

2020 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



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



Saint-Gobain Performance Plastics
www.sheerfill.com



Seaman Corporation
www.seamancorp.com



Sefar
www.sefar.com



Serge Ferrari
www.sergeferrari.com



Snyder Mfg. Inc.
www.snyderman.com



Verseidag US
www.verseidagus.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.

AIR, TENT & TENSILE STRUCTURES

PRODUCT		Acoustic Mesh	Acrylic, Solution Dyed					ECTFE Film	Expanded PTFE (ePTFE)		
Recommended Uses		Acoustic treatment – ceilings & walls Interior only	Tents	Tents	Awning, Marine	Marine	Awning, Commercial	Vertical Shades	Tension tents, pole tents, clearspans, tensile structures	Tension tents, pole tents, clearspans, tensile structures	
Trade Name of Fabric		Alphalia Silent AW	Sunbrella	Sunbrella Plus	Tempotest	Tempotest Coated	Starlight FR	Starscreen	TERKA	Sefar Architecture TENARA Fabric 4T40 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/Pará miamicorp.com	Miami Corp/Pará miamicorp.com	Miami Corp/Pará miamicorp.com	Miami Corp/Pará miamicorp.com	Denka denka.co.jp	SEFAR sefar.com	SEFAR sefar.com
Base Fabric	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%)	12.39 oz/yd ² (250µm)		
	Weave Style	Preconstraint® – Basket weave	Plain	Plain						Plain 1/1	Plain 1/1
	Yarn Count (Warp, Fill)	High tenacity polyester	76, 36 tpi	76, 36 tpi						Fluoropolymer	Fluoropolymer
Coating	Weight (Top, Bottom)	127 oz/yd ²		Yes							
	UV Topcoat Material	Acrylic								Fluoropolymer	Fluoropolymer
	UV Topcoat Weight										
Life Expectancy		20 years	10+ years	5+ years					20-30 years	25+ years	25+ years
Warranty, Duration		10 years interior	10 years, limited	5 years	10 years					15 years	15 years
Finished Fabric	Test Method		ASTM D3776	ASTM D3776-96						ASTM D4851	ASTM D4851
	Thickness							0.25 mm	0.55 mm, 0.022 in	0.55 mm, 0.022 in	0.55 mm, 0.022 in
	Weight	127 oz/yd ²	9.0 oz/yd ²	10.4 oz/yd ²				12.39 oz/yd ²	1080 g/m ² ; 31.9 oz/yd ²	1080 g/m ² ; 31.9 oz/yd ²	1080 g/m ² ; 31.9 oz/yd ²
Roll Width, Usable		105 in	48, 60 in	60 in	47', 60" & 80"			47.2 in	1.575 m; 62 in	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	798, 752 N; 179, 169 lb
	Test Method	DIN 53.363								ASTM D4851	ASTM D4851
Grab Tensile	Warp, Fill		286, 180 Lbf	285, 180 Lbf							
	Test Method		ASTM D5034-96	ASTM D5034-96							
Strip Tensile	Warp, Fill	250, 250 daN/5 cm								4000, 4000 N/5 cm; 456, 456 lb/in	4000, 4000 N/5 cm; 456, 456 lb/in
	Test Method	NF EN ISO 1421								ASTM D4851	ASTM D4851
Adhesion	Warp, Fill										
	Test Method										
Hydrostatic Resistance	Warp, Fill		45 cm hydros	100 cm hydros						>800 PSI	>800 PSI
	Test Method		AATCC 127-1998	AATCC 127-1998						ASTM D751	ASTM D751
Cold Crack	Warp, Fill		Pass	Pass							
	Test Method		ASTM B751-06	ASTM B751-06							
Burning Characteristics, Test Method		ASTM E84, CSFM, NFPA 701							ASTM E84 Class A, ASTM E108, NFPA 701 pass, EN13501B-S1-d0	ASTM E84 Class A, FTM 191A, NFPA 701, UL94 v-o, EN13501B-s1, DO, LOI >95%	ASTM E84 Class A, FTM 191A, NFPA 701, UL94 v-o, EN13501B-s1, DO, LOI >95%
Light Values, Test Method			EN410/14500 for a range of colors	EN410/14500 for a range of colors					DIN EN 410	ASTM 903	ASTM 903
Transmission, Reflectance, Absorption			0-24%, 2-81%, 1-98%	0-24%, 2-81%, 1-96%					95%, 4%, 1%	38%, 59%, 3%	19%, 79%, 2%
Seams (Recommended Style)		RF-Overlap	Lap or French hem	Lap or French hem					Lap	Lap	Lap
Construction Method			Heatseal with tape, sew	Heatseal with tape, sew					Thermal weld	HF/RF	HF/RF
Useful Temperature Range		-22-158 F	-40-225 F	-40-225 F						-20F to 125F	-20F to 125F

AIR, TENT & TENSILE STRUCTURES

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, roofs, facades	Tensile structures, roofs, facades	Tensile structures, roofs, facades	Tensile structures, roofs, facades
Trade Name of Fabric		FGF-412-25-1	FGB-412-28	FGJ-412-28	FGT-250-1	FGT-1000	FGT-600	FGT-800	SHEERRLL I	SHEERRLL II	SHEERRLL IIA	SHEERFILL V
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	Saint-Gobain Performance Plastics sheerfill.com	Saint-Gobain Performance Plastics sheerfill.com	Saint-Gobain Performance Plastics sheerfill.com	Saint-Gobain Performance Plastics sheerfill.com
Base Fabric	Weight											
	Weave Style	Mock-leno	Leno	Leno	Plain	Plain	Plain	Plain	Plain	Plain	Plain	Plain
	Yarn Count (Warp, Fill)											
Coating	Weight (Top, Bottom)								Even both sides	Even both sides	Even both sides	Even both sides
	UV Topcoat Material											
	UV Topcoat Weight											
Life Expectancy									20-30 years	20-30 years	20-30 years	20-30 years
Warranty, Duration									Product/project specific	Product/project specific	Product/project specific	Product/project specific
Finished Fabric	Test Method								ASTM D4851-88	ASTM D4851-88	ASTM D4851-88	ASTM D4851-88
	Thickness	0.75 mm	1.1 mm	1.1 mm	0.37 mm	1.0 mm	0.6 mm	0.8 mm	0.036in	0.030in	0.028in	0.022in
	Weight	700±100	680±100	680±100	500±100	1700±170	1000±100	1300±130	45 oz/yd ²	38.5 oz/yd ²	38 oz/yd ²	30 oz/yd ²
Roll Width, Usable		2800 mm	2700 mm	2700 mm	3800 mm	3800 mm	3800 mm	3800 mm	150 in, 3810 mm	150 in, 3810 mm	150 in, 3810 mm	150 in, 3810 mm
Tongue Tear	Warp, Fill											
	Test Method											
Trapezoidal Tear	Warp, Fill								100/100 lbs	75/70 lbs	65/75 lbs	40/60 lbs
	Test Method								ASTM D4851-88	ASTM D4851-88	ASTM D4851-88	ASTM D4851-88
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	2400/1800 N/3 cm	5500/5000 N/3 cm	3680/2940 N/3 cm	4410/3528 N/3 cm	Minimum values 1025 lb/in (W), 950 lb/in (F)	Minimum values 825 lb/in (W), 600 lb/in (F)	Minimum values 675 lb/in (W), 675 lb/in (F)	Minimum values 550 lb/in (W), 600 lb/in (F)
	Test Method								ASTM D4851-88	ASTM D4851-88	ASTM D4851-88	ASTM D4851-88
Adhesion	Warp, Fill											
	Test Method											
Hydrostatic Resistance	Warp, Fill											
	Test Method											
Cold Crack	Warp, Fill											
	Test Method											
Burning Characteristics, Test Method									ASTM E84 Class A, Flame Spread 5%, Smoke 5%; ASTM E136 Pass; NFPA 701 Pass	ASTM E84 Class A, Flame Spread 5%, Smoke 10%; ASTM E136 Pass; NFPA 701 Pass	ASTM E84 Class A, Flame Spread 5%, Smoke 20%; ASTM E136 Pass; NFPA 701 Pass	ASTM E84 Class A, Flame Spread 0%, Smoke 0%; ASTM E136 Pass; NFPA 701 Pass
Light Values, Test Method									ASTM E424	ASTM E424	ASTM E424	ASTM E424
Transmission, Reflectance, Absorption					%T 19±5	%T 10±3	%T 15±3	%T 12±3	10%, 73%, 17%	12%, 73%, 15%	16%, 72%, 12%	16%, 74%, 10%
Seams (Recommended Style)									Lap	Lap	Lap	Lap
Construction Method									Thermal weld	Thermal weld	Thermal weld	Thermal weld
Useful Temperature Range									-100-400 F	-100-400 F	-100-400 F	-100-400 F

AIR, TENT & TENSILE STRUCTURES

PRODUCT		Fiberglass, PTFE Coated								Fiberglass, PTFE Laminated		HDPE
Recommended Uses		Tensile structure liner, acoustical fabric	Tensile structure liner, acoustical fabric	Façades, tensile structures, shade structures	Façades, tensile structures, shade structures	Tensile structures	Tensile structures	Tensile structures	Tensile structures	Tensile structures, roofs, facades	Tensile structures, roofs, facades	Shade Structures, Shade Sails, Wind Breaks, Awnings, Canopies, Tarpaulins, Etc.
Trade Name of Fabric		FABRASORB I	FABRASORB IA	SGM-30	SGM-50	Architecture GF-8000 B 18059	Architecture GF-7000 B 18089	Architecture GF-4500 B 18039	Architecture GRM-5000 B 18656	Illuminate 28	Illuminate 48	Extrablock
Trademark Holder/Supplier		Saint-Gobain Performance Plastics sheerfill.com	Saint-Gobain Performance Plastics sheerfill.com	Saint-Gobain Performance Plastics sheerfill.com	Saint-Gobain Performance Plastics sheerfill.com	Verseidag Indutex verseidag.us.com	Verseidag Indutex verseidag.us.com	Verseidag Indutex verseidag.us.com	Verseidag Indutex verseidag.us.com	Saint-Gobain Performance Plastics sheerfill.com	Saint-Gobain Performance Plastics sheerfill.com	Alnet PTY (CapeTown, South Africa) alnetamericas.com
Base Fabric	Weight					635 g/m ²	180 g/m ² ; 5.31 oz/yd ²	365 g/m ² ; 10.77 oz/yd ²	500 g/m ² ; 14.74 oz/yd ²			
	Weave Style	Plain	Plain	Mock Leno	Leno	L 1/1	L 1/1	L 1/1	Mock leno weave	Mock Leno	Leno	Knitted
	Yarn Count (Warp, Fill)					4080 dtex, 4080 dtex	2040 dtex, 2040 dtex	1360 dtex, 1360 dtex	4080 dtex, 4080 dtex			HDPE - 15 stitches per inch Stitch Density 120 Stitches per Inch
Coating	Weight (Top, Bottom)	Even both sides	Even both sides	Even both sides	Even both sides	458, 458 g/m ² ; 13.3, 13.3 oz/yd ²	355, 355 g/m ² ; 10.47, 10.47 oz/yd ²	218, 218 g/m ² ; 6.4, 6.4 oz/yd ²	170 g/m ² ; 5.01 oz/yd ²	Even both sides	Even both sides	Not Coated
	UV Topcoat Material											Not Coated
	UV Topcoat Weight											Not Coated
Life Expectancy		20-30 years	20-30 years	20 years	20 years	20-30 years	20-30 years	20-30 years	20-30 years	20 years	20 years	Over 10 years
Warranty, Duration		Product/project specific	Product/project specific	Product/project specific	Product/project specific	10 years	10 years	10 years	10 years	Product/project specific	Product/project specific	10 Year Non-prorated
Finished Fabric	Test Method	ASTM D4851-88	ASTM D4851-88	ASTM D4851-88	ASTM D4851-88					ASTM D4851-88	ASTM D4851-88	
	Thickness	0.014in	0.012in					0.2 mm; 0.18 in	1.0 mm; 0.039 in			50.4mil / 1.28 mm
	Weight	14 oz/yd ²	10 oz/yd ²	21 oz/yd ²	16.5 oz/yd ²	46 oz/yd ²	34 oz/yd ²	800 g/m ² ; 24 oz/yd ²	670 g/m ² ; 19.76 oz/yd ²	26 oz/yd ²	22 oz/yd ²	9.6 oz/yd ² or 325 gsm
Roll Width, Usable		150 in, 3810 mm	150 in, 3810 mm	150 in, 3810 mm	150 in, 3810 mm	480 cm; 189 in	480 cm; 189 in	200 cm; 78 in	300 cm; 118.11 in	54 in, 1400mm	54 in, 1400mm	118 inches or 3 meters
Tongue Tear	Warp, Fill											Warp 33 lbs, Fill 36 lbs
	Test Method											ASTM D2261
Trapezoidal Tear	Warp, Fill	30/20 lbs	25/20 lbs	100/100 lbs	75/75 lbs	500, 500 N; 112, 112 lb/in	500, 500 N; 112, 112 lb/in	300, 300 N; 67, 67 lb/in	450, 450 N; 39.63, 39.63 lb/in	130/130 lbs	75/75 lbs	Warp 97lbs, Fill 116 lbs
	Test Method	ASTM D4851-88	ASTM D4851-88	ASTM D4851-88	ASTM D4851-88					ASTM D4851-88	ASTM D4851-88	ASTM D 5587
Grab Tensile	Warp, Fill											
	Test Method											
Strip Tensile	Warp, Fill	Minimum values 375 lb/in (W), 300 lb/in (F)	Minimum values 275 lb/in (W), 200 lb/in (F)	Minimum values 675 lb/in (W), 500 lb/in (F)	Minimum values 600 lb/in (W), 425 lb/in (F)	7500, 6500 N/cm; 857, 742 lb/in	5800, 5800 N/cm; 662, 662 lb/in	3500, 3500 N/cm; 400, 400 lb/in	5000, 4500 N/cm; 548, 514 lb/in	Minimum values 700 lb/in (W), 550 lb/in (F)	Minimum values 600 lb/in (W), 400 lb/in (F)	Warp 278 lbf, Fill 340 LBF
	Test Method	ASTM D4851-88	ASTM D4851-88	ASTM D4851-88	ASTM D4851-88				ASTM D4851	ASTM D4851-88	ASTM D4851-88	ASTM D 5034
Adhesion	Warp, Fill					100 N/cm ² ; 11.4 lb/in	80 N/cm ² ; 9.1 lb/in	60N/cm ² ; 6.85 lb/in				
	Test Method					DIN 53357	DIN 53357	DIN 53357				
Hydrostatic Resistance	Warp, Fill											
	Test Method											
Cold Crack	Warp, Fill											
	Test Method											
Burning Characteristics, Test Method		ASTM E84 Class A, Flame Spread 0%, Smoke 0%; ASTM E136 Pass; NFPA 701 Pass	ASTM E84 Class A, Flame Spread 0%, Smoke 0%; ASTM E136 Pass; NFPA 701 Pass	ASTM E84 Class A, Flame Spread 0%, Smoke 0%; ASTM E136 Pass; NFPA 701 Pass	ASTM E84 Class A, Flame Spread 0%, Smoke 0%; ASTM E136 Pass; NFPA 701 Pass	ASTM E84 E108 and E136; BS 476 parts 3, 5, 6, 7; DIN 4102; NFP 92503 M1; NFPA 701 small	ASTM E84 E108 and E136; BS 476 parts 6, 7; DIN 4102; NFP 92503 M1; NFPA 701 small	ASTM E84 E108 and E136; BS 476 parts 3, 5, 6, 7; NFP 92503 M1; NFPA 701 small scale	DIN 4102 A2	ASTM E84 Class A, Flame Spread 0%, Smoke 10%; ASTM E136 Pass; NFPA 701 Pass	ASTM E84 Class A, Flame Spread 0%, Smoke 10%; ASTM E136 Pass; NFPA 701 Pass	Meets CA 12371 - CSFMT title 19, NFPA 701 Tested Method 2, ASTM E-84, CAN-ULC S109-14
Light Values, Test Method		ASTM E424	ASTM E424	ASTM E424	ASTM E424				34% translucency at 550 nm; DIN 5036	ASTM E424	ASTM E424	UVR, UPF, Shade Factor tested to AS 4174 - All results available upon request
Transmission, Reflectance, Absorption		22%, 71%, 7%	29%, 65%, 6%	34%, 52%, 14%	50%, 40%, 10%					28%, 55%, 17%	48%, 45%, 12%	SRI Varies by color - Available upon request UVR (High = 98%) (Low = 92%) UPF (High = 33) (Low = 13)
Seams (Recommended Style)		Lap	Lap	Lap	Lap					Lap	Lap	Sewing double lock stitch, Can be welded with no tape Hot Air, Wedge, RF
Construction Method		Thermal weld	Thermal weld	Thermal weld	Thermal weld					Thermal weld	Thermal weld	Lock Stitch Knitted
Useful Temperature Range		-100-400 F	-100-400 F	-100-400 F	-100-400 F				-30-70 C	-100-400 F	-100-400 F	-13 Degrees F - +176 Degrees F

AIR, TENT & TENSILE STRUCTURES

PRODUCT		HDPE						Knitted HDPE				
Recommended Uses		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	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
Trade Name of Fabric		Architec 400®	Comshade XTRA®	Comtex®	FR Comshade®	Parasol™	Polytex®	Commercial Heavy 430	Commercial 95	Commercial FR 300	Commercial Heavy 430 FR	Commercial 96 FR
Trademark Holder/Supplier		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	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
Base Fabric	Weight	12 oz/yd ²	12 oz/yd ²	10 oz/yd ²	8.25 oz/yd ²	9.6 oz/yd ²	7 oz/yd ²	12.7 oz/yd ²	10 oz/yd ²	9 oz/yd ²	12.7 oz/yd ²	10 oz/yd ²
	Weave Style	Raschel knit	Raschel knit	Raschel knit	Raschel knit	Raschel knit	Raschel knit	Monofilament yarn, Raschel knit	Monofilament and tape yarn, Raschel knit	Monofilament and tape yarn, Raschel knit	Monofilament yarn, Raschel knit	Monofilament and tape yarn, Raschel knit
	Yarn Count (Warp, Fill)							12 gauge	6 gauge	6 gauge	12 gauge	6 gauge
Coating	Weight (Top, Bottom)											
	UV Topcoat Material											
	UV Topcoat Weight											
Life Expectancy		15 years	15 years	10 years	10 years	10 years	10 years	15 years	10 years	10 years	12 years	10 years
Warranty, Duration		15 years, limited warranty	15 years, limited warranty	10 years, limited warranty	10 years, limited warranty	10 years, limited warranty	10 years, limited warranty	15 years	10 years	10 years	12 years	10 years
Finished Fabric	Test Method											
	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
	Weight							430gsm ± 20	340 gsm ± 20	300 gsm ± 20	430gsm ± 20	340 gsm ± 20
Roll Width, Usable		3.8 meters; 12-1/2 ft	4 m; 13.1 ft	3.8 meters; 12-1/2 ft	3.8 meters; 12-1/2 ft	3.0 meters; 9.8 feet	3.8 meters; 12-1/2 ft	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
Tongue Tear	Warp, Fill	41.1 lb / 38.3 lb	52 lbs / 44 lbs	30.9 lb / 34.4 lb	21.1 lb / 23.9 lb	39 lbs / 49 lbs	16.5 lb / 24.5 lb	63.6 lbf / 54 lbf	52.2 lbf / 52.2 lbf	48.3 lbf / 47.0 lbf	55.8 lbf / 48.7 lbf	
	Test Method	ASTM D2261	ASTM D2261	ASTM D2261	ASTM D751-06	ASTM D751-06	ASTM D2261	ASTM D2261-13	ASTM D2261-13	ASTM D2261-13	ASTM D2261-13	
Trapezoidal Tear	Warp, Fill											
	Test Method											
Grab Tensile	Warp, Fill	342 lb / 270 lb	374 lbs / 456 lbs	268 lb / 340 lb	184 lb / 381 lb	231 lbs / 419 lbs	120 lb / 296 lb	370 lbf / 412 lbf	189.1 lbf / 452.3 lbf	169.2 lbf / 300.2 lbf	282 lbf / 362 lbf	
	Test Method	ASTM D5034	ASTM D5034	ASTM D5034	ASTM D5034	ASTM D5034	ASTM D5034	ASTM D5034	ASTM D5034	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		ASTM E84, Class A or I	ASTM E84, Class B or II	NFPA-701, ASTM E-84	California State Fire Marshal Title 19, NFPA-701-2015	Per AS/NZS 1530 Part III: Spread of Flame Index=8 (9 max); Smoke Developed=5 (8 max)	NFPA-701, ASTM E-84	ASTM E-84 Class A	ASTM E-84 Class A	NFPA 701, CSFMT Title 19 1237.1, ASTM E-84 Class A	NFPA 701, CSFMT Title 19 1237.1, ASTM E-84 Class A	NFPA 701, CSFMT Title 19 1237.1, ASTM E-84 Class A
Light Values, Test Method		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 E90	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	AS/NZS 4174:2018	AS/NZS 4174:2018	AS/NZS 4174:2018	AS/NZS 4174:2018	AS/NZS 4174:2018
Transmission, Reflectance, Absorption		Shade Factor/Mean UPF/Solar Reflectance Index (SRI) varies by color; see website for individual values	Shade Factor/Mean UPF/Solar Reflectance Index (SRI) varies by color; see website for individual values	Shade Factor/Mean UPF/Solar Reflectance Index (SRI) varies by color; see website for individual values	Shade Factor/Mean UPF/Solar Reflectance Index (SRI) varies by color; see website for individual values	Shade Factor/Mean UPF/Solar Reflectance Index (SRI) varies by color; see website for individual values	Shade Factor/Mean UPF/Solar Reflectance Index (SRI) varies by color; see website for individual values	Variable SRI due to color; available upon request	Variable SRI due to color; available upon request	Variable SRI due to color; available upon request	Variable SRI due to color; available upon request	Variable SRI due to color; available upon request
Seams (Recommended Style)		Overlap/fell	Overlap/fell	Overlap/fell	Overlap/fell	Overlap/fell	Overlap/fell	Overlap Seam	Overlap Seam	Overlap Seam	Overlap Seam	Overlap Seam
Construction Method		Sew with PTFE thread	Sew with PTFE thread	Sew with PTFE thread	Sew with PTFE thread	Sew with PTFE thread	Sew with PTFE thread	Interlocking knit pattern	Interlocking knit pattern	Interlocking knit pattern	Interlocking knit pattern	Interlocking knit pattern
Useful Temperature Range		-40-80 C	-40-80 C	-40-80 C	-40-80 C	-40-80 C	-40-80 C	-22 to 155 F	-22 to 155 F	-22 to 155 F	-22 to 155 F	-22 to 155 F

AIR, TENT & TENSILE STRUCTURES

PRODUCT		Knitted HDPE		Mesh PVC Coated Polyester, Acrylic Coated		PES, PVC-Coated		Polyester, Acrylic-Coated			Polyester, PVC-Coated	
Recommended Uses		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	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	Air structures, tension tents, tensile structures, frame supported structures
Trade Name of Fabric		Dualshade 350	Dualshade 350 FR	Frontside Print 371	Frontside View 381	Duraskin B 1673	Duraskin B 1515	Odyssey FR	Top Gun FR	Top Gun FR Lite	clipeum 650 H5671	clipeum 900 H5873
Trademark Holder/Supplier		GALE Pacific USA, Inc. galecommercial.com	GALE Pacific USA, Inc. galecommercial.com	Serge Ferrari sergeferrari.com/us	Serge Ferrari sergeferrari.com/us	Verseidag Indutex GmbH verseidag.com	Verseidag Indutex GmbH verseidag.com	Marlen Textiles marlentextiles.com	Marlen Textiles marlentextiles.com	Marlen Textiles marlentextiles.com	HEYtex USA www.heytex.com	HEYtex USA www.heytex.com
Base Fabric	Weight	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	7.25 oz/yd ²	13.0 oz/yd ²	8.0 oz/yd ²	5 oz/yd ²	8 oz/yd ²
	Weave Style	Monofilament and tape yarn, Raschel knit	Monofilament and tape yarn, Raschel knit	Preconstraint® - BasketWeave	Preconstraint® - BasketWeave	L 1/1	L 1/1	Plain	Plain	Plain	plain 1/1	panama 2/2
	Yarn Count (Warp, Fill)	8 gauge	8 gauge	High Tenacity Polyester	High Tenacity Polyester	1100, 1100 tpi	1100, 1100 tpi				100% Polyester; 1100	100% Polyester; 1100
Coating	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	Acrylic	Acrylic	Acrylic	Premium Acrylic	Premium Acrylic
	UV Topcoat Weight											
Life Expectancy		10 years	10 years	15 years	20 years	10-15 years	10-15 years	3-5 years	8-10 years	5-7 years	20+ years	20+ years
Warranty, Duration		10 years	10 years	10 years	10 years			3 years	8 years	5 years	upon request	upon request
Finished Fabric	Test Method					DIN 4102 B1, M2	DIN 4102 B1, M2	FED-STD 191A (5041)	FED-STD 191A (5041)	FED-STD 191A (5041)		
	Thickness	0.07 in / 1.8 mm	0.07 in / 1.8 mm			0.5 mm; 0.2 in	0.5 mm; 0.2 in		0.022 in	0.022 in		
	Weight	350 gsm ± 20	350 gsm ± 20			800 g/m ² ; 25 oz/yd ²	675 g/m ² ; 22 oz/yd ²	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	900 g/m ² ; 27 oz/yd ²
Roll Width, Usable		9 ft 10 in / 3 m	9 ft 10 in / 3 m	105 in	105 in	250 cm; 81, 98 in	250 cm; 81, 98 in	1575 cm; 62 in	62 in	62 in	250 cm, 98 in 300 cm, 118 in	250 cm, 98 in 300 cm, 118 in
Tongue Tear	Warp, Fill	64.4 lbf / 49.2 lbf	61.4 lbf / 47.3 lbf					12, 12 lb/in	25, 18 lb/in	12, 10 lb/in	≥ 72/63 lbs	≥ 112/112 lbs
	Test Method	ASTM D2261-13	ASTM D2261-13			DIN 53363	DIN 53363	FED-STD 191A (5134)	ASTM D2261	ASTM D2261	DIN 53363	DIN 53363
Trapezoidal Tear	Warp, Fill					300, 300 N; 67, 67 lb/in	300, 300 N; 67, 67 lb/in	35, 30 lb/in	74, 34 lb/in	74, 34 lb/in		
	Test Method					DIN 53363	DIN 53363	FED-STD 191A (5136)	ASTM D4533	ASTM D4533		
Grab Tensile	Warp, Fill	265 lbf / 321 lbf	196 lbf / 286 lbf			2800, 2500 N/5cm; 320, 285 lb/in	2800, 2500 N/5cm; 320, 285 lb/in	300, 250 lb/in	498, 380 lb/in	275, 220 lb/in		
	Test Method	ASTM D5034	ASTM D5034					Fed-STD 191A (5100)	ASTM D1682	ASTM D1682		
Strip Tensile	Warp, Fill								363, 221 lb/in	363, 221 lb/in	≥ 320/286 lbs/inch	≥ 457/457 lbs/inch
	Test Method								ASTM D1682	ASTM D1682	DIN EN ISO 1421-1	DIN EN ISO 1421-1
Adhesion	Warp, Fill					100 N/5cm; 12 lb/in	100 N/5cm; 12 lb/in				> 11 lbs/inch	> 11 lbs/inch
	Test Method					DIN 53357	DIN 53357				DIN EN ISO 2411	DIN EN ISO 2411
Hydrostatic Resistance	Warp, Fill							1 psi	70 cm	60 cm		
	Test Method								FED-STD 191 (5514)	FED-STD 191 (5514)		
Cold Crack	Warp, Fill							-20 F			-30 C -22 F	-40 C -40 F
	Test Method										DIN EN 1876-1 IVK 3.5	DIN EN 1876-1 IVK 3.5
Burning Characteristics, Test Method		ASTM E-84 Class A	NFPA 701, CSFM Title 19 1237.1, ASTM E-84 Class A	ASTM E84, CSFM, NFPA 701	ASTM E84, CSFM, NFPA 701	DIN 4102 B1, M2, BS 5651, ASTM E162-94, SIS 650082, CL2, E-84	DIN 4102 B1, M2, BS 5651, ASTM E162-94, SIS 650082, CL2, E-84	CPAI-84, 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	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, M2
Light Values, Test Method		AS/NZS 4174:2018	AS/NZS 4174:2018			100% (opaque)	100% (opaque)				PA 2001/41	PA 2001/41
Transmission, Reflectance, Absorption		Variable SRI due to color; available upon request	Variable SRI due to color; available upon request	Depends on color	Depends on color						17%	12% white 3% other color
Seams (Recommended Style)		Overlap Seam	Overlap Seam	RFOverlap	RF-Overlap						Lap or butt	Lap or butt
Construction Method		Patented Interlocking knit pattern	Patented Interlocking knit pattern					Sew			plain 1/1	panama 2/2
Useful Temperature Range		-22 to 155 F	-22 to 155 F	-22-158 F	-22-158 F	-30-70 C	-30-70 C				- 22 F to +158 F	- 40 F to +158 F

AIR, TENT & TENSILE STRUCTURES

PRODUCT		Polyester, PVDF-Coated										Polyester, PVDF-Film Laminated
Recommended Uses		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	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	Frame structures, tension structures	Frame structures	Air structures, frame structures, tension tents, tensile structures
Trade Name of Fabric		Hiraoka HG102	Hiraoka HG212	Hiraoka HG313	Hiraoka HG412	Hiraoka HG212-SHS	Hiraoka HG212-HT	Hiraoka HG212-MT	Hiraoka HG212(B)	Hiraoka - SG1800	Hiraoka - SG4180	Hiraoka PVF212
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	Hiraoka & Co. Ltd. tarpo-hiraoka.com/en
Base Fabric	Weight											
	Weave Style	Plain weave	Plain weave	Panama weave 2/2	Panama weave 2/2	Plain weave	Plain weave	Plain weave	Plain weave	Plain weave	Plain weave	Plain weave
	Yarn Count (Warp, Fill)											
Coating	Weight (Top, Bottom)											
	UV Topcoat Material	PVDF	PVDF	PVDF	PVDF	PVDF	PVDF	PVDF	PVDF	PVDF	PVDF	PVDF
	UV Topcoat Weight											
Life Expectancy												
Warranty, Duration		20 years	20 years	20 years	20 years	25 years	15 years	15 years	20 years	10 years	10 years	20 years
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
	Thickness	0.80 mm; 23 mil	0.77 mm; 30 mil	0.81 mm; 36 mil	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	0.68 mm; 27 mil	0.9 mm; 36 mil	0.79 mm; 31 mil
	Weight	770g/m ² ; 23 oz/yd ²	950 g/m ² ; 28 oz/yd ²	1080 g/m ² ; 32 oz/yd ²	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	790 g/m ² ; 23 oz/yd ²	950 g/m ² ; 28 oz/yd ²
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	185 cm; 73 in	204 cm; 80.3 in
Tongue Tear	Warp, Fill											
	Test Method											
Trapezoidal Tear	Warp, Fill	16, 16 daN; 36, 36 lbs	40, 40 daN; 90, 90 lbs	67, 67 daN; 151, 151 lbs	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	20, 20 daN; 45, 45 lbs	32, 28 daN; 73, 63 lbs	40, 40 daN; 90, 90 lbs
	Test Method	ASTM D751	ASTM D751	ASTM D751	ASTM D751	ASTM D751	ASTM D751	ASTM D751	ASTM D751	ASTM D751	ASTM D751	ASTM D751
Grab Tensile	Warp, Fill											
	Test Method											
Strip Tensile	Warp, Fill	310, 280 daN/5cm; 354, 320 lb/in	510, 520 daN/5 cm; 582, 594 lb/in	610, 590 daN/5 cm; 692, 674 lb/in	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	240, 220 daN/5 cm; 274, 251 lb/in	130, 125 daN/5 cm; 148, 142 lb/in	510, 520 daN/5 cm; 582, 594 lb/in
	Test Method	ASTM D751	ASTM D751	ASTM D751	ASTM D751	ASTM D751	ASTM D751	ASTM D751	ASTM D751	ASTM D751	ASTM D751	ASTM D751
Adhesion	Warp, Fill	10,10 daN/5 cm; 11,11 lb/in	13,13 daN/5 cm; 15,15 lb/in	14,14 daN/5 cm; 16,16 lb/in	15,15 daN/5 cm; 17,17 lb/in	13,13 daN/5 cm; 15,15 lb/in	13,13 daN/5 cm; 15,15 lb/in	13,13 daN/5 cm; 15,15 lb/in	13,13 daN/5 cm; 15,15 lb/in	10,10 daN/5 cm; 11,11 lb/in	10,10 daN/5 cm; 11,11 lb/in	13,13 daN/5 cm; 15,15 lb/in
	Test Method	ASTM D751	ASTM D751	ASTM D751	ASTM D751	ASTM D751	ASTM D751	ASTM D751	ASTM D751	ASTM D751	ASTM D751	ASTM D751
Hydrostatic Resistance	Warp, Fill											
	Test Method											
Cold Crack	Warp, Fill	-40	-40	-40	-40	-40	-40	-40	-40	-25	-30	-40
	Test Method	ASTM D2136	ASTM D2136	ASTM D2136	ASTM D2136	ASTM D2136	ASTM D2136	ASTM D2136	ASTM D2136	ASTM D2136	ASTM D2136	ASTM D2136
Burning Characteristics, Test Method		EN13501-1 <B-s2d0>, NFPA-701, ASTM E-84, GB8624<B1>, AS1530-2, AS1530-3	EN13501-1 <B-s2d0>, NFPA-701, ASTM E-84, GB8624<B1>, AS1530-2, AS1530-3, DIN4102-1<B1>, CAN/ULC S109M	EN13501-1 <B-s2d0>, NFPA-701, ASTM E-84, GB8624<B1>, AS1530-2, AS1530-3, CAN/ULC S109M	EN13501-1 <C-s2d0>, NFPA-701	EN13501-1 <B-s2d0>, NFPA-701, ASTM E-84, GB8624<B1>, AS1530-2, AS1530-3, DIN4102-1<B1>, CAN/ULC S109M	EN13501-1 <B-s2d0>, NFPA-701, ASTM E-84, GB8624<B1>, AS1530-2, AS1530-3, DIN4102-1<B1>, CAN/ULC S109M	EN13501-1 <B-s2d0>, NFPA-701, ASTM E-84, GB8624<B1>, AS1530-2, AS1530-3, DIN4102-1<B1>, CAN/ULC S109M	EN13501-1 <B-s2d0>, NFPA-701, ASTM E-84, GB8624<B1>, AS1530-2, AS1530-3, DIN4102-1<B1>, CAN/ULC S109M	EN13501-1 <B-s1d0>, NFPA-701, ASTM E-84, AS1530-2, AS1530-3, CAN/ULC S109M	EN13501-1 <B-s2d0>	EN13501-1 <B-s2d0>
Light Values, Test Method		ISO 9050	ISO 9050	ISO 9050	ISO 9050	ISO 9050	ISO 9050	ISO 9050	ISO 9050	ISO 9050	ISO 9050	ISO 9050
Transmission, Reflectance, Absorption		Transmission: 14%	Transmission: 13%	Transmission: 12%	Transmission: 4%	Transmission: 3%	Transmission: 20%	Transmission: 0%	Transmission: 0%	Transmission: 58%	Transmission: 65%	Transmission: 3%
Seams (Recommended Style)		Overlap	Overlap	Overlap	Overlap	Overlap	Overlap	Overlap	Overlap	Overlap	Overlap	Overlap
Construction Method		Heatseal, RF weld	Heatseal, RF weld	Heatseal, RF weld	Heatseal, RF weld	Heatseal, RF weld	Heatseal, RF weld	Heatseal, RF weld	Heatseal, RF weld	RF weld	RF weld	Abrasion RF weld
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	-40-70 C; -40-158 F	-40-70 C; -40-158 F	-25-70 C; -13-158 F	-30-70 C; -22-158 F	-40-70 C; -40-158 F

AIR, TENT & TENSILE STRUCTURES

PRODUCT		Polyester, Vinyl-Laminated					Polymer, Solution Dyed			PTFE, 100%		
Recommended Uses		Pole Tents, Sidewall	Tension Tents, Pole Tents, Sidewall	Tension Tents, Pole Tents, Sidewall	Tension Tents, Pole Tents, Side wall	Sidewall	Tents	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
Trade Name of Fabric		Weatherspan PRV 1310Q	Weatherspan PRV 1610R	Weatherspan PRV 1813W	Weatherspan PRV 1444K	Weatherspan PRV 1218K	Firesist	WeatherMAX 80	WeatherMAX FR	Sefar Architecture EH-35-T2	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	Snyder Manufacturing snyderman.com	Snyder Manufacturing snyderman.com	Glen Raven Custom Fabrics LLC glenraven.com sunbrella.com	Safety Components weathemax.com	Safety Components weathemax.com	SEFAR sefar.com	SEFAR sefar.com	SEFAR sefar.com
Base Fabric	Weight	2.6 oz./yd ²	2.6 oz./yd ²	4 oz./yd ²	1.3 oz./yd ²	1.4 oz./yd ²		8.0 oz./yd ²	8.0 oz./yd ²			
	Weave Style	weft insertion knit	weft insertion knit	Woven	weft insertion knit	weft insertion knit	Plain	Ottoman	Ottoman	Plain 1/1	Panama 2/2	Cross-Twill 2/2
	Yarn Count (Warp, Fill)	8X9 polyester	8X9 polyester	13x13 polyester	4.5x4.5 polyester	18x9 polyester	116, 30 tpi			Fluoropolymer	Fluoropolymer	Fluoropolymer
Coating	Weight (Top, Bottom)						Yes		175 oz			
	UV Topcoat Material									Fluoropolymer	Fluoropolymer	Fluoropolymer
	UV Topcoat Weight											
Life Expectancy							5+ years	7-12 years	7-10 years	20+ years	20+ years	20+ years
Warranty, Duration							5 years	10 years	5 years	10 years	10 years	10 years
Finished Fabric	Test Method	FED-STD 5041	FED-STD 5041	FED-STD 5041	FED-STD 5041	FED-STD 5041	ASTM D3776					
	Thickness							.38 mm	.42 mm	0.41 mm, 0.016 in	0.29 mm, 0.011 in	0.19 mm, 0.008 in
	Weight	13 oz./yd ²	16-20 oz./yd ²	18 oz./yd ²	14 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	250 g/m ²
Roll Width, Usable		61 in	61 in	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
Tongue Tear	Warp, Fill	60, 60lbs/in	60, 60lbs/in	90, 90lbs/in	30, 30lbs/in	25, 25lbs/in	20, 14 lb/in	20, 18 lb/in	13, 15 lb/in			
	Test Method	FED-STD 5134	FED-STD 5134	FED-STD 5134	FED-STD 5134	FED-STD 5134	ASTM 2261-96	ASTM D2261	ASTM D2261			
Trapezoidal Tear	Warp, Fill							69, 32 lb/in	35, 30 lb/in		30 N/5 cm	
	Test Method							ASTM D5587	ASTM D5587		DIN 53859-5	
Grab Tensile	Warp, Fill	220, 200 lbs/in	220, 200 lbs/in	315, 295 lbs/in	140, 125, lbs/in	100, 100 lbs/in	350, 200 Lbf	490, 390	490, 390	4100, 4000 N/5 cm, 457, 456 lb/in	2000, 2050 N/5 cm, 228, 229 lb/in	1500, 1600 N/5 cm; 171, 182 lb/in
	Test Method	FED-STD 5100	FED-STD 5100	FED-STD 5100	FED-STD 5100	FED-STD 5100	ASTM D5034-95	ASTM D5034	ASTM D5034	EN ISO 13934-1	EN ISO 13934-1	EN ISO 13934-1
Strip Tensile	Warp, Fill											
	Test Method											
Adhesion	Warp, Fill	22	20	20	20	25						
	Test Method	FED-STD 5970	FED-STD 5970	FED-STD 5970	FED-STD 5970	FED-STD 5970						
Hydrostatic Resistance	Warp, Fill	345	360	300	200	180	96 cm	50 cm	90+ cm			
	Test Method	FED-STD 5512	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	-40	Pass	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)	FED-STD 191 (5874)	ASTM B751-06	SAE J 323	SAE J 323			
Burning Characteristics, Test Method		CSFM, NFPA 701	CSFM, NFPA 701	CSFM, NFPA 701	CSFM, NFPA 701	CSFM, NFPA 701	ASTM E84, CSFM Title 19, NFPA 701, UFCA Class I, CPAI-84		CPAI-84, CSFM Title 19, NFPA 701, ASTM E-84, Canadian CAN/ULC-S109	ASTM E84 Class A, B1 to DIN 4102, EN 13501 B-s1, DO	ASTM E84 Class A, B1 to DIN 4102, EN 13501 B-s1, DO	ASTM E84 Class A, B1 to DIN 4102, EN 13501 B-s1, DO
Light Values, Test Method							EN410/14500 for a range of colors	Varies by color	Varies by color	ASTM D1003	ASTM D1003	ASTM D1003
Transmission, Reflectance, Absorption		Depends on color	Depends on color	Depends on color	Depends on color	Depends on color	0-19%, 4-81%, 1-96%			35%, 64%, 1%	40%, 59%, <1%	55%, 44%, 1%
Seams (Recommended Style)							Lap or French hem	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/sew/ RF Weld	Heatseal with tape, sew	Sew heatseal	Sew heatseal or RF (with tape)	Sew	Sew	Sew
Useful Temperature Range							-40-225 F	-40-170 F	-40-170 F	-20 F to 125 F	-20 F to 125 F	-20 F to 125 F

AIR, TENT & TENSILE STRUCTURES

PRODUCT		PTFE Mesh	PVC Coated Polyester – Acrylic Coated					PVC Coated Polyester – PVDF		PVC Coated Polyester – Weldable PVDF		
Recommended Uses		Facades, shadesails, shade structures, tensile structures, awnings	Tensile structure, frame tent, canopy	Tent, awning, clearspan small tensile structures	Tensile structure, frame tent, canopy	Tent & structure liner membrane	Tent & structure liner membrane	Tents - clearspan, pole tent, frame tent, tensile structures, shade structures, shadesails, 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
Trade Name of Fabric		Frontside Safe P35	Polymer Poly Opak Item 8596	Valmex FR 650-2 Item 7216 and Item 8212	Valmex FR 700 Opak Item 7209	Flexlight Classic 402	Flexlight Lighting 402HT	Flexlight Classic 602 Opaque	Flexlight Xtrem TX30 Type 3	Flexlight Xtrem TX30 Type 5	Flexlight Advanced 1202 S2	Flexlight Advanced 1302 S2
Trademark Holder/Supplier		Serge Ferrari sergeferrari.com/us	Mehler Technologies meher-technologies.com	Mehler Technologies meher-technologies.com	Mehler Technologies meher-technologies.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
Base Fabric	Weight											
	Weave Style		Single weave 1/1	Single weave 1/1	Single weave 1/1	Preconstraint® – basket weave	Preconstraint® – basket weave	Preconstraint® – basket weave	Preconstraint® – basket weave	Preconstraint® – basket weave	Preconstraint® – basket weave	Preconstraint® – basket weave
	Yarn Count (Warp, Fill)	PTFE coated glass				High tenacity polyester	High tenacity polyester	High tenacity polyester	High tenacity polyester	High tenacity polyester	High tenacity polyester	High tenacity polyester
Coating	Weight (Top, Bottom)	26.5 oz/yd ²		60/40		14.5 oz/yd ²	14.5 oz/yd ²	22.1 oz/yd ²	31 oz/yd ²	44 oz/yd ²	31 oz/yd ²	40 oz/yd ²
	UV Topcoat Material	PTFE	Weldable Acrylic or PVDF top coated	Fully weldable acrylic or PVDF no grinding needed	Weldable Acrylic or PVDF top coated	Acrylic	Acrylic	Acrylic	PVDF	PVDF	Calibrated PVDF	Calibrated PVDF
	UV Topcoat Weight											
Life Expectancy		20 years	12+ years	10-12 years	12+ years	20 years	20 years	8 years	30 years	30 years	20 years	20 years
Warranty, Duration		10 years	5 year limited	5 year limited	5 year limited		10 years interior	3 years	20 years	20 years	15 years	15 years
Finished Fabric	Test Method					NF EN ISO 2286-2	NF EN ISO 2286-2				NF EN ISO 2286-2	NF EN ISO 2286-2
	Thickness								0.78 mm	1.14 mm	0.78 mm	1.02 mm
	Weight		23 oz/yd ² (800 gsm)	19 oz/yd ² (650 gsm)	25 oz/yd ² (850 gsm)	14.5 oz/yd ²	14.5 oz/yd ²	22.1 oz/yd ²	31 oz/yd ²	44 oz/yd ²	31 oz/yd ²	40 oz/yd ²
Roll Width, Usable		106 in	61 in, 98.4 in, 118.1 in (1.55 m, 2.5 m, 3.0 m)	61 in, 98.4 in, 120 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	61 in, 96 in & 105 in	70 in	70 in	105 in	105 in
Tongue Tear	Warp, Fill		350/350 N	300/270 N	300/300 N							
	Test Method		DIN 53363	DIN 53363	DIN 53363							
Trapezoidal Tear	Warp, Fill					20, 20 daN/5 cm	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	DIN 53363	ASTM D751-00	ASTM D751-00	ASTM D751-00	ASTM D751-00
Grab Tensile	Warp, Fill											
	Test Method											
Strip Tensile	Warp, Fill		3500/3500 N/5 cm	2800/2700 N/5 cm	3000/3000 N/5 cm	230, 220 daN/5 cm	250, 250 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		DIN EN ISO 1421/V1	DIN EN ISO 1421/V1	DIN EN ISO 1421/V1	NF EN ISO 1421	NF EN ISO 1421	NF EN ISO 1421	ASTM D751-00	ASTM D751-00	ASTM D751-00	ASTM D751-00
Adhesion	Warp, Fill			20 N/cm		8 daN/5 cm	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			PA 09.03 (internal)		NFG 37.107	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		DIN EN 1876-1	DIN EN 1876-1	DIN EN 1876-1							
Burning Characteristics, Test Method		ASTM 136	CSFMT19, ASTM E84, 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	CSFM, NFPA 701, ASTM E662	CSFM, NFPA 701	CSFM, NFPA 701	CSFM, NFPA 701	CSFM, NFPA 701
Light Values, Test Method				ASHRAE 74 1988/ ISO EN 410			EN 410				ASHRAE 74-1988	ASHRAE 74-1988
Transmission, Reflectance, Absorption				Transmission 8% White 90/901 Transmission 16% HTL version 9/9008 Reflection 87% Absorption 5%	Transmission 0% Reflection 85% Absorption 15%		36%, 50%, 14%	Opaque	9%, 75%, 16%	6%, 76%, 18%	7%, 77%, 16%	5%, 76%, 17%
Seams (Recommended Style)		PTFE weld	Lap	Lap	Lap	RF-Overlap	RF-Overlap	RF-Overlap	Abrasion-RF-Overlap	Abrasion-RF-Overlap	RF-Overlap	RF-Overlap
Construction Method			RF hot air, wedge	RF hot air, wedge	RF hot air, wedge							
Useful Temperature Range		-22-158 F	-40 to 158 F	-40 to 158 F	-40 to 158 F	-22-158 F	-22-158 F	-31-158 F, static position	-22-158 F	-22-158 F	-22-158 F	-22-158 F

AIR, TENT & TENSILE STRUCTURES

PRODUCT		PVC Coated Polyester – Weldable PVDF	PVC Coated Polyester – Weldable PVDF Coated							PVC Coated Polyester Mesh – PVDF Dual-Sided Top Coating		
Recommended Uses		Tents - clearspan, pole tent, frame tent, tension tent, tensile structures, shade structures, shade sails, tent sidewalls, awnings	Tensile architecture, permanent tent, awning, air supported	Tensile architecture, permanent tent, awning, air supported	Tensile architecture, permanent tent, awning, air supported	Awnings, shades, umbrellas, shade sails, tensile architecture, tent, canopy	Tensile architecture, permanent tent, awning	Tensile architecture, permanent tent, awning, air supported	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
Trade Name of Fabric		Flexlight Perform 702 S2 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	Valmex FR 590 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, Opasque Nano Type III Item 7263-5256	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
Trademark Holder/Supplier		Serge Ferrari sergeferrari.com/us	Mehler Technologies mehle-technologies.com	Mehler Technologies mehle-technologies.com	Mehler Technologies mehle-technologies.com	Mehler Technologies mehle-technologies.com	Mehler Technologies mehle-technologies.com	Mehler Technologies mehle-technologies.com	Mehler Technologies mehle-technologies.com	Mehler Technologies mehle-technologies.com	Mehler Technologies mehle-technologies.com	Mehler Technologies mehle-technologies.com
Base Fabric	Weight											
	Weave Style	Preconstraint® – basket weave	Panama weave 2/2	Modified Panama 3/3	Modified Panama 3/4	Single weave 1/1	Single weave 1/1	Panama weave 2/2	Panama weave 2/2	Open weave mesh	Open weave mesh	Open weave mesh
	Yarn Count (Warp, Fill)	High tenacity polyester										
Coating	Weight (Top, Bottom)	24.5 oz/yd ²	60/40	60/40	60/40		60/40	60/40	60/40			
	UV Topcoat Material	Calibrated PVDF	Weldable PVDF no grinding needed	Weldable PVDF no grinding needed	Weldable PVDF no grinding needed	Weldable PVDF no grinding needed	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
	UV Topcoat Weight											
Life Expectancy		12 years	25+ years	25+ years	25+ years	15+ years	25+ years	25+ years	30+ years	12+ years	12+ years	15+ years
Warranty, Duration		7 years	15 years	15 years	15 years	10 year limited	15 years	15 years	20 years	10 years	10 years	10 years
Finished Fabric	Test Method	NF EN ISO 2286-2										
	Thickness	0.64 mm								.85 mm	1.25 mm	1.41 mm
	Weight	26.7 oz/yd ²	31 oz/yd ² (1050 gsm)	40 oz/yd ² (1350 gsm)	45 oz/yd ² (1550 gsm)	17 oz/yd ² (560 gsm)	29.5 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)	14.7 oz/yd ² (500 gsm)	31 oz/yd ² (1050 gsm)
Roll Width, Usable		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)	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)
Tongue Tear	Warp, Fill		900/800 N	1200/1200 N	2000/2000 N	300/300 N	300/300 N	500/500 N	900/800 N	800/550 N	1100/800 N	1800/1800 N
	Test Method		DIN 53363	DIN 53363	DIN 53363	DIN 53363	DIN 53363	DIN 53363	DIN 53363	DIN 53363	DIN 53363	DIN 53363
Trapezoidal Tear	Warp, Fill	30, 28 daN/5 cm										
	Test Method	DIN 53363										
Grab Tensile	Warp, Fill											
	Test Method											
Strip Tensile	Warp, Fill	280, 280 daN/5 cm	6000/5500 N/5 cm	8000/7000 N/5 cm	10000/9000 N/5 cm	2900/2700 N/5 cm	3000/3000 N/5 cm	4300/4200 N/5 cm	6000/5500 N/5 cm	4000/3000 N/5 cm	4000/3200 N/5 cm	6000/5500 N/5 cm
	Test Method	NF EN ISO 1421	DIN EN ISO 1421/V1	DIN EN ISO 1421/V1	DIN EN ISO 1421/V1	DIN EN ISO 1421/V1	DIN EN ISO 1421/V1	DIN EN ISO 1421/V1	DIN EN ISO 1421/V1	DIN EN ISO 1421/V1	DIN EN ISO 1421/V1	DIN EN ISO 1421/V1
Adhesion	Warp, Fill	10 daN/10 cm	25 N/cm	26 N/cm	30 N/cm		20 N/cm	25 N/cm	25 N/cm			
	Test Method	NF EN ISO 2411	PA 09.03 (internal)	PA 09.03 (internal)	PA 09.03 (internal)		PA 09.03 (internal)	PA 09.03 (internal)	PA 09.03 (internal)			
Hydrostatic Resistance	Warp, Fill											
	Test Method											
Cold Crack	Warp, Fill		-40	-40	-40	-40	-40	-40	-40	-20	-20	-20
	Test Method		DIN EN 1876-1	DIN EN 1876-1	DIN EN 1876-1	DIN EN 1876-1	DIN EN 1876-1	DIN EN 1876-1	DIN EN 1876-1	DIN EN 1876-1	DIN EN 1876-1	DIN EN 1876-1
Burning Characteristics, Test Method		CSFM, NFPA 701	CSFMT19, ASTM E84, NFPA 701, others upon request	CSFMT19, ASTM E84, NFPA 701, others upon request	CSFMT19, ASTM E84, NFPA 701, others upon request	CSFMT19, ASTM E84, NFPA 701, others upon request	CSFMT19, ASTM E84, NFPA 701, others upon request	CSFMT19, ASTM E84, NFPA 701, others upon request	CSFMT19, ASTM E84, NFPA 701, others upon request	CSFMT19, ASTM E84, NFPA 701, others upon request	CSFMT19, NFPA 701, others upon request	CSFMT19, ASTM E84, NFPA 701, others upon request
Light Values, Test Method			ASHRAE 74 1988/ ISO EN 413	ASHRAE 74 1988/ ISO EN 414	ASHRAE 74 1988/ ISO EN 415		ASHRAE 74 1988/ ISO EN 411	ASHRAE 74 1988/ ISO EN 412	ASHRAE 74 1988/ ISO EN 413			
Transmission, Reflectance, Absorption		Opaque	Transmission 6% White 95/95/58 Transmission 10% HTL version 95/90/58 Reflection 84/82 Absorption 10/12	Transmission 5% Reflection 86/84 Absorption 9/11	Transmission 3% Reflection 86/84 Absorption 11/13	Depending on color, multiple options in stock	Transmission 9% Reflection 83/81 Absorption 8/10	Transmission 7% White 95/95/58 Transmission 12% HTL version 91/90/58 Reflection 85/82 Absorption 8/11	Transmission 0% Reflection 84/82 Absorption 10/12			
Seams (Recommended Style)		RF-Overlap	Lap	Lap	Lap	Lap	Lap	Lap	Lap	Lap	Lap	Lap
Construction Method			RF hot air, wedge	RF hot air, wedge	RF hot air, wedge	RF hot air, wedge	RF hot air, wedge	RF hot air, wedge	RF hot air, wedge	RF hot air, wedge	RF hot air, wedge	RF hot air, wedge
Useful Temperature Range		-22-158 F	-40 to 158 F	-40 to 158 F	-40 to 158 F	-40 to 158 F	-40 to 158 F	-40 to 158 F	-40 to 158 F	-20 to 158 F	-20 to 158 F	-20 to 158 F

AIR, TENT & TENSILE STRUCTURES

PRODUCT		PVC Coated Polyester – Weldable Nano PVDF Coating						PVC Laminate	PVDF	PVDF Film	Silicon Coated Multi Layer Composite	
Recommended Uses		Tensile architecture, long-term applications small structures	Tensile architecture, long-term applications small-medium 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	Awnings, Protective Covers, Signs & Banners, Tents, Pergolas, Tension Structures, Shade, & Structures	Tension facades, shading		Marine upholstery, outdoor furniture, RV, contract, indoor upholstery	Marine upholstery, outdoor furniture, RV, contract, indoor upholstery
Trade Name of Fabric		Valmex FR 700 Nano, Type I Item 7205-5256	Valmex FR 900 Nano, Type II Item 7211-5256	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	Haven	Sefar Architecture VE 200-S	DX-Film	Stamskin One	Stamskin Allure
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	Mehler Technologies mehler-technologies.com	Miami Corp./ Snyder miamicorp.com	SEFAR sefar.com	Denka denka.co.jp	Miami Corp./ Serge Ferrari miamicorp.com	Miami Corp./ Serge Ferrari miamicorp.com
Base Fabric	Weight								990 g/m ²	2.01 oz/yd ² (50µm)	19.2 oz/lin yd	19.2 oz/lin yd
	Weave Style	Single Weave 1/1	Panama weave 2/2	Panama weave 2/2	Modified Panama 3/3	Modified Panama 3/4	Panama weave 2/2	9x9 1000 denier in both direction	Taffeta			
	Yarn Count (Warp, Fill)								PVDF			
Coating	Weight (Top, Bottom)	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	Weldable Nano titanium PVDF no grinding needed					Silicon
	UV Topcoat Weight											
Life Expectancy		30+ years	30+ years	30+ years	30+ years	30+ years	30+ years		20 years	20 years		
Warranty, Duration		20 years	20 years	20 years	20 years	20 years	20 years	5 years	10 years		7 years	7 years
Finished Fabric	Test Method											
	Thickness								1.3 mm, 0.051 in	0.05 mm		
	Weight	20.5 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)	29.5 oz/yd ² (1000 gsm)	18 ounce sq/yd	990 g/m ²	2.01 oz/yd ²		
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)	98.4 in, 118.1 in (2.5 m, 3.0 m)	61in	2 m, 78.5 in	52.8 in	56.6 in	56.6 in
Tongue Tear	Warp, Fill	300/300 N	500/500 N	900/900 N	1200/1200 N	2000/2000 N	500/500 N					
	Test Method	DIN 53363	DIN 53363	DIN 53363	DIN 53363	DIN 53363	DIN 53363					
Trapezoidal Tear	Warp, Fill										20.6 lbs min/43.5 lbs min	20.6 lbs min/43.5 lbs min
	Test Method										ASTM D751	ASTM D751
Grab Tensile	Warp, Fill								4200, 4500			
	Test Method								EN ISO 13934-1			
Strip Tensile	Warp, Fill	3000/3000 N/5 cm	4300/4200 N/5 cm	6000/5500 N/5 cm	8000/7000 N/5 cm	10000/9000 N/5 cm	4300/4200 N/5 cm				350N/5cm/ 280N/5cm	350N/5cm/ 280N/5cm
	Test Method	DIN EN ISO 1421/V1	DIN EN ISO 1421/V1	DIN EN ISO 1421/V1	DIN EN ISO 1421/V1	DIN EN ISO 1421/V1	DIN EN ISO 1421/V1				EN ISO 1421	EN ISO 1421
Adhesion	Warp, Fill	20 N/cm	25 N/cm	25 N/cm	26 N/cm	30 N/cm	25 N/cm				665,000+	665,000+
	Test Method	PA 09.03 (internal)	PA 09.03 (internal)	PA 09.03 (internal)	PA 09.03 (internal)	PA 09.03 (internal)	PA 09.03 (internal)				ASTM D4157	ASTM D4157
Hydrostatic Resistance	Warp, Fill											
	Test Method											
Cold Crack	Warp, Fill	-40	-40	-40	-40	-40	-40					
	Test Method	DIN EN 1876-1	DIN EN 1876-1	DIN EN 1876-1	DIN EN 1876-1	DIN EN 1876-1	DIN EN 1876-1					
Burning Characteristics, Test Method		CSFMT19, ASTM E84, NFPA 701, others upon request	CSFMT19, ASTM E84, NFPA 701, others upon request	CSFMT19, ASTM E84, NFPA 701, others upon request	CSFMT19, ASTM E84, NFPA 701, others upon request	CSFMT19, ASTM E84, NFPA 701, others upon request	CSFMT19, ASTM E84, NFPA 701, others upon request	FLAME Cal State Fire Marshall Title 19, NFPA 701 2105 Large Scale, ASTM E 84-81A, Flame Spread Rating Class A	ASTM E84 Class A, B1 TO DIN 4102		CALTB102.2-2, IMO MSC.307 (88), FAA FAR 25.853(A), MVSS 302	CALTB102.2-2, IMO MSC.307 (88), FAA FAR 25.853(A), MVSS 302
Light Values, Test Method		ASHRAE 74 1988/ ISO EN 416	ASHRAE 74 1988/ ISO EN 417	ASHRAE 74 1988/ ISO EN 418	ASHRAE 74 1988/ ISO EN 419	ASHRAE 74 1988/ ISO EN 420	ASHRAE 74 1988/ ISO EN 417		ASTM D 1003			
Transmission, Reflectance, Absorption		Transmission 9% Reflection 83/81 absorption 8/10	Transmission 7% Reflection 85/82 absorption 8/11	Transmission 6% Reflection 84/82 absorption 10/12	Transmission 5% Reflection 86/84 absorption 9/11	Transmission 3% Reflection 88/84 absorption 11/13	Transmission 0% Reflection 86/84 absorption 8/11		87%, 12%, <1%			
Seams (Recommended Style)		Lap	Lap	Lap	Lap	Lap	Lap		Lap			
Construction Method		RF hot air, wedge	RF hot air, wedge	RF hot air, wedge	RF hot air, wedge	RF hot air, wedge	RF hot air, wedge	Laminate	Wedge Weld/ Heatseal			
Useful Temperature Range		-40 to 158 F	-40 to 158 F	-40 to 158 F	-40 to 158 F	-40 to 158 F	-40 to 158 F		-20 F to 125 F			