance Fabric is a patent-pending outdoor stretch fabric for UV and light rain protection. 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[®] 3D fabrication.

WeatherMAX 3D:

Fabric:	Stretch-woven SaturaMax [®]
Fiber:	100% Solution-dyed SaturaMax [®]
Finish:	HydroMax [™] water, dirt, mildew resistance
Weight:	7.5 oz. / yd. ²
Width:	62-63" untrimmed
Warp Stretch:	~ 8-10%
Weft Stretch:	~ 15-18%

Patterning for Fit

Creating a form fit cover or a stretched shade does not require significant stretch to achieve the desired result. In patterning, a small reduction in the size of the pattern is generally all that is needed. For larger covers, elimination of a seam allowance can result in a form-fitting cover.

For shades, a 10% reduction in the finished shade size is generally enough to create a smooth, attractive shade. Concave edges are recommended for the best appearance and avoidance of wrinkles.

As with fabricating with any fabric that is new to you, trials and testing will allow you to dial in the perfect parameters for your desired fit and finish.

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Cutting WeatherMAX[®] 3D

It is recommended that WeatherMAX[®] is cut using a hot knife, ultrasonic cutting equipment, or laser cutting equipment to minimize fraying. However, it can be cut with scissors or other mechanical shearing equipment although it will fray.

Sewing WeatherMax[®] 3D

WeatherMAX[®] 3D is unique in that it has stretch capabilities. The seam and stitch type can impact the level of stretch, which can be either positive or negative to the finished product. Because we cannot know the desired behavior of each individual installation, we do not have a suggested sewing procedure. Rather, we can provide stitch-type information and how they might impact the finished product.

Thread

It is recommended to use either a polyester or PTFE thread. Both have natural stretch properties.

Stitches

Stitches that allow stretch:

Serging/overcast (extra benefit of eliminating fraying)

Stretch Stitch

Zig Zag (shorter length / wider width has more stretch than longer length / narrower width)

When using a standard straight stitch (which has limited stretch), hold the fabric taut but not stretched when sewing. If you stretch the fabric while sewing it will show puckering when in a relaxed state.

Needles

Most needles will work with WeatherMAX[®] 3D but those designed for stretch fabrics such as ball needles might prove to be the best.

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Thread Size & Tension

Generally, industrial threads that work well with acrylic fabrics will also work with WeatherMAX[®] 3D.

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

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.

Stretch While in Use / Longevity

WeatherMAX[®] 3D is designed to maintain its stretch properties for the life of the fabric. However, overstretching and long-term maximum stretch will result in a shortened stretch life.

When in use as a shade, do not stretch the fabric to its maximum stretch. Only stretch it to the point it is smooth and not sagging.

Do not use a WeatherMAX[®] 3D shade while the boat is under way. Wind can catch in the shade and create excessive force and stretch and result in loss of stretch recovery and even tearing. It can also result in loss of control of the boat due to lift forces that may raise the bow of the boat out of the water or force it deeper.

Graphic Application

Graphics can be applied to WeatherMAX[®] 3D using various techniques and allows for personalization of shade and awning. The following processes have proven successful for applying graphics but may not be able to withstand the stretching of the fabric:

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

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Care & Cleaning

WeatherMAX[®] 3D 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[®] 3D 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.

Please refer to the standard WeatherMAX[®] Care and Cleaning Guide for additional information.

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.

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