

2021 FABRIC SPECIFIER'S GUIDE

AIR, TENT & TENSILE STRUCTURES

FABRIC SPECIFICATION TABLES

The Air, Tent & Tensile Structures Fabric Specification Tables list characteristics of materials manufactured and distributed by a number of companies. For fabrics that are manufactured by one company and distributed by another, the manufacturer is listed.

The fabric specification charts are organized according to basic fabric types and their various top coatings or finishes.

PARTICIPATING COMPANIES



Alnet Americas Inc.
www.alnetamericas.com



Bainbridge International Inc.
www.bainbridgeintusa.com



Chukoh
www.chukoh.com



Denka
www.denka.co.jp



Gale Pacific
www.galecommercial.com



Glen Raven Custom Fabrics LLC
www.glenraven.com



Herculite Products Inc.
www.herculite.com



Heytex USA Corp.
A Heytex Group Company
www.heytex.com



Hiraoka & Co. Ltd.
www.tarpo-hiraoka.com



Low & Bonar
www.mehgies.com



Marlen Textiles
www.marlentextiles.com



The Miami Corporation
www.miamicorp.com



Polyfab USA LLC
www.polyfabusa.com



Safety Components
www.weathermax.com



Seaman Corporation
www.seamancorp.com



Sefar
www.sefar.com



Serge Ferrari
www.sergeferrari.com



Snyder Mfg. Inc.
www.snyderman.com

All specifications included in the table were submitted voluntarily by the companies, and their accuracy is the responsibility of the manufacturer.

The appearance of a listing in the table is not an endorsement of a company or product by *Fabric Architecture* magazine or the Industrial Fabrics Association International (IFAI). *Fabric Architecture* and IFAI encourage readers to contact the companies directly for additional information.

PRODUCT		Acrylic, Solution Dyed						Expanded PTFE (ePTFE)	
Acoustic Mesh		Tents	Tents	Awning, Marine	Marine	Awning, Commercial	Vertical and Horizontal shade structures	Tension tents, pole tents, clearspans, tensile structures	Tension tents, pole tents, clearspans, tensile structures
Recommended Uses	Acoustic treatment – ceilings & walls Interior only	Sunbrella	Sunbrella Plus	Tempotest	Tempotest Coated	Starlight FR	Starscreen	Sefar Architecture TENARA Fabric 4T20 HF	Sefar Architecture TENARA Fabric 4T20 HF
Trade Name of Fabric	AlphaSilent AW	Sunbrella	Sunbrella Plus	Tempotest	Tempotest Coated	Starlight FR	Starscreen	Sefar Architecture TENARA Fabric 4T20 HF	Sefar Architecture TENARA Fabric 4T20 HF
Trademark Holder/Supplier	Serge Ferrari sergeferrari.com/us	Glen Raven Custom Fabrics LLC glenraven.com sunbrella.com	Glen Raven Custom Fabrics LLC glenraven.com sunbrella.com	Miami Corp/Parà miamicorp.com	Miami Corp/Parà miamicorp.com	Miami Corp/Parà miamicorp.com	Miami Corp/Parà miamicorp.com	SEFAR sefar.com	SEFAR sefar.com
Weight		9.0 oz/yd ²		8.8 oz/yd ² (+/- 5%)	> 9.7 oz/yd ² (+/- 5%)	8.8 oz/yd ² (+/- 5%)	6.49 oz/yd ² (+/- 5%)		
Base Fabric	Weave Style	Plain	Plain					Plain 1/1	Plain 1/1
	Yarn Count (Warp, Fill)	76, 36 tpi	76, 36 tpi					Fluoropolymer	Fluoropolymer
	Weight (Top, Bottom)		Yes						
Coating	UV Topcoat Material	Acrylic						Fluoropolymer	Fluoropolymer
	UV Topcoat Weight								
Life Expectancy		10+ years	5+ years	10 years	10 years	5 years	3 years	25+ years	25+ years
Warranty, Duration		10 years, limited	5 years	10 years	10 years	5 years		15 years	15 years
	Test Method	ASTM D3776	ASTM D3776-96					ASTM D4851	ASTM D4851
Finished Fabric	Thickness							0.55 mm, 0.022 in	0.55 mm, 0.022 in
	Weight	9.0 oz/yd ²	10.4 oz/yd ²				6.49 oz/yd ² (+/- 5%)	1080 g/m ² ; 31.9 oz/yd ²	1080 g/m ² ; 31.9 oz/yd ²
Roll Width, Usable		46, 60 in	60 in	47, 60", & 80"	60"	60"	128"	1.575 m; 62 in	1.575 m; 62 in
Tongue Tear	Warp, Fill	12, 8 lb/in	14, 8 lb/in						
	Test Method	ASTM 2261-96	ASTM 2261-96						

Trapezoidal Tear	Warp, Fill	25, 25 daN										798, 752 N; 179, 169 lb	ASTM D4851
	Test Method	DIN 53.363										798, 752 N; 179, 169 lb	ASTM D4851
Grab Tensile	Warp, Fill		286, 180 Lbf			285, 180 Lbf							
	Test Method		ASTM D5034-95			ASTM D5034-95							
Strip Tensile	Warp, Fill	250, 250 daN/5 cm										4000, 4000 N/5 cm; 456, 456 lb/in	ASTM D4851
	Test Method	NF EN ISO 1421										4000, 4000 N/5 cm; 456, 456 lb/in	ASTM D4851
Adhesion	Warp, Fill												
	Test Method												
Hydrostatic Resistance	Warp, Fill					100 cm hydros						>800 PSI	
	Test Method					AATCC 127-1998						>800 PSI	ASTM D751
Cold Crack	Warp, Fill					Pass							
	Test Method					ASTM B751-06							
Burning Characteristics, Test Method		ASTM E84, CSFM, NFPA 701											
Light Values, Test Method						EN410/14500 for a range of colors							ASTM 903
Transmission, Reflectance, Absorption						0-24%, 2-81%, 1-98%						38%, 59%, 3%	
												19%, 79%, 2%	
Seams (Recommended Style)		RF-Overlap				Lap or French hem						Lap	Lap
Construction Method						Heatseal with tape, sew							HF/RF
Useful Temperature Range													

PRODUCT		Fiberglass Mesh, PTFE Coated			Fiberglass, PTFE Coated					
Recommended Uses		Façade/Building décor	Façade/Building décor	Façade/Building décor	Tensile structures	Tensile structures	Tensile structures	Tensile structures	Tensile structures	Tensile structures
	Trade Name of Fabric	FGF-412-25-1	FGB-412-28	FGJ-412-28	FGT-250-1	FGT-1000	FGT-600	FGT-800	GF-8000 B18059	GF-7000 B18089
Trademark Holder/Supplier		Chukoh Chemical Ind., Ltd. chukoh.com	Chukoh Chemical Ind., Ltd. chukoh.com	Chukoh Chemical Ind., Ltd. chukoh.com	Chukoh Chemical Ind., Ltd. chukoh.com	Chukoh Chemical Ind., Ltd. chukoh.com	Chukoh Chemical Ind., Ltd. chukoh.com	Chukoh Chemical Ind., Ltd. chukoh.com	Serge Ferrari sergeferrari.com/us	Serge Ferrari sergeferrari.com/us
	Base Fabric	Weight	Weave Style	Yarn Count (Warp, Fill)	Weight (Top, Bottom)	UV Topcoat Material	UV Topcoat Weight	Life Expectancy	Warranty, Duration	Test Method
Coating		Mock-leno	Leno	Leno	Plain	Plain	Plain	Plain	L 1/1	L 1/1
Finished Fabric	Thickness	0.75 mm	1.1 mm	1.1 mm	0.37 mm	1.0 mm	0.6 mm	0.8 mm		
	Weight	700±100	680±100	680±100	500±100	1700±170	1000±100	1300±130	47 oz/yd ²	34 oz/yd ²
Tongue Tear	Warp, Fill	2800 mm	2700 mm	2700 mm	3800 mm	3800 mm	3800 mm	3800 mm	185 in	185 in
	Test Method									

Trapezoidal Tear	Warp, Fill																		112, 112 lb/in	112, 112 lb/in
	Test Method																		DIN 53363	DIN 53363
Grab Tensile	Warp, Fill																			
	Test Method																			
Strip Tensile	Warp, Fill	3000/2700 N/3 cm	1680/2250 N/3 cm	1680/2250 N/3 cm	1680/2250 N/3 cm	2400/1800 N/3 cm	5500/5000 N/3 cm	3680/2940 N/3 cm	4410/3528 N/3 cm	899, 899 lb/in	787, 674 lb/in									
	Test Method									DIN EN ISO 1421	DIN EN ISO 1421									
Adhesion	Warp, Fill									11 lb/in	9 lb/in									
	Test Method									DIN 53357	DIN 53357									
Hydrostatic Resistance	Warp, Fill																			
	Test Method																			
Cold Crack	Warp, Fill																			
	Test Method																			
Burning Characteristics, Test Method																				
Light Values, Test Method																				
Transmission, Reflectance, Absorption																				
Seams (Recommended Style)																				
Construction Method																				
Useful Temperature Range																				

PRODUCT		Fiberglass, PTFE Coated				HDPE					
Recommended Uses	Tensile structures	Tensile facades	Tensile facades	Tensile facades	Shade Structures, Shade Sails, Wind Breaks, Awnings, Canopies, Tarpaullins, Etc.	Shade structures, shade sails, tension membranes	Shade structures, shade sails, tension membranes	Shade structures, shade sails, tension membranes	Shade structures, shade sails, tension membranes	Shade structures, shade sails, tension membranes	Shade structures, shade sails, tension membranes
Trade Name of Fabric	GF-4500 B18039	GFM-21 B18656	GFM-52 B18905	GFM-52 B18905	Extrablock	Architec 400®	Comtex+®	Comtex+®	FR Comshade®	Comshade XTRA®	Parasol™
Trademark Holder/Supplier	Serge Ferrari sergeferrari.com/us	Serge Ferrari sergeferrari.com/us	Serge Ferrari sergeferrari.com/us	Serge Ferrari sergeferrari.com/us	Alinet PTY (Cape Town, South Africa) alinetameric.as.com	Polyfab USA LLC polyfabusa.com	Polyfab USA LLC polyfabusa.com	Polyfab USA LLC polyfabusa.com	Polyfab USA LLC polyfabusa.com	Polyfab USA LLC polyfabusa.com	Polyfab USA LLC polyfabusa.com
Weight						12 oz/yd ²	10 oz/yd ²	7 oz/yd ²	8.25 oz/yd ²	12 oz/yd ²	9.6 oz/yd ²
Weave Style	L 1/1	mock leno weave	mock leno weave	mock leno weave	Knitted	Raschel knit	Raschel knit	Raschel knit	Raschel knit	Raschel knit	Raschel knit
Yarn Count (Warp, Fill)	multifilament EC4 fiberglass	multifilament EC6 fiberglass	multifilament EC6 fiberglass	multifilament EC6 fiberglass	HDPE - 15 stitches per inch Stitch Density 120 Stitches per inch						
Weight (Top, Bottom)					Not Coated						
UV Topcoat Material	FEP	Fluoropolymer Alloy	Fluoropolymer Alloy	Fluoropolymer Alloy	Not Coated						
UV Topcoat Weight					Not Coated						
Life Expectancy	approx. 40 years	approx. 30 years	approx. 30 years	approx. 30 years	Over 10 years	15 years	12 years	12 years	10 years	15 years	10 years
Warranty, Duration	15 years	10 years	10 years	10 years	10 Year Non-prorated	15 years, limited warranty	12 years, limited warranty	12 years, limited warranty	10 years, limited warranty	15 years, limited warranty	10 years, limited warranty
Test Method	DIN EN ISO 2286-2	DIN EN ISO 2286-2	DIN EN ISO 2286-2	DIN EN ISO 2286-2							
Thickness					50.4mil / 1.28 mm						
Weight	22 oz/yd ²	20 oz/yd ²	19 oz/yd ²	19 oz/yd ²	9.6 oz/yd or 325 gsm						
Roll Width, Usable	126 in	126 in	126 in	126 in	118 inches or 3 meters	3.8 meters - 12-1/2 ft	3.8 meters - 12-1/2 ft	3.8 meters - 12-1/2 ft	3.8 meters - 12-1/2 ft	4 m - 13.1 ft	3.0 meters - 9.8 feet
Warp, Fill					Warp 33 lbs, Fill 36 lbs	41.1 lb / 38.3 lb	30.9 lbs / 34.4 lbs	16.5 lbs / 24.5 lbs	21.1 lbs / 23.9 lbs	52 lbs / 44 lbs	39 lbs / 49 lbs
Tongue Tear					ASTM D2261	ASTM D2261	ASTM D 2261	ASTM D 2261	ASTM D 751-06	ASTM D-2261	ASTM D 751-06

Trapezoidal Tear	Warp, Fill	67, 67 lb/in	112, 112 lb/in	101, 101 lb/in	Warp 97lbs, Fill 116lbs	342 lb / 270 lb	268 lbs / 340 lbs	120 lbs / 296 lbs	184 lbs / 381 lbs	374 lbs / 456 lbs	231 lbs / 419 lbs	
	Test Method	DIN 53363	DIN 53363	DIN 53363	ASTM D 5587	ASTM D5034	ASTM D 5034	ASTM D 5034	ASTM D 5034	ASTM D 5034	ASTM D 5034	ASTM D 5034
Grab Tensile	Warp, Fill	506/506 lb/in	674/674 lb/in	562/562 lb/in	Warp 278 lb, Fill 340 LBF							
	Test Method	DIN EN ISO 1421	DIN EN ISO 1421	DIN EN ISO 1421	ASTM D 5034							
Strip Tensile	Warp, Fill	6 lb/in										
	Test Method	DIN 53357										
Adhesion	Warp, Fill											
	Test Method											
Hydrostatic Resistance	Warp, Fill											
	Test Method											
Cold Crack	Warp, Fill											
	Test Method											
Burning Characteristics, Test Method	Warp, Fill	ASTM E84 E108 and E136; NFPA 701	ASTM E84 E108 and E136; NFPA 701	ASTM E84 E108 and E136; NFPA 701	Meets CA 1237.1 - CSFM Title 19, NFPA 701 Tested Method 2, ASTM E-84, CANULC S109-14	ASTM E84, Class A or I	NFPA-701, ASTM E-84	NFPA-701, ASTM E-84	California State Fire Marshal Title 19, NFPA-701, ASTM E-84	ASTM E-84, Class B or II	NFPA-701, ASTM E-84	
	Test Method			EN 410	UVI, UPF Shade Factor tested to AS 4174 - All results available upon request	Australian Radiation Protection, Nuclear Safety Agency Ref. 8402-1/ASTM Standard Test Method E903	Australian Radiation Protection, Nuclear Safety Agency Ref. 8402-1/ASTM Standard Test Method E903.	Australian Radiation Protection, Nuclear Safety Agency Ref. 8402-1/ASTM Standard Test Method E903.	Australian Radiation Protection, Nuclear Safety Agency Ref. 8402-1/ASTM Standard Test Method E903.	Australian Radiation Protection, Nuclear Safety Agency Ref. 8402-1/ASTM Standard Test Method E903.	Australian Radiation Protection, Nuclear Safety Agency Ref. 8402-1/ASTM Standard Test Method E903.	Australian Radiation Protection, Nuclear Safety Agency Ref. 8402-1/ASTM Standard Test Method E903.
Light Values, Test Method	Warp, Fill	15%, 78%, 7%	34%, 44%, 22%	52%, 21%, 27%	SRI Varies by color request UVR (High = 98% / Low = 92%) UPF (High = 33) (Low = 13)							
	Test Method											
Transmission, Reflectance, Absorption	Warp, Fill				Sewing double lock stitch, Can be welded with no tape Hor Air, Wedge, RF							
	Test Method											
Seams (Recommended Style)	Warp, Fill				Lock Stitch Knitted	Overlap/fell	Overlap/Fell	Overlap/Fell	Overlap/Fell	Overlap/Fell	Overlap/Fell	
	Test Method											
Construction Method	Warp, Fill											
	Test Method											
Useful Temperature Range	Warp, Fill	-112°F - 392°F	-112°F - 392°F	-112°F - 392°F	-13 Degrees F - +176 Degrees F	-40-80 C	-40-80 C	-40-80 C	-40-80 C	-40-80 C	-40-80 C	
	Test Method											

PRODUCT		Knitted HDPE						Mesh PVC Coated Polyester, Acrylic Coated		PES, PVC-Coated	
		Shade sails, shade structures, tension membranes	Shade sails, shade structures, tension membranes	Shade sails, shade structures, tension membranes	Shade sails, shade structures, tension membranes	Shade sails, shade structures, tension membranes	Shade sails, shade structures, tension membranes	Facades, Pergolas, Shadesails, Shade Structures, Tensile Structures, Awnings, Tent Side Walls	Facades, Pergolas, Shadesails, Shade Structures, Tensile Structures, Awnings, Tent Side Walls	Tent	Tent
Recommended Uses		Commercial Heavy 430	Commercial Heavy 430 FR	Commercial Heavy 430 FR	Commercial 95 FR	Dualshade 350	Dualshade 350 FR	Frontside Print 371	Frontside View 381	B1673	B1515
Trade Name of Fabric		Commercial Heavy 430	Commercial Heavy 430 FR	Commercial Heavy 430 FR	Commercial 95 FR	Dualshade 350	Dualshade 350 FR	Frontside Print 371	Frontside View 381	B1673	B1515
Trademark Holder/Supplier		GALE Pacific USA, Inc. galecommercial.com	GALE Pacific USA, Inc. galecommercial.com	GALE Pacific USA, Inc. galecommercial.com	GALE Pacific USA, Inc. galecommercial.com	GALE Pacific USA, Inc. galecommercial.com	GALE Pacific USA, Inc. galecommercial.com	Serge Ferrari sergeferrari.com/us	Serge Ferrari sergeferrari.com/us	Serge Ferrari sergeferrari.com/us	Serge Ferrari sergeferrari.com/us
Weight		12.7 oz/yd ²	12.7 oz/yd ²	12.7 oz/yd ²	10 oz/yd ²	10.3 oz/yd ²	10.3 oz/yd ²			180 g/m ² ; 5.31 oz/yd ²	180 g/m ² ; 5.31 oz/yd ²
Weave Style		Monofilament yarn, Raschel knit	Monofilament yarn, Raschel knit	Monofilament yarn, Raschel knit	Monofilament and tape yarn, Raschel knit	Monofilament and tape yarn, Raschel knit	Monofilament and tape yarn, Raschel knit	Preconstraint [®] – Basket Weave	Preconstraint [®] – Basket Weave	L 1/1	L 1/1
Yarn Count (Warp, Fill)		12 gauge	12 gauge	12 gauge	6 gauge	8 gauge	8 gauge	High Tenacity Polyester	High Tenacity Polyester	1100, 1100 tpi	1100, 1100 tpi
Weight (Top, Bottom)								16.5 oz/yd ²	25 oz/yd ²	413 g/m ² ; 12 oz/yd ²	413 g/m ² ; 12 oz/yd ²
UV Topcoat Material								Acrylic	Acrylic	Acrylic lacquer	Acrylic lacquer
UV Topcoat Weight											
Life Expectancy		15 years	12 years	12 years	10 years	10 years	10 years	15 years	20 years	10-15 years	10-15 years
Warranty, Duration		15 years	12 years	12 years	10 years	10 years	10 years	10 years	10 years		
Test Method										DIN 4102 B1, M2	DIN 4102 B1, M2
Thickness		0.06 in / 1.6 mm	0.06 in / 1.6 mm	0.06 in / 1.6 mm	0.06 in / 1.6 mm	0.07 in / 1.8 mm	0.07 in / 1.8 mm			0.5 mm; 0.2 in	0.5 mm; 0.2 in
Weight		430gsm ± 20	430gsm ± 20	430gsm ± 20	340 gsm ± 20	350 gsm ± 20	350 gsm ± 20			800 g/m ² ; 25 oz/yd ²	675 g/m ² ; 22 oz/yd ²
Roll Width, Usable		9 ft 10 in / 3 m	9 ft 10 in / 3 m	9 ft 10 in / 3 m	9 ft 10 in / 3 m	9 ft 10 in / 3 m	9 ft 10 in / 3 m	105 in	105 in	61, 98 in	61, 98 in
Warp, Fill		63.6 lbf / 54 lbf	55.8 lbf / 48.7 lbf	55.8 lbf / 48.7 lbf		64.4 lbf / 49.2 lbf	61.4 lbf / 47.3 lbf				
Test Method		ASTM D2261-13	ASTM D2261-13	ASTM D2261-13	ASTM D2261-13	ASTM D2261-13	ASTM D2261-13			DIN 53363	DIN 53363

Trapezoidal Tear	Warp, Fill									300, 300 N; 67, 67 lb/in	300, 300 N; 67, 67 lb/in									
	Test Method									DIN 53363	DIN 53363									
Grab Tensile	Warp, Fill									2800, 2500 N/5cm; 320, 285 lb/in	2800, 2500 N/5cm; 320, 285 lb/in									
	Test Method									ASTM D5034	ASTM D5034									
Strip Tensile	Warp, Fill																			
	Test Method																			
Adhesion	Warp, Fill																			
	Test Method																			
Hydrostatic Resistance	Warp, Fill																			
	Test Method																			
Cold Crack	Warp, Fill																			
	Test Method																			
Burning Characteristics, Test Method	Warp, Fill																			
	Test Method																			
Light Values, Test Method	Warp, Fill																			
	Test Method																			
Transmission, Reflectance, Absorption	Warp, Fill																			
	Test Method																			
Seams (Recommended Style)	Warp, Fill																			
	Test Method																			
Construction Method	Warp, Fill																			
	Test Method																			
Useful Temperature Range	Warp, Fill																			
	Test Method																			

PRODUCT		Polyester, Acrylic-Coated						Polyester, PVC-Coated					
		Air structures, pole tents, awnings, canopies	Tents, tensile structures, awnings, canopies	Tents, tensile structures, awnings, canopies	Air structures, tension tents, tensile structures, frame supported structures	Tension tents, tensile structures, frame supported structures	Tension tents, tensile structures, frame supported structures	Air structures, tension tents, tensile structures, frame supported structures	Tension tents, tensile structures, frame supported structures	Tension tents, tensile structures, frame supported structures	Tensile Structures, Frame Structures	Clearspan rental tents, tensile tents, tensile structures	
Recommended Uses		Odyssey FR	Top Gun FR	Top Gun FR Lite	clipeum 650 H5871	tentalux 650 FR H6671	clipeum 900 H5873	clipeum 850 BLO H5571-BLO	Shelter-Rite Tent 3820				
Trade Name of Fabric		Odyssey FR	Top Gun FR	Top Gun FR Lite	clipeum 650 H5871	tentalux 650 FR H6671	clipeum 900 H5873	clipeum 850 BLO H5571-BLO	Shelter-Rite Tent 3820				
Trademark Holder/Supplier		Marlen Textiles marlentextiles.com	Marlen Textiles marlentextiles.com	Marlen Textiles marlentextiles.com	HEYtex USA www.heytex.com	HEYtex USA www.heytex.com	HEYtex USA www.heytex.com	HEYtex USA www.heytex.com	Architectural Fabrics by Seaman Corp. architecturalfabrics.com	Architectural Fabrics by Seaman Corp. architecturalfabrics.com			
Weight		7.25 oz/yd ²	13.0 oz/yd ²	8.0 oz/yd ²	5 oz/yd ²	5 oz/yd ²	8 oz/yd ²	5 oz/yd ²	170 g/m ² ; 5.0 oz/yd ²	170 g/m ² ; 5.0 oz/yd ²			
Weave Style		Plain	Plain	Plain	plain 1/1	plain 1/1	panama 2/2	plain 1/1	plain 1/1	Weft-inserted Warp-knit	Plain woven		
Yarn Count (Warp, Fill)					100% Polyester; 1100	100% Polyester; 1100	100% Polyester; 1100	100% Polyester; 1100	100% Polyester; 1100				
Weight (Top, Bottom)													
UV Topcoat Material		Acrylic	Acrylic	Acrylic	Premium Acrylic	Premium Acrylic	Premium Acrylic	Premium Acrylic	Premium Acrylic	PVDF; Acrylic	Acrylic		
UV Topcoat Weight													
Life Expectancy		3-5 years	8-10 years	5-7 years	20+ years	20+ years	20+ years	20+ years	20+ years	10+ years	7+ years		
Warranty, Duration		3 years	8 years	5 years	upon request	upon request	upon request	upon request	upon request	10 years	7 years		
Test Method		FED-STD 191A (5041)	FED-STD 191A (5041)	FED-STD 191A (5041)						ASTM D751	ASTM D751		
Thickness		0.022 in	0.022 in	0.022 in									
Weight		245.81 g/m ² ; 7.25 oz/yd ²	13.0 oz/yd ²	8.0 oz/yd ²	650 g/m ² 19 oz/yd ²	650 g/m ² 19 oz/yd ²	900 g/m ² 27 oz/yd ²	850 g/m ² 25 oz/yd ²	850 g/m ² 25 oz/yd ²	680 g/m ² ; 20 oz/yd ²	678 g/m ² ; 20 oz/yd ²		
Roll Width, Usable		157.5 cm; 62 in	62 in	62 in	250 cm, 98 in 300 cm, 118 in	250 cm, 98 in 300 cm, 118 in	250 cm, 98 in 300 cm, 118 in	250 cm, 98 in 300 cm, 118 in	250 cm, 98 in 300 cm, 118 in	250 cm; 98 in	250 cm; 98 in		
Warp, Fill		12, 12 lb/in	25, 18 lb/in	12, 10 lb/in	≥ 72/63 lbs	≥ 56/56 lbs	≥ 112/112 lbs	≥ 56/56 lbs	≥ 56/56 lbs				
Test Method		FED-STD 191A (5134)	ASTM D2261	ASTM D2261	DIN 53363	DIN 53363	DIN 53363	DIN 53363	DIN 53363		DIN 53363		

Trapezoidal Tear	Warp, Fill	35, 30 lb/in	74, 34 lb/in	74, 34 lb/in								220, 220 N 50, 50 lb.	
	Test Method	FED-STD 191A (5136)	ASTM D4533	ASTM D4533								ASTM D4533	
Grab Tensile	Warp, Fill	300, 250 lb/in	498, 380 lb/in	275, 220 lb/in								1780, 1780 N 400, 400 lb	1669, 1445 N; 375, 325 lb
	Test Method	Fed-STD 191A (5100)	ASTM D1682	ASTM D1682								ASTM D751	ASTM D751
Strip Tensile	Warp, Fill		363, 221 lb/in	363, 221 lb/in	≥ 320/286 lbs/inch	≥ 457/457 lbs/inch	≥ 286/286 lbs/inch	≥ 308/286 lbs/inch				285, 285 daN/5cm; 325, 325 lb/in	263, 241 daN/5cm; 300, 275 lb/in
	Test Method		ASTM D1682	ASTM D1682	DIN EN ISO 1421-1	DIN EN ISO 1421-1	DIN EN ISO 1421-1	DIN EN ISO 1421-1	DIN EN ISO 1421-1			ASTM D751	ASTM D751
Adhesion	Warp, Fill				> 11 lbs/inch	> 11 lbs/inch	> 11 lbs/inch	> 11 lbs/inch				18 N/cm; 10 lb/in	18 N/cm; 10 lb/in
	Test Method				DIN EN ISO 2411	DIN EN ISO 2411	DIN EN ISO 2411	DIN EN ISO 2411	DIN EN ISO 2411			ASTM D751	ASTM D751
Hydrostatic Resistance	Warp, Fill	1 psi	70 cm	60 cm								3.45 Mpa; 500 psi	3.45 Mpa; 500 psi
	Test Method		FED-STD 191 (5514)	FED-STD 191 (5514)								ASTM D751	ASTM D751
Cold Crack	Warp, Fill	-20 F			-30 C -22 F	-40 C -40 F	-40 C -40 F	-30 C -22 F				-40 C, -40 F	-40 C, -40 F
	Test Method				DIN EN 1876-1 IVK 3.5	DIN EN 1876-1 IVK 3.5	DIN EN 1876-1 IVK 3.5	DIN EN 1876-1 IVK 3.5	DIN EN 1876-1 IVK 3.5			ASTM D2136	ASTM D2136
Burning Characteristics, Test Method		CPAI-84, NFPA 701 Method 2, CAN ULC-S109-03, FAA/FAR 25.853, CSFMT Title 19	CPAI-84, CSFM Title 19-section 1237, NFPA 701 Method 2, CAN ULC-S109-03, FAA/FAR 25.853	CPAI-84, CSFM Title 19-section 1237, NFPA 701 Method 2, CAN ULC-S109-03, FAA/FAR 25.853	DIN 4102 B1, NFPA701, CSFM T19, ASTM E84, ULC S102, ULC S109, M2	DIN 4102 B1, NFPA701, CSFM T19, ASTM E84, ULC S102, ULC S109	DIN 4102 B1, NFPA701, CSFM T19, M2	DIN 4102 B1, NFPA 701, CSFM T19, M2				NFPA701, CSFM, ASTM E84; ASTM D6413	NFPA701, CSFM, ASTM E84; ASTM D6413
	Light Values, Test Method			PA 2001/41	PA 2001/41	PA 2001/41	PA 2001/41	PA 2001/41	PA 2001/41				
Transmission, Reflectance, Absorption					17%	12% white 3% other color	42% (-0001)	0%				Depends on color	Depends on color
	Seams (Recommended Style)				Lap or butt	Lap or butt	Lap or butt	Lap or butt	Lap or butt			Lap or butt	Lap or butt
Construction Method		Sew			plain 1/1	panama 2/2	plain 1/1	plain 1/1	plain 1/1			Heatseal or RF	Heatseal or RF
	Useful Temperature Range				-22 F to +158 F	-40 F to +158 F	-40 F to +158 F	-22 F to +158 F	-22 F to +158 F			-40-160 F	-40-160 F

PRODUCT		Polyester, PVC-Coated							Polyester, PVDF-Coated			
		Air structures, tension tents, clearspans, tensile structures	Tension tents, tensile structures	Air structures, tension tents, clearspans, tensile structures	Air structures, frame supported structures, tensile structures	Air structures, frame supported structures, tensile structures	Air structures, frame supported structures, tensile structures	Air structures, frame supported structures, tensile structures	Air Structures, frame structures, tension tents, tensile structures	Air structures, frame structures, tension tents, tensile structures	Air structures, frame structures, tension tents, tensile structures	Air structures, frame structures, tension tents, tensile structures
Recommended Uses		Shelter-Rite 8028	Shelter-Rite 8324	Shelter-Rite 9032	F700 B4907	F900 B4616	F1100 B	Hiraoka HG102	Hiraoka HG212	Hiraoka HG313		
Trade Name of Fabric		Shelter-Rite 8028	Shelter-Rite 8324	Shelter-Rite 9032	F700 B4907	F900 B4616	F1100 B	Hiraoka HG102	Hiraoka HG212	Hiraoka HG313		
Trademark Holder/Supplier		Architectural Fabrics by Seaman Corp. architecturalfabrics.com	Architectural Fabrics by Seaman Corp. architecturalfabrics.com	Architectural Fabrics by Seaman Corp. architecturalfabrics.com	Serge Ferrari sergeferrari.com/us	Serge Ferrari sergeferrari.com/us	Serge Ferrari sergeferrari.com/us	Hiraoka & Co. Ltd. tarpo-hiraoka.com/en	Hiraoka & Co. Ltd. tarpo-hiraoka.com/en	Hiraoka & Co. Ltd. tarpo-hiraoka.com/en		
Base Fabric		254 g/m ² ; 75 oz/yd ²	146 g/m ² ; 4.3 oz/yd ²	339 g/m ² ; 10.0 oz/yd ²	Plain	High tenacity polyester	Panama	Plain weave	Plain weave	Panama weave 2/2		
Coating		Wet-inserted Warp-knit	Wet-inserted Warp-knit	Wet-inserted Warp-knit	High tenacity polyester	High tenacity polyester	Panama	High tenacity polyester	High tenacity polyester	Panama weave 2/2		
Life Expectancy		20+ years	15+ years	20+ years	15 - 20 years	10 years	15 - 20 years	15 - 20 years	15 - 20 years	20 years		
Warranty, Duration		10 years; 15 years; 20 years	10 years	10 years; 15 years; 20 years	10 years	10 years	10 years	10 years	10 years	20 years		
Finished Fabric		ASTM D751	ASTM D751	ASTM D751	DIN EN ISO 2286-2	DIN EN ISO 2286-2	DIN EN ISO 2286-2	ASTM D751	ASTM D751	ASTM D751		
Test Method		ASTM D751	ASTM D751	ASTM D751	DIN EN ISO 2286-2	DIN EN ISO 2286-2	DIN EN ISO 2286-2	ASTM D751	ASTM D751	ASTM D751		
Thickness		950 g/m ² ; 28 oz/yd ²	814 g/m ² ; 24 oz/yd ²	1085 g/m ² ; 32 oz/yd ²	21 oz/yd ²	27 oz/yd ²	32 oz/yd ²	0.60 mm; 23 mil	0.77 mm; 30 mil	0.91 mm; 36 mil		
Weight		250 cm; 98 in	180 cm; 71 in	180 cm; 71 in	118 in	118 in	118 in	204 cm; 80.3 in	204 cm; 80.3 in	204 cm; 80.3 in		
Roll Width, Usable		1223, 1223 N; 275, 275 lb	623, 594 N; 140, 130 lb	1335, 1335 N; 300, 300 lb								
Tongue Tear		ASTM D751	ASTM D751	ASTM D751								
Warp, Fill												
Test Method												

Trapezoidal Tear	Warp, Fill	378, 378 N; 85, 85 lb	445, 445 N; 100, 100 lb	79/79 lbf	101/101 lbf	191/169 lbf	16, 16 daN; 36, 36 lbs	40, 40 daN; 90, 90 lbs	63, 63 daN; 141, 141 lbs
	Test Method	ASTM D4533	ASTM D751	DIN 53363	DIN 53363	DIN 53363	ASTM D751	ASTM D751	ASTM D751
Grab Tensile	Warp, Fill	3115, 3115 N/cm; 700, 700 lb	1780, 1558 N; 400, 350 lb						
	Test Method	ASTM D751	ASTM D751						
Strip Tensile	Warp, Fill	916, 916 N/cm; 515, 515 lb/in	263, 210 daN/5cm; 300, 240 lb/in	360/337 lbf/in	472/461 lbf/in	629/585 lbf/in	310, 280 daN/5cm; 354, 320 lb/in	510, 520 daN/5 cm; 582, 594 lb/in	610, 580 daN/5 cm; 698, 664 lb/in
	Test Method	ASTM D751	ASTM D751	DIN EN ISO 1421	DIN EN ISO 1421	DIN EN ISO 1421	ASTM D751	ASTM D751	ASTM D751
Adhesion	Warp, Fill	18 N/cm; 10 lb/in	18 N/cm; 10 lb/in	11 lb/in	13 lb/in	13 lb/in	10,10 daN/5 cm; 11,11 lb/in	10,10 daN/5 cm; 11,11 lb/in	12,12 daN/5 cm; 14,14 lb/in
	Test Method	ASTM D751	ASTM D751	DIN 53357	DIN 53357	DIN 53357	ASTM D751	ASTM D751	ASTM D751
Hydrostatic Resistance	Warp, Fill	3.45 Mpa; 500 psi	3.45 Mpa; 500 psi						
	Test Method	ASTM D751	ASTM D751						
Cold Crack	Warp, Fill	-40 C. -40 F	-40 C. -40 F				-40	-40	-40
	Test Method	ASTM D2136	ASTM D2136				ASTM D2136	ASTM D2136	ASTM D2136
Burning Characteristics, Test Method		NFPA701, CSFM, ASTM E84;ASTM D6413; ULC S109; ULC S102; KUCAS	NFPA701, CSFM, ASTM E84;ASTM D6413; ULC S109; ULC S102	ASTM E84, NFPA 701	ASTM E84, NFPA 701	ASTM E84, NFPA 701	EN13501-1 <B-s2d0>, NFPA-701, ASTM E-84, GB8624-B1>, ASTM E-84, GB8624-B1>, AS1530-2, AS1530-3	EN13501-1 <B-s2d0>, NFPA-701, ASTM E-84, GB8624-B1>, ASTM E-84, GB8624-B1>, AS1530-2, AS1530-3, DIN102-1-B1> ,CAV/ CAN/ULC S109M ULC S109M	EN13501-1 <B-s2d0>, NFPA-701, ASTM E-84, GB8624-B1>, ASTM E-84, GB8624-B1>, AS1530-2, AS1530-3, CAN/ULC S109M
	Light Values, Test Method			EN 410	EN 410	EN 410	ISO 9050	ISO 9050	ISO 9050
Transmission, Reflectance, Absorption		Depends on color	Depends on color	10%, 86%, 4%	7%, 89%, 4%	6%, 89%, 5%	Transmission: 14%	Transmission: 13%	Transmission: 12%
	Seams (Recommended Style)	Lap or butt	Lap or butt	RF-Overlap	RF-Overlap	RF-Overlap	Overlap	Overlap	Overlap
Construction Method		Heatseal or RF	Heatseal or RF				Heatseal, RF weld	Heatseal, RF weld	Heatseal, RF weld
	Useful Temperature Range	-40-160 F	-40-160 F	-22-158 F	-22-158 F	-22-158 F	-40-70 C, -40-158 F	-40-70 C, -40-158 F	-40-70 C, -40-158 F

PRODUCT	Polyester, PVDF-Coated						Polyester, PVDF-Film Laminated	Polyester, Std Oxford		Polyester, Solution Dyed	Polyester, Vinyl Mesh-Coated							
	Air Structures, frame structures, tension tents, tensile structures	Hiraoka HG212-SHS	Air Structures, frame structures, tension tents, tensile structures	Hiraoka HG212-HT	Air Structures, frame structures, tension tents, tensile structures	Hiraoka HG212-MT		Air Structures, frame structures, tension tents, tensile structures	Hiraoka HG212(B)			Air structures, frame structures, tension tents, tensile structures	Hiraoka PVF212	Shades/Sails	Shades/Sails			
Recommended Uses	Air structures, frame structures, tension tents, tensile structures	Hiraoka HG412	Air Structures, frame structures, tension tents, tensile structures	Hiraoka HG212-SHS	Air Structures, frame structures, tension tents, tensile structures	Hiraoka HG212-MT	Air Structures, frame structures, tension tents, tensile structures	Hiraoka HG212(B)	Air structures, frame structures, tension tents, tensile structures	Hiraoka PVF212	Shades/Sails	Shades/Sails	Shades/Sails	Tents, tensile structures, awnings, canopies	Top Notch FR	Hiraoka - DreamView™	Facade, Building coverings, Printed facade, Backlit and frontlit panels, Catamaran Trampoline	Hiraoka & Co. Ltd. tarpo-hiraoka.com/en
Trade Name of Fabric	Hiraoka HG412	Hiraoka HG212-SHS	Hiraoka HG212-HT	Hiraoka HG212-MT	Hiraoka HG212(B)	Hiraoka HG212-MT	Hiraoka HG212(B)	Hiraoka HG212(B)	Hiraoka PVF212	Hiraoka PVF212	SPX	HSX-v	HSX-v	Top Notch FR	Top Notch FR	Hiraoka - DreamView™	Hiraoka & Co. Ltd. tarpo-hiraoka.com/en	
Trademark Holder/Supplier	Hiraoka & Co. Ltd. tarpo-hiraoka.com/en	Hiraoka & Co. Ltd. tarpo-hiraoka.com/en	Hiraoka & Co. Ltd. tarpo-hiraoka.com/en	Hiraoka & Co. Ltd. tarpo-hiraoka.com/en	Hiraoka & Co. Ltd. tarpo-hiraoka.com/en	Hiraoka & Co. Ltd. tarpo-hiraoka.com/en	Hiraoka & Co. Ltd. tarpo-hiraoka.com/en	Hiraoka & Co. Ltd. tarpo-hiraoka.com/en	Hiraoka & Co. Ltd. tarpo-hiraoka.com/en	Hiraoka & Co. Ltd. tarpo-hiraoka.com/en	Bainbridge Int. Inc. bainbridgeintusa.com	Bainbridge Int. Inc. bainbridgeintusa.com	Bainbridge Int. Inc. bainbridgeintusa.com	Marlen Textiles marlentextiles.com	Marlen Textiles marlentextiles.com	Hiraoka & Co. Ltd. tarpo-hiraoka.com/en	Hiraoka & Co. Ltd. tarpo-hiraoka.com/en	
Base Fabric	Weight	11.5 oz/yd ²	Weave Style	Plain weave	Plain weave	Plain weave	Plain weave	Plain weave	Plain weave	Plain weave	Std Oxford Polyester	Std Oxford Polyester/Vectran	Plain	Plain	Plain	Acrylic	Acrylic	
Coating	UV Topcoat Material	PVDF	UV Topcoat Weight	1.2 mm; 47 mil	1470 g/m ² ; 43.4 oz/yd ²	204 cm; 80.3 in	204 cm; 80.3 in	204 cm; 80.3 in	204 cm; 80.3 in	204 cm; 80.3 in	204 cm; 80.3 in	204 cm; 80.3 in	204 cm; 80.3 in	204 cm; 80.3 in	204 cm; 80.3 in	204 cm; 80.3 in	204 cm; 80.3 in	204 cm; 80.3 in
Life Expectancy	Warranty, Duration	20 years	ASTM D751	25 years	ASTM D751	15 years	ASTM D751	20 years	ASTM D751	20 years	ASTM D751	ASTM D751	ASTM D751	ASTM D751	ASTM D751	ASTM D751	ASTM D751	ASTM D751
Finished Fabric	Test Method	ASTM D751	ASTM D751	ASTM D751	ASTM D751	ASTM D751	ASTM D751	ASTM D751	ASTM D751	ASTM D751	ASTM D751	ASTM D751	ASTM D751	ASTM D751	ASTM D751	ASTM D751	ASTM D751	ASTM D751
Roll Width, Usable	Thickness	1.2 mm; 47 mil	0.77 mm; 30 mil	0.77 mm; 30 mil	0.77 mm; 30 mil	0.77 mm; 30 mil	0.77 mm; 30 mil	0.77 mm; 30 mil	0.79 mm; 31 mil	0.79 mm; 31 mil	16 mil	16 mil	16 mil	16 mil	16 mil	16 mil	16 mil	16 mil
Tongue Tear	Weight	1470 g/m ² ; 43.4 oz/yd ²	950 g/m ² ; 28 oz/yd ²	950 g/m ² ; 28 oz/yd ²	950 g/m ² ; 28 oz/yd ²	950 g/m ² ; 28 oz/yd ²	950 g/m ² ; 28 oz/yd ²	950 g/m ² ; 28 oz/yd ²	950 g/m ² ; 28 oz/yd ²	950 g/m ² ; 28 oz/yd ²	76-11.2smoz	76-11.2smoz	76-11.2smoz	76-11.2smoz	76-11.2smoz	76-11.2smoz	76-11.2smoz	76-11.2smoz
	Roll Width, Usable	204 cm; 80.3 in	204 cm; 80.3 in	204 cm; 80.3 in	204 cm; 80.3 in	204 cm; 80.3 in	204 cm; 80.3 in	204 cm; 80.3 in	204 cm; 80.3 in	204 cm; 80.3 in	54"	54"	54"	54"	54"	54"	54"	54"
	Warp, Fill	24 x 14	24 x 14	24 x 14	24 x 14	24 x 14	24 x 14	24 x 14	24 x 14	24 x 14	24 x 14	24 x 14	24 x 14	24 x 14	24 x 14	24 x 14	24 x 14	24 x 14
	Test Method	ASTM D2261	ASTM D2261	ASTM D2261	ASTM D2261	ASTM D2261	ASTM D2261	ASTM D2261	ASTM D2261	ASTM D2261	ASTM D2261	ASTM D2261	ASTM D2261	ASTM D2261	ASTM D2261	ASTM D2261	ASTM D2261	ASTM D2261

Trapezoidal Tear	Warp, Fill	95, 90 daN 214, 202 lbs	40, 40 daN; 90, 90 lbs	40, 40 daN; 90, 90 lbs	40, 40 daN; 90, 90 lbs	40, 40 daN; 90, 90 lbs	58, 32	40, 40 daN; 90, 90 lbs
	Test Method	ASTM D751	ASTM D751	ASTM D751	ASTM D751	ASTM D751	ASTM D4533	ASTM D751
Grab Tensile	Warp, Fill						500 x 240	
	Test Method						ASTM D1682	
Strip Tensile	Warp, Fill	830, 700 daN/5 cm; 948, 799 lb/in	510, 520 daN/5 cm; 582, 594 lb/in	510, 520 daN/5 cm; 582, 594 lb/in	510, 520 daN/5 cm; 582, 594 lb/in	510, 520 daN/5 cm; 582, 594 lb/in		300, 300 daN/5 cm; 343, 343 lb/in
	Test Method	ASTM D751	ASTM D751	ASTM D751	ASTM D751	ASTM D751		ASTM D751
Adhesion	Warp, Fill	12,12 daN/5 cm, 14,14 lb/in	10,10 daN/5 cm; 11,11 lb/in	10,10 daN/5 cm; 11,11 lb/in	10,10 daN/5 cm; 11,11 lb/in	10,10 daN/5 cm; 11,11 lb/in		
	Test Method	ASTM D751	ASTM D751	ASTM D751	ASTM D751	ASTM D751		
Hydrostatic Resistance	Warp, Fill						90 cm	
	Test Method						AATCC 127	
Cold Crack	Warp, Fill	-40	-40	-40	-40	-40		
	Test Method	ASTM D2136	ASTM D2136	ASTM D2136	ASTM D2136	ASTM D2136		
Burning Characteristics, Test Method		EN13501-1 <C-s2d0> NFFPA-701	EN13501-1 <B-s2d0> NFFPA-701, ASTM E-84, GB8624<B1>, AS1530-2,AS1530-3, DIN4102-1<B1>, CAN/ULC S109M	EN13501-1 <B-s2d0> NFFPA-701, ASTM E-84, GB8624<B1>, AS1530-2,AS1530-3, DIN4102-1<B1>, CAN/ULC S109M	EN13501-1 <B-s2d0> NFFPA-701, ASTM E-84, GB8624<B1>, AS1530-2,AS1530-3, DIN4102-1<B1>, CAN/ULC S109M	EN13501-1 <B-s2d0> NFFPA-701, ASTM E-84, GB8624<B1>, AS1530-2,AS1530-3, DIN4102-1<B1>, CAN/ULC S109M	CPAI-84, CSFM Title 19-section 1237, NFFPA 701 Method 2, CAN ULC-S109-03, FAA/FAR 25.853	NFFPA-701, EN13501-1, JIS A1322
	Light Values, Test Method	ISO 9050	ISO 9050	ISO 9050	ISO 9050	ISO 9050		
Transmission, Reflectance, Absorption		Transmission: 4%	Transmission: 2.7%	Transmission: 30%	Transmission: 0%	Transmission: 0%		Transmission: 8%
	Seams (Recommended Style)	Overlap	Overlap	Overlap	Overlap	Overlap	Tape/Sewn	Overlap
Construction Method		Heatseal, RF weld	Heatseal, RF weld	Heatseal, RF weld	Heatseal, RF weld	Heatseal, RF weld	Woven	Woven
	Useful Temperature Range	-40-70 C; -40-158 F	-40-70 C; -40-158 F	-40-70 C; -40-158 F	-40-70 C; -40-158 F	-40-70 C; -40-158 F	-40-70 C; -40-158 F	

PRODUCT		Polyester, Vinyl-Laminated									
Recommended Uses	ClearSpan Tents, Long term structures	Tension tents, pole tents, clearspans, tent sidewall	Tension tents, pole tents, tent sidewall	Tent sidewalls	Tent sidewalls	Tent sidewalls	Tent sidewalls	Pole tents, clearspans, tensile structures, tent sidewall	Tension tents, pole tents, clearspans, tent sidewall	Pole tents, tent sidewall	Pole Tents, Sidewall
Trade Name of Fabric	Architent Excel	Architent StarFree Blackout	Architent Wideside 90"	Architent Wideside 98"	Architent Wideside 98"	Architent Wideside 98"	Architent Wideside 98"	ArchSpan Blackout 96"	Showtime S-83 Blackout	Showtime II Translucent	Weatherspan PRV 13100
Trademark Holder/Supplier	Herculite Products Inc. herculite.com	Herculite Products Inc. herculite.com	Herculite Products Inc. herculite.com	Herculite Products Inc. herculite.com	Herculite Products Inc. herculite.com	Herculite Products Inc. herculite.com	Herculite Products Inc. herculite.com	Herculite Products Inc. herculite.com	Herculite Products Inc. herculite.com	Herculite Products Inc. herculite.com	Snyder Manufacturing snyderman.com
Base Fabric											
Coating											
Life Expectancy	8 years	7 years	5 years	5 years	5 years	5 years	5 years	5 years	5 years	5 years	2.6 oz./yd ²
Warranty, Duration	5 years	3 years	2 years	N/A	N/A	N/A	N/A	2 years	2 years	2 years	welt insertion knit
Finished Fabric											
Roll Width, Usable	61 and 64 in	61 in	90 in	98 in	98 in	98 in	98 in	96 in	61 in	61 in	9X9 polyester
Tongue Tear	175, 165 lb/in	115/110	30, 35 lb/in	100, 100 lb/in	100, 100 lb/in	100, 100 lb/in	100, 100 lb/in	115, 125 lb/in	105/115	100/110	
	ASTM D2261/1	ASTM D2261/1	ASTM D2261/1	ASTM D2261/1	ASTM D2261/1	ASTM D2261/1	ASTM D2261/1	ASTM D2261/1	ASTM D2261/1	ASTM D2261/1	FED-STD 5134

PRODUCT		Polyester, Vinyl-Laminated				Polymer, Solution Dyed			PTFE, 100%		
		Tension Tents, Pole tents, Sidewall	Tension Tents, Pole tents, Sidewall	Sidewall	Tents, tensile structures, shade sails	Tents, tensile structures, shade sails	Tents, tensile structures, shade sails	Tension tents, pole tents, clearspans, tensile structures	Tension tents, pole tents, clearspans, tensile structures	Tension tents, pole tents, clearspans, tensile structures	
Recommended Uses	Trade Name of Fabric	WeatherSpan PRV 1610R	WeatherSpan PRV 1444K	WeatherSpan PRV 1218K	Firesist	WeatherMAX 80	WeatherMAX FR	Sefar Architecture EL-40-T1	Sefar Architecture EL-55-T0	Sefar Architecture EL-40-T1	Sefar Architecture EL-55-T0
	Trademark Holder/Supplier	Snyder Manufacturing snyderman.com	Snyder Manufacturing snyderman.com	Snyder Manufacturing snyderman.com	Glen Raven Custom Fabrics LLC glenraven.com sunbrella.com	Safety Components weathermax.com	Safety Components weathermax.com	Sefar sefar.com	Sefar sefar.com	Sefar sefar.com	Sefar sefar.com
Base Fabric	Weight	2.6 oz./yd ²	4 oz./yd ²	1.4 oz./yd ²	8.0 oz./yd ²	8.0 oz./yd ²	8.0 oz./yd ²				
	Weave Style	weft insertion knit	Woven	weft insertion knit	Plain	Ottoman	Ottoman	Plain 1/1	Panama 2/2	Panama 2/2	Cross-Twill 2/2
Coating	Yarn Count (Warp, Fill)	9X9 polyester	13x13 polyester	18x9 polyester	116, 30 tpi			Fluoropolymer	Fluoropolymer	Fluoropolymer	Fluoropolymer
	Weight (Top, Bottom)				Yes						
	UV Topcoat Material										
Life Expectancy	UV Topcoat Weight										
	Life Expectancy				5+ years	7-12 years	7-10 years	20+ years	20+ years	20+ years	20+ years
Warranty, Duration	Warranty, Duration				5 years	10 years	5 years	10 years	10 years	10 years	10 years
	Test Method	FED-STD 5041	FED-STD 5041	FED-STD 5041	ASTM D3776						
Finished Fabric	Thickness					.38 mm	.42 mm	0.41 mm, 0.016 in	0.29 mm, 0.011 in	0.29 mm, 0.011 in	0.19 mm, 0.008 in
	Weight	16-20 oz./yd ²	18 oz./yd ²	12 oz./yd ²	8.75 oz./yd ²	8.0 oz./yd ²	9.75 oz./yd ²	530 g/m ²	330 g/m ²	330 g/m ²	250 g/m ²
Roll Width, Usable	Roll Width, Usable	61 in	61 in	61 in	60 in	60 in	60 in	1.6 m, 63 in	1.6 m, 63 in	1.6 m, 63 in	1.6 m, 63 in
	Warp, Fill	60, 60lbs/in	90, 90lbs/in	25, 25lbs/in	20, 14 lb/in	20, 18 lb/in	13, 15 lb/in				
Tongue Tear	Test Method	FED-STD 5134	FED-STD 5134	FED-STD 5134	ASTM D2261-96	ASTM D2261	ASTM D2261				
	Test Method										

Trapezoidal Tear	Warp, Fill					69, 32 lbf/in	35, 30 lbf/in				30 N/5 cm	
	Test Method					ASTM D5587	ASTM D5587				DIN 53859-5	
Grab Tensile	Warp, Fill	220, 200 lbs/in	315, 295 lbs/in	140,125, lbs/in	100, 100 lbs/in	350, 200 Lbf	490, 390	4100, 4000 N/5 cm, 457, 456 lbf/in	490, 390	2000, 2050 N/5 cm, 228, 229 lbf/in	1500, 1600 N/5 cm; 171, 182 lbf/in	
	Test Method	FED-STD 5100	FED-STD 5100	FED-STD 5100	FED-STD 5100	ASTM D6034-95	ASTM D5034	EN ISO 13934-1	ASTM D5034	EN ISO 13934-1	EN ISO 13934-1	EN ISO 13934-1
Strip Tensile	Warp, Fill											
	Test Method											
Adhesion	Warp, Fill	20	20	20	25							
	Test Method	FED-STD 5970	FED-STD 5970	FED-STD 5970	FED-STD 5970							
Hydrostatic Resistance	Warp, Fill	360	300	200	180	95 cm	50 cm		90+ cm			
	Test Method	FED-STD 5512	FED-STD 5512	FED-STD 5512	FED-STD 5512	AATCC 127-1998	AATCC 127		AATCC 127			
Cold Crack	Warp, Fill	-40	-40	-40	-40	Pass	No change after 5 days at -40 F	No change after 5 days at -40 F	No change after 5 days at -40 F			
	Test Method	FED-STD 191 (5874)	FED-STD 191 (5874)	FED-STD 191 (5874)	FED-STD 191 (5874)	ASTM B751-06	SAE J 323	SAE J 323	SAE J 323			
Burning Characteristics, Test Method		CSFM, NFPA 701	CSFM, NFPA 701	CSFM, NFPA 701	CSFM, NFPA 701	ASTM E84, CSFM Title 19, NFPA 701, UFCA Class I, CPAL-84	CPAL-84, CSFM Title 19, NFPA 701, ASTM E-84, Canadian CAN/ULC-S109	ASTM E84 Class A, B1 to DIN 4102, EN13501 B-s1, DO	ASTM E84 Class A, B1 to DIN 4102, EN13501 B-s1, DO	ASTM E84 Class A, B1 to DIN 4102, EN13501 B-s1, DO	ASTM E84 Class A, B1 to DIN 4102, EN13501 B-s1, DO	
Light Values, Test Method						EN410/14500 for a range of colors	Varies by color	ASTM D1003	ASTM D1003	ASTM D1003	ASTM D1003	
Transmission, Reflectance, Absorption		Depends on color	Depends on color		Depends on color	0-19%, 4-81%, 1-96%				40%, 59%, <1%	55%, 44%, 1%	
Seams (Recommended Style)						Lap or French hem	Lap, French	Lap, French	Lap, French	Lap	Lap	Lap
Construction Method		Heatseal/sew/RF Weld	Heatseal/sew/RF Weld	Heatseal/sew/RF Weld	Heatseal/sew/RF Weld	Heatseal with tape, sew	Sew heatseal	Sew	Sew heatseal or RF (with tape)	Sew	Sew	Sew
Useful Temperature Range						-40--225 F	-40--170 F	-40--170 F	-40--170 F	-20 F to 125 F	-20 F to 125 F	-20 F to 125 F

PRODUCT		PVC Coated Polyester – Acrylic Coated						PVC Coated Polyester – PVDF			PVC Coated Polyester – Weldable PVDF		
		Tent, awning, clearspan small tensile structures	Tent, structure, frame tent, canopy	Tent, awning, clearspan small tensile structures	Tent & structure liner membrane	Tent & structure liner membrane	Tents - clearspan, pole tent, frame tent, tension tent, tensile structures, shade structures, shadefalls, tent sidewalls, awnings	Permanent applications - facades, shade structures, tensile structures, frame structures	Permanent applications - facades, shade structures, tensile structures, frame structures	Air structures, frame structures, tensile structures, mobile structures, clearspans, shade structures	Air structures, frame structures, tensile structures, mobile structures, clearspans, shade structures	Flexlight Advanced 1202 S2	Flexlight Advanced 1302 S2
Recommended Uses													
Trade Name of Fabric		Valmex FR 650-2 Item 7216 and Item 8212	Valmex FR 700 Opak Item 7209	Flexlight Classic 402	Flexlight Classic 602 Opaque	Flexlight Xtrem TX30 Type 3	Flexlight Xtrem TX30 Type 5						
Trademark Holder/Supplier		Mehler Technologies mehlertech.com	Mehler Technologies mehlertech.com	Serge Ferrari sergeferrari.com/us	Serge Ferrari sergeferrari.com/us	Serge Ferrari sergeferrari.com/us	Serge Ferrari sergeferrari.com/us	Serge Ferrari sergeferrari.com/us	Serge Ferrari sergeferrari.com/us	Serge Ferrari sergeferrari.com/us		Serge Ferrari sergeferrari.com/us	
Base Fabric	Weight												
	Weave Style	Single weave 1/1	Single weave 1/1										
	Yarn Count (Warp, Fill)												
	Weight (Top, Bottom)	60/40											
Coating	UV Topcoat Material	Fully weldable acrylic or PVDF no grinding needed	Weldable Acrylic or PVDF top coated	Acrylic	Acrylic	PVDF	PVDF	Calibrated PVDF	Calibrated PVDF				
	UV Topcoat Weight												
	Life Expectancy	10-12 years	12+ years	20 years	20 years	20 years	20 years	20 years	20 years	20 years	20 years	20 years	
	Warranty, Duration	5 year Limited	5 year limited	10 years interior	10 years interior	10 years interior	10 years interior	15 years	15 years	15 years	15 years	15 years	
	Test Method			NF EN ISO 2286-2	NF EN ISO 2286-2	NF EN ISO 2286-2	NF EN ISO 2286-2	NF EN ISO 2286-2	NF EN ISO 2286-2	NF EN ISO 2286-2	NF EN ISO 2286-2	NF EN ISO 2286-2	
Finished Fabric	Thickness												
	Weight	19 oz/yd ² (650 gsm)	25 oz/yd ² (850 gsm)	14.5 oz/yd ²	14.5 oz/yd ²	14.5 oz/yd ²	14.5 oz/yd ²	1.14 mm	0.78 mm	1.02 mm	1.02 mm	1.02 mm	
	Roll Width, Usable	61 in, 98.4 in, 118.1 in (1.55 m, 2.5 m, 3.05 m)	98.4 in, 118.1 in (2.5 m, 3.0 m)	105 in	105 in	105 in	105 in	70 in	70 in	70 in	70 in	70 in	
	Warp, Fill	7216: 60/ 60 lbs 8212: 40/ 40 lbs	75/75 lbs										
Tongue Tear	Test Method	ASTM D-751 (8x10 sample size)	ASTM D-751 (8x10 sample size)										

Trapezoidal Tear	Warp, Fill				20, 20 daN/5 cm	25, 25 daN/5 cm	130, 110 lb/in	235, 165 lb/in	130, 100 lb/in	200, 180 lb/in
	Test Method				DIN 53363	DIN 53363	ASTM D751-00	ASTM D751-00	ASTM D751-00	ASTM D751-00
Grab Tensile	Warp, Fill									
	Test Method									
Strip Tensile	Warp, Fill	380/ 360 lbs/in	7216: 310 x 290 lbs/in, 8212: 250/ 230 lbs/in	330/ 310 lbs/in	230, 220 daN/5 cm	250, 250 daN/5 cm	565, 565 lb/in	1020, 810 lb/in	630, 630 lb/in	900, 800 lb/in
	Test Method	ASTM D-751	ASTM D-751	ASTM D-751	NF EN ISO 1421	NF EN ISO 1421	ASTM D751-00	ASTM D751-00	ASTM D751-00	ASTM D751-00
Adhesion	Warp, Fill	11 x 11 lbs	7216: 11x11 lbs/in, 8212: 11x11 lbs/in	11 x 11 lbs	8 daN/5 cm	9 daN/5 cm	12 daN/5 cm	15 daN/5 cm	12 daN/5 cm	13 daN/5 cm
	Test Method	ASTM D-751 RF Weld	ASTM D-751 RF Weld	ASTM D-751 RF Weld	NF EN ISO 2411	NF EN ISO 2411	NF EN ISO 2411	NF EN ISO 2411	NF EN ISO 2411	NF EN ISO 2411
Hydrostatic Resistance	Warp, Fill									
	Test Method									
Cold Crack	Warp, Fill	-40	-40	-40						
	Test Method	ASTM D-2136	ASTM D-2136	ASTM D-2136						
Burning Characteristics, Test Method		CSFMT19, NFPA 701, Can ULC S109, others upon request	CSFMT19, ASTM E84, NFPA 701, others upon request	CSFMT19, ASTM E84, NFPA 701, others upon request	CSFM, NFPA 701	CSFM, NFPA 701, ASTM E662	CSFM, NFPA 701	CSFM, NFPA 701	CSFM, NFPA 701	CSFM, NFPA 701
			ASHRAE 74 1988/ ISO EN 410		EN 410				ASHRAE 74-1988	ASHRAE 74-1988
Light Values, Test Method			Transmission 8% White 907901	Transmission 0% Reflection 85% absorption 15%		Opaque	9%, 75%, 16%	6%, 76%, 18%	7%, 77%, 16%	5%, 78%, 17%
		Lap	Lap	Lap	RF-Overlap	RF-Overlap	Abrasion-RF-Overlap	Abrasion-RF-Overlap	RF-Overlap	RF-Overlap
Seams (Recommended Style)		RF, hot air, wedge	RF, hot air, wedge	RF, hot air, wedge	RF-Overlap	RF-Overlap	Abrasion-RF-Overlap	Abrasion-RF-Overlap	RF-Overlap	RF-Overlap
Construction Method										
Useful Temperature Range		-40 to 158 F	-40 to 158 F	-40 to 158 F	-22-158 F	-31-158 F, static position	-22-158 F	-22-158 F	-22-158 F	-22-158 F

PRODUCT		PVC Coated Polyester – Weldable Nano PVDF Coating						PVC Coated Polyester – Weldable PVDF		PVC Coated Polyester – Weldable PVDF Coated	
		Tensile architecture, long-term applications small structures	Tensile architecture, long-term applications medium structures	Tensile architecture, long-term applications medium-large structures	Tensile architecture, long-term applications large structures	Tensile architecture, permanent tent, awning, air supported	Tensile architecture, permanent tent, awning, air supported	Tensile architecture, permanent tent, awning, air supported	Tensile architecture, permanent tent, awning, air supported	Tensile architecture, permanent tent, awning, air supported	Tensile architecture, permanent tent, awning, air supported
Recommended Uses		Valmex FR 700 Nano, Type I Item 7205-5256	Valmex FR 1000 Nano, Type III Item 7269-5256	Valmex FR 1400 Nano, Type IV Item 7270-5256	Valmex FR 1600 Nano, Type V Item 7274-5256	Valmex FR 900 Opaque Nano, Type II Item 7261-5256	Flexlight Perform 702 SZ Opaque	Valmex FR 1000, Type III Item 7269 and Item 7243	Valmex FR 1400, Type IV Item 7270	Valmex FR 1600, Type V Item 7274	
Trade Name of Fabric		Mehler Technologies mehler-technologies.com	Mehler Technologies mehler-technologies.com	Mehler Technologies mehler-technologies.com	Mehler Technologies mehler-technologies.com	Mehler Technologies mehler-technologies.com	Serge Ferrari sergeferrari.com/us	Mehler Technologies mehler-technologies.com	Mehler Technologies mehler-technologies.com	Mehler Technologies mehler-technologies.com	
Trademark Holder/Supplier		Mehler Technologies mehler-technologies.com	Mehler Technologies mehler-technologies.com	Mehler Technologies mehler-technologies.com	Mehler Technologies mehler-technologies.com	Mehler Technologies mehler-technologies.com	Serge Ferrari sergeferrari.com/us	Mehler Technologies mehler-technologies.com	Mehler Technologies mehler-technologies.com	Mehler Technologies mehler-technologies.com	
Weight		60/40	60/40	60/40	60/40	60/40	24.5 oz/yd ²	60/40	60/40	60/40	
Weave Style		Single Weave 1/1	Panama weave 2/2	Modified Panama 3/3	Modified Panama 3/4	Panama weave 2/2	Precontraint® – basket weave	Panama weave 2/2	Modified Panama 3/3	Modified Panama 3/4	
Yarn Count (Warp, Fill)							High tenacity polyester				
Weight (Top, Bottom)		60/40	60/40	60/40	60/40	60/40		60/40	60/40	60/40	
UV Topcoat Material		Weldable Nano titanium PVDF no grinding needed	Weldable Nano titanium PVDF no grinding needed	Weldable Nano titanium PVDF no grinding needed	Weldable Nano titanium PVDF no grinding needed	Weldable Nano titanium PVDF no grinding needed	Calibrated PVDF	Weldable PVDF no grinding needed	Weldable PVDF no grinding needed	Weldable PVDF no grinding needed	
UV Topcoat Weight											
Life Expectancy		30+ years	30+ years	30+ years	30+ years	30+ years	12 years	25+ years	25+ years	25+ years	
Warranty, Duration		20 years	20 years	20 years	20 years	20 years	7 years	15 years	15 years	15 years	
Test Method							NF EN ISO 2286-2				
Thickness							0.64 mm				
Weight		20.7 oz/yd ² (700 gsm)	26.5 oz/yd ² (900 gsm)	31 oz/yd ² (1050 gsm)	40 oz/yd ² (1350 gsm)	45 oz/yd ² (1550 gsm)	26.7 oz/yd ²	31 oz/yd ² (1050 gsm)	40 oz/yd ² (1350 gsm)	45 oz/yd ² (1550 gsm)	
Roll Width, Usable		98.4 in, 118.1 in (2.5 m, 3.0 m)	98.4 in, 118.1 in (2.5 m, 3.0 m)	98.4 in, 118.1 in (2.5 m, 3.0 m)	98.4 in, 118.1 in (2.5 m, 3.0 m)	98.4 in, 118.1 in (2.5 m, 3.0 m)	98 in & 105 in	98.4 in, 118.1 in (2.5 m, 3.0 m)	98.4 in, 118.1 in (2.5 m, 3.0 m)	98.4 in, 118.1 in (2.5 m, 3.0 m)	
Warp, Fill		50/ 50 lbs	150/ 150 lbs	200/ 200 lbs	350/ 350 lbs	400/ 400 lbs		7269; 200/ 200 lbs, 7243; 150/ 150 lbs	350/ 350 lbs	400/ 400 lbs	
Tongue Tear		ASTM D-751 (8x10 sample size)	ASTM D-751 (8x10 sample size)	ASTM D-751 (8x10 sample size)	ASTM D-751 (8x10 sample size)	ASTM D-751 (8x10 sample size)		ASTM D-751 (8x10 sample size)	ASTM D-751 (8x10 sample size)	ASTM D-751 (8x10 sample size)	
Test Method											

PRODUCT		PVC Coated Polyester – Weldable PVDF Coated			PVC Coated Polyester Mesh – PVDF Dual-Sided Top Coating			PVC Laminate	PVDF	PVDF Film
Recommended Uses	Awnings, shades, umbrellas, shade sails, tensile architecture, tent, canopy	Tensile architecture, permanent tent, awning	Tensile architecture, permanent tent, awning, air supported	Façade, shade structures, tensile architecture, sound abatement	Façade, shade structures, tensile architecture, sound abatement	Façade, shade structures, tensile architecture, sound abatement	Awnings, Protective Covers, Signs & Banners, Tents, Pergolas, Tension, Structures, Shade, & Structures	Tension facades, shading		
	Valmex FR 580 S, Type 0 Item 7213 and Item 7219	Valmex FR 700, Type I Item 7205 and Item 7241	Valmex FR 900, Type II Item 7211 Item 7242 Item 8540	Valmex FR 1000, Opaque Nano Type III Item 7283-5256	Façade ~34% Open Valmex FR TF 400 Item 7280	Façade ~50% Open Valmex FR TF 500 Item 7285	Façade ~24% Open Valmex FR TF 600 Item 7286	Sefar Architecture I/E 200-S	DX-Film	
Trade Name of Fabric	Mehler Technologies.com mehlertexnologias.com	Mehler Technologies.com mehlertexnologias.com	Mehler Technologies.com mehlertexnologias.com	Mehler Technologies.com mehlertexnologias.com	Mehler Technologies.com mehlertexnologias.com	Mehler Technologies.com mehlertexnologias.com	Miami Corp./ Snyder miamicorp.com	SEFAR sefar.com	Denka denka.co.jp	
	Weight	Single weave 1/1	Panama weave 2/2	Panama weave 2/2	Open weave mesh	Open weave mesh	Open weave mesh	990 g/m ²	2.01 oz/yd ² (50µm)	
Base Fabric	Weave Style	Single weave 1/1	Panama weave 2/2	Panama weave 2/2	Open weave mesh	Open weave mesh	9x9 1000 denier in both direction	Taffeta		
	Yarn Count (Warp, Fill)	60/40	60/40	60/40				PVDF		
Coating	Weight (Top, Bottom)	60/40	60/40	60/40						
	UV Topcoat Material	Weldable PVDF no grinding needed	Weldable PVDF no grinding needed	Weldable Nano titanium PVDF no grinding needed	Weldable PVDF no grinding needed	Weldable PVDF no grinding needed	Weldable PVDF no grinding needed			
Life Expectancy	UV Topcoat Weight	Mehler Technologies.com mehlertexnologias.com	Mehler Technologies.com mehlertexnologias.com	Mehler Technologies.com mehlertexnologias.com	Mehler Technologies.com mehlertexnologias.com	Mehler Technologies.com mehlertexnologias.com				
	15+ years	25+ years	25+ years	30+ years	12+ years	12+ years	15+ years	20 years	20 years	
Warranty, Duration	10 year limited	15 years	15 years	20 years	10 years	10 years	10 years	10 years		
	Test Method									
Finished Fabric	Thickness							1.3 mm, 0.051 in	0.05 mm	
	Weight	17 oz/yd ² (580 gsm)	20.7 oz/yd ² (700 gsm)	26.5 oz/yd ² (900 gsm)	33.3 oz/yd ² (1130 gsm)	12.4 oz/yd ² (450 gsm)	14.8 oz/yd ² (500 gsm)	31 oz/yd ² (1050 gsm)	2.01 oz/yd ²	
Roll Width, Usable	98.4 in (2.5 m)	98.4 in, 118.1 in (2.5 m, 3.0 m)	98.4 in, 118.1 in (2.5 m, 3.0 m)	98.4 in, 118.1 in (2.5 m, 3.0 m)	126 in (3.2 m)	126 in (3.2 m)	126 in (3.2 m)	18 oz/yd ²	52.8 in	
	7213: 50' 50 lbs 7219: 70' 30 lbs	7205: 50 / 50 lbs 8212: 75 / 45 lbs	7211: 150 / 150 lbs, 8540 70 / 90 lbs	320 / 320 lbs	420 / 300 lbs	110 / 110 lbs	330 / 330 lbs	2 m, 78.5 in		
Tongue Tear	Warp, Fill	ASTM D-751 (8x10 sample size)	ASTM D-751 (8x10 sample size)	ASTM D-751 (8x10 sample size)	ASTM D-751 (8x10 sample size)	ASTM D-751 (8x10 sample size)	ASTM D-751 (8x10 sample size)			
	Test Method									

Trapezoidal Tear	Warp, Fill																				
	Test Method																				
Grab Tensile	Warp, Fill													4200, 4500							
	Test Method													EN ISO 13934-1							
Strip Tensile	Warp, Fill	7213: 300 x 320 lbs/in, 7219: 270/250 lbs/in	ASTM D-751		7205: 320 x 310 lbs/in, 7241: 310/240 lbs/in	ASTM D-751	ASTM D-751	7211: 450 x 430 lbs/in, 8540: 430/400 lbs/in	ASTM D-751	630/ 600 lbs/in	ASTM D-751	ASTM D-751	420/ 300 lbs/in	ASTM D-751	350/ 300 lbs/in	ASTM D-751	680/ 620 lbs/in				
	Test Method																				
Adhesion	Warp, Fill	7213: 9x9 lbs/in, 7219 11x11 lbs/in	ASTM D-751	7206: 11x11 lbs/in, 7241 11x11 lbs/in	ASTM D-751 RF/Weld	7211: 14x14 lbs, 7242: 11x11 lbs, 8540: 11x11 lbs	ASTM D-751 RF/Weld	ASTM D-751 RF/Weld	ASTM D-751 RF/Weld	14 x 14 lbs	ASTM D-751 RF/Weld	ASTM D-751 RF/Weld	11 x 11 lbs	ASTM D-751 RF/Weld	8.5 x 8.5 lbs	ASTM D-751 RF/Weld	11 x 11 lbs				
	Test Method																				
Hydrostatic Resistance	Warp, Fill																				
	Test Method																				
Cold Crack	Warp, Fill																				
	Test Method																				
Burning Characteristics, Test Method	Warp, Fill																				
	Test Method																				
Light Values, Test Method	Warp, Fill																				
	Test Method																				
Transmission, Reflectance, Absorption	Warp, Fill																				
	Test Method																				
Seams (Recommended Style)	Warp, Fill																				
	Test Method																				
Construction Method	Warp, Fill																				
	Test Method																				
Useful Temperature Range	Warp, Fill																				
	Test Method																				