WeatherMAX 80

Technical Data Sheet
Revised: 08/2020

Fiber: **100% Solution-Dyed SaturaMAX w/ ultra-high UV & pigments**
Finish: **exclusive HydroMax+ water repellent (no coating)**

Property	Method	Basis		Nominal Value
Construction				
Fabric Weight	ASTM D 3776	ounces / Sq Yd		**7.9**
Thickness	ASTM D 1777	millimeters		**0.41**
Finished Fabric Width	ASTM D3774	inches		**60**
Water resistance / Breathability				
Hydrostatic Test	AATCC 127	centimeters		**65**
Rain Test - 2 minutes / 600 mm	AATCC 35	grams		**0.007**
Spray (Large)	AATCC 22	rating	front back	**100** **100**
Bundesmann Rating	BS EN 29865	grade 1-5		**5**
Bundesmann Wetting	BS EN 29865	percent		**3.2**
Bundesmann Water Penetration	BS EN 29865	ml		**0**
Water repellency	AATCC 193	grade 1-6		**6**
Oil Repellency	AATCC 118	grade 1-6		**5**
Air Permeability	ASTM D737	cfm		**1.3**
Wick	SAE J913	inches	warp / fill	**0**
Strength / Durability				
Break Strength	ASTM D5034	lbs.	warp fill 45 degree	**490** **390** **530**
Mullen Burst	ASTM D 3786	lbs.		**420**
Tear Strength - Trap	ASTM D2261	lbs.	warp fill	**69** **32**
Tear Strength - Tongue	ASTM D2261	lbs.	warp fill	**20** **18**
Wyzenbeek Abrasion - Wire Screen	ASTM D4157	cycle	warp fill	**50,000+** **50,000+**
UV Resistance / Protection				
UPF (Ultraviolet Protection Factor	AATCC 183			**50+**
UVA & UVB (Ultraviolet Blockage)	AATCC 183			**Over 99%**
Colorfastness (1500 hours)	AATCC 169 option1	grade 1-6		**4 - 6**
Dimensional Stability				
Elongation before break	ASTM D 5034	percent	warp fill 45 degree	**48** **38** **60**
Shrinkage 5 washings	AATCC 135	percent	warp fill	**2.5** **0**
Abrasiveness / Handling				
Circular Bend Stiffness	ASTM D4032	unit	18	**6.5**
Dynamic Friction	ASTM D 1894	newtons	warp fill	**0.13** **0.15**
Static Friction	ASTM D 1894	newtons	warp fill	**0.36** **0.3**
Seam Slippage	ASTM D 434		fill - fill warp - warp warp - fill	**57** **51** **30**
Temperature				
Cold Crack -40 degrees	ASTM D 1912			**pass**
Shrinkage Point			degrees F	**225+**
Melting Point			degrees F	**470+**

Other test results available upon request

Elevate Textiles™

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Fabrication Manual

WeatherMAX® 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 by WeatherMAX® users to be the most practiced and efficient for fabrication.

WeatherMAX 80:

Fabric:	Woven SaturaMax®
Fiber:	100% Solution-dyed SaturaMax®
Finish:	HydroMax™ – C-6 Formula, Environmentally Friendly, Water & Dirt Resistant
Weight:	8.0 oz. / $yd.^2$
Width:	60" Fused Edges

Cutting WeatherMAX®

It is recommended that WeatherMAX® be cut using a hot knife, ultrasonic cutting equipment, or laser cutting to minimize fraying. If unable to use these technologies, then binding or serging the seams is effective. Felled seams or French seams can hide the edge and eliminate fraying.

Recommended Seams

There are many seam types used for strength, simplicity, looks, fell, or to solve the fraying problems of cut fabrics. Fabricators have found the following seams work well with WeatherMAX®:

- Felled Seam
- Lap Seam
- French Seam

Safety Components
An Elevate Textiles Company
40 Emery Street
Greenville, SC 29605
800.896.6926 ext. 14
www.weathermax.com

Fabrication Manual

Needle, Thread, & Tension Recommendations
General

Industrial threads that work well with acrylic fabrics will also usually work with WeatherMAX®. Although WeatherMAX® is incredibly strong and durable, it sews more like an apparel fabric than a heavy industrial fabric.

To Reduce Puckering – Try any or all of these techniques

- Smaller needles and thread have a significant effect on reducing puckering. A 69 sewing thread (PTFE) with a 125/20 needle has been found to work very well in reducing puckering in the seam.
- Reduced tension on both bobbin and thread. Take tension down to the point where the loops are too loose, then slowly increase tension just to the point where the seams are not too loose.
- If available, use a finer tooth feed dog.
- Stretch the fabric slightly (1%) and pin it down. Apply seam tape, match the stretch of the top piece of fabric with the pinned bottom piece, apply to tape, remove pins, and sew.

To Reduce Seam Leakage

• Smaller needles and thread will result in smaller holes and limit leaking.
• Seam tape.
• Try a ball point needle. While generally used for knits, we have seen success with this on WeatherMAX®. The ball point spreads the yarns rather than cutting them and the yarns will relax back to their original position after sewing.
    - #19 for size 138 thread
    - #16 for size 92 thread

When using WeatherMAX® for the first time, we recommend a small test run to optimize the settings on your machine.

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Welding Guidelines*

Miller Wedge Welder (3M Tape)

1" Hot Wedge	WeatherMAX 80	WeatherMAX FR
Temperature	400° C; 752° F	400° C; 752° F
Speed	2 M	2 M
Pressure	0.2	0.2

Miller Hot Air Welder (3M Tape)

	WeatherMAX 80	WeatherMAX FR
Temperature	600° C	700° C
Speed	10	10
Pressure	N/A	N/A

Miller Impulse Welder (3M Tape)

	WeatherMAX 80	WeatherMAX FR
Temperature	High	High
Speed	15 sec Hold, 30 sec Clear	15 sec Hold, 30 sec Clear
Pressure	N/A	N/A

Sinclair Triad Automatic Wedge Welder

1" Hot Wedge	WeatherMAX 80	WeatherMAX FR
Temperature	430° C	425° C
Speed	40%	30%
Pressure		With FR Tape

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Welding Guidelines*

RF Welding

WeatherMAX 80 cannot be welded using RF machines. WeatherMAX FR manufactured in 2013 or later can be welded using Sinclair Uniseam Thermalbond FR34200 tape. More testing data to follow on various machines.

Hall Dielectric Bar Sealer	
Preseal Timer	02.01
Seal Timer	05.00
Cool Timer	02.11
Setting	Normal Operation
Temperature	325°

* All numbers are meant to be a baseline from which to start. Settings may vary based on electrical current available, age of machine, length of time since service, and other variables.

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WeatherMAX®
What Fabric Can Do™

Graphic Application

Graphics can be applied to WeatherMAX® 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

Stencil/Masking: Fabtac is a proven, effective masking for use on WeatherMAX®. http://www.fabtac.com/.

Care & Cleaning

WeatherMAX® 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® 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.

Mildew cannot grow on the fabric itself. However, if not cleaned regularly, mildew can grow from the accumulation of dirt on the surface of the fabric. For mildew stains, prepare a solution of one (1) cup of bleach plus one half (1/2) cup of mild detergent per gallon of water. Spray on the entire area and allow soaking. Rinse with clean water and allow to air dry.

If sewing machine oil is transferred to the fabric while working with it, we recommend Pull Out 2™, manufactured by American Niagara Company. It has proven to be the best method for removing oil spots from WeatherMAX® without leaving stains or spots behind. For best results, Pull Out 2™ requires two applications. To find out more, contact ANC: www.americanniagara.com or (770) 441-5900.

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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WeatherMAX®
What Fabric Can Do™

Properties	WeatherMAX 80	WeatherMAX LT	WeatherMAX FR
Fabric Weight	8.0 oz/yd2 (271 g/m2)	6.5 oz/yd2 (220 g/m2)	9.75 oz/yd2 (330 g/m2)
Thickness	0.44 mils	0.33 mils	0.44 mils
Width-Fused Edge	60 in (152 cm)	60 in (152 cm)	60 in (152 cm)
Put Up	75 yards (69 meters)	100 yards (91 meters)	65 yards (59 meters)
Tensile Strength ASTM D5034 (warp x fill / lbs.)	490 x 392	430 x 270	460 x 360
Mullen Burst ASTM D3786 (psi)	420	292	393
Tongue Tear ASTM D2261 (warp x fill / lbs.)	20 x 18	15 x 10	13 x 15
Taber Abrasion ASTM D3884 (cycles)	600	600	600
Hydrostatic Pressure AATCC 127 (cm)	56	42	90+
Rain Test 2 minutes/600 mm	0.007	0.023	0.00
Spray Rating AATCC 22	100	100	100
Air Permeability ASTM D737 (cfm)	1.3	1.5	0.2
Cold Crack 40°/ASTM D1912	Pass	Pass	Pass
UPF (Ultraviolet Factor)	50+	50+	50+
UVA & UVB (Ultraviolet Blockage)	Over 99%	Over 99%	Over 99%
Color Fastness to Light AATCC 169 option 1 (1500 hours: scale 1 - 5)	4 - 5	4 - 5	4 - 5

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WeatherMAX
What Fabric Can Do™

Specifications
Made with solution-dyed SaturaMax®. Finished with exclusive HydroMax technology for water, dirt and mildew resistance. WeatherMAX® is also available as WeatherMAX FR for flame retardant applications to meet CSFM T19, CPAI-84, NFPA701, FMVSS 302 and ASTM-E84 Class A.

Care Instructions
WeatherMAX fabrics 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. For mildew stains, prepare a solution of (1) cup bleach plus (½) cup of mild detergent per gallon of water. Spray on the entire area and allow soaking. Rinse with clean water and allow to air dry.

WeatherMAX Warranty
The limited warranty covers only the fabric being unserviceable because of loss of strength and/or color from normal conditions of exposure. That includes sunlight, mildew and atmospheric chemicals. Labor and installation supplied by the fabricator and/or installer are not covered. The consumer is responsible for normal care, cleaning and maintenance of the fabric.

- The warranty runs for 10 years from the date of original purchase for WeatherMAX 80 fabrics.
  Excludes Scarlet and True Red fabrics which feature a 3-year limited warranty.
- The warranty runs for 5 years from the date of original purchase for WeatherMAX FR fabrics.
  Excludes True Red fabrics which feature a 3-year limited warranty.
- The warranty runs for 3 years from the date of original purchase for WeatherMAX LT fabrics.
- Safety Components will supply new fabric, free of charge, to replace the unserviceable fabric.
- Call your dealer who will contact Safety Components to request fabric replacement.
- A valid copy of the original invoice, showing date of purchase, is required for fabric replacement.
- This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

See website for warranty details.

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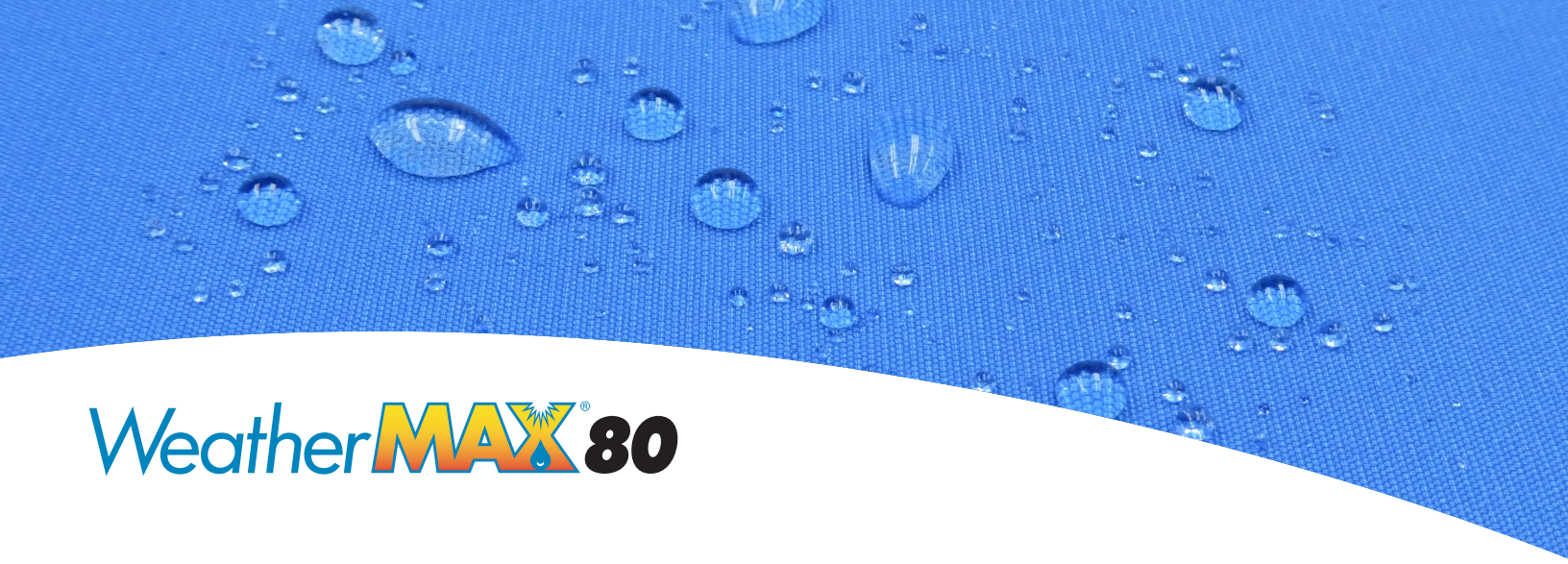


WeatherMAX® 80

What is WeatherMAX® 80?

A patented outdoor performance fabric developed for demanding applications and environments. Super high strength and durability combine with long-term color retention to deliver a truly versatile outdoor fabric for a variety of applications.

The industry's most balanced and cost-effective fabric available for marine covers and tops, awnings, or other outdoor applications requiring outstanding durability, higher water repellence and excellent breathability.

At Safety Components, we take sustainability seriously. From polymer to finished fabric, every component of WeatherMAX 80 is manufactured in North and South Carolina – all within a 100-mile radius. It is also 100% recyclable and its locked-in solution-dyed coloring saves nearly 3 gallons of water per yard of fabric.

Durable | **Water Resistant** | **Breathable** | **Abrasion Resistant** | **Made in the USA**

Lighter – Stronger – Better

- 10 Year Limited Warranty
- Highly Breathable
- No Sagging
- No Color Bleeding or Rub-Off
- Easier Handling and Stowing

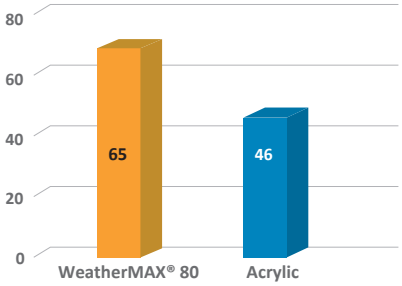
Performs Where Acrylic Fails

- 2X Strength & Durability
- 6X Abrasion Resistance
- 50% Higher Water Resistance

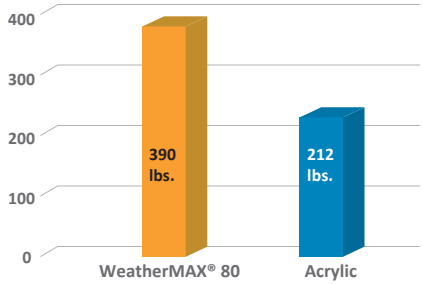
Outperforms Solution-dyed Polyester

- Twice the Fade Resistance
- Double the Strength Retention
- High Water Resistance PLUS High Breathability

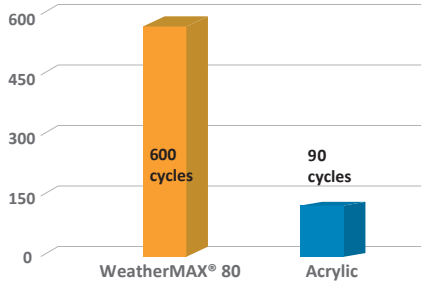
Water Resistance
AATCC 127



Fabric Strength
ASTM D 5034



Wear Resistance
ASTM C 3884



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