C o m p a c t r a n g e











WIKI'S



HOW TO DO IT IN BRIEF

Technical textiles (or fabrics) for tensile architecture applications are composite products with differing behaviours. Choosing the right product is a matter of defining the various project requirements, including mechanical, physical and aesthetic functionalities. Processing these fabrics to reach the desired results, however, is a matter of know-how. This small wiki will help define the required properties and support the production process.

TENSILE ARCHITECTURE DESIGN BASICS

Tensile surfaces are basically characterized by curved shapes. They always have to be double-curved. A simple sail, for example, needs at least 4 points of tension. The surface shape and all anchoring elements need to be designed to withstand all possible loads.

CHOOSING THE RIGHT FABRIC STRENGTH

The mechanical behaviour of the fabric is a critical factor for tensile surfaces. The fabric is a structural element and as such has to meet the necessary engineering and safety criteria. It is a good rule to estimate a proper safety factor by considering the maximum working load.

CUTTING AND PATTERNING

In the final stages of the design process, the surface is patterned into fabric parts in 2D, for assembly by welding in 3D shape. Patterning is a process of accurate geometrical definition, carefully dimensioning the single pattern and the precise percentage of decompensation.

WELDING AND ASSEMBLY

SIOEN fabrics can be easily welded with high frequency machines or by hot air processes. It is good practice to take the minimum seam width for the type of fabric used. Those are 40mm for type I, 60mm for type II and 80mm for type III fabrics.

PACKAGING AND INSTALLATION

While Sioen fabrics fold well, in packaging the finalized surface, thought must be given to optimal folding so as to avoid dangerous or damaging unfolding tasks on the worksite. Installation is the real know-how part of the process as here, besides of fundamental knowledge, also great care and skill are mandatory. Expertise is required during lifting and tensioning of the surface. Optimum weather conditions should be sought for these operations, never below 5°C or at wind speed over 5 m/s. Lifting and installation operations during rain weather shall consider proper water evacuation or shall simply be avoided.

INSPECTION AND MAINTENANCE

Permanent monitoring of the project's performance is essential. Sioen fabrics are engineered for long-lasting properties, but visual inspections must be conducted to check for obvious damage or for other deficiencies. The maintenance process needs to include:

- periodical or specific controls where necessary
- periodical or specific cleaning if needed

Eventual repairs to the fabric are an easy task but require an expert hand.



FOR MORE INFORMATION ON HOW TO USE THE FABRIC, CHECK OUR WEBSITE WWW.SIOEN-ARCHITECTURE.COM



FABRICS





PES 1100 DTEX 650 gr./M² PVC COATED | GLOSSY PVDF TYPE 0





PES 1100 DTEX 730 gr./M² PVC COATED GLOSSY PVDF TYPE 1





PES 1100 DTEX 900 gr./M² PVC COATED GLOSSY PVDF TYPE 2



EASYFLUOTM / FR T2102E / 1050 gr. / NON-FR T2002E / 1050 gr.



PVC COATED GLOSSY PVDF TYPE 2



VALUES

LIST OF PROPERTIES	MEASUREMENT METHODS/ CLASSIFICATIONS							
	FR	T0101E	T1101E	T2101E	T2102E	T3101E	T4101E	
	NON FR	T0001E	T1001E	T2001E	T2002E	T3001E	T4001E	
MATERIAL COMPOSITION								
BASE FABRIC	(DIN) ISO 2076	PES	PES	PES	PES	PES	PES	
YARN IN DTEX	(DIN) ISO 2060	1100	1100	1100	1100	1670	1670	
TOTAL WEIGHT IN gr./M ²	EN ISO 2286-2	650	730	900	1050	1150	1350	
THICKNESS IN MM		0.55	0.60	0.75	0.90	1.00	1.15	
TOP SURFACE TREATEMENT	EASYFLUO™	FINE-TUNED WELDABLE PVDF-LACQUER COMPOUND, UV-PROTECTED, HIGH GLOSSY						
BACK SURFACE TREATEMENT		WELDABLE HIGH DENSITY ACRYLIC LACQUER COMPOUND, UV-PROTECTED, HIGH GLOSSY						
MECHANICAL PROPERTIES								
TENSILE STRENGTH IN N/50 MM	EN ISO 1421/1	2900/2700	3000/3000	4300/4200	4300/4200	6000/5500	8000/7000	
TEAR STRENGTH IN N	DIN 53363	300/300	300/300	600/500	600/500	900/800	1200/1200	
ADHESION N/5CM	EN ISO 2411	100	100	120	120	120	120	
CRACK RESISTANCE	100000 X DIN 53359 A	NO CRACKS						
PHYSICAL PROPERTIES								
LIGHT FASTNESS	DIN EN ISO 105 B02	7 -8 NOTE						
TEMPERATURE RESISTANCE		-30°C / +70°C						
FIRE CLASSIFICATION		B1 (DIN4102), M2 (NFP 92507), EN13501-1:B-S2-D0, BS 7837, CALIFORNIA T19, GOST EN13501-1, C-S2-D						
WARRANTY (Y)		10 YEARS						
STANDARD ROLL WIDTH	CM	300						

EASYFLUOTM / FR T3101E / 1150 gr. / NON-FR T3001E / 1150 gr.



PES | 1670 DTEX | 1150 gr./M² | PVC COATED
GLOSSY PVDF
TYPE 3



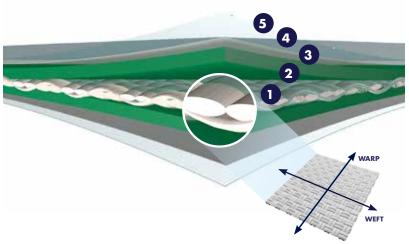
EASYFLUOTM / FR T4101E / 1350 gr. / NON-FR T4001E / 1350 gr.



PVC COATED
GLOSSY PVDF
TYPE 4



SIOEN +



SCHEMATIC COMPOSITION OF THE EASYFLUOTM ARCHITECTURAL FABRIC

- 1. Pre-treated base fabric PES high tenacity stabilised yarn
- 2. Double-side PES adhesion impregnation layers
- 3. Double-side quality PVC main coating layer pigmented with UV stabilizers, for FR types fire-retardant and flexing additives
- Backside acrylic top coat lacquering for good cleaning ability
- EASYFLUO light PVDF top coat lacquering layer for implemented cleaning ability, improved UV resistance and perfect weldability

One go COATING PRODUCTION SYSTEM

Our unique state-of-the-art machinery allows to coat back and front side of the fabrics in one run, avoiding stop-and go in between the various layering and lacquering processes. Herewith the product is not exposed to unfavorable thermal or mechanical



shocks, so that the final product is unbeatable quality wise. The One-gO process provides an extraordinary product stability, flat stretched fabric with better overall distensile properties and short lead times.

DEDICATED R&D CUSTOMIZED DEVELOPMENT

At our central research and development center, our dedicated team of professionals makes tensile architecture their daily business. This new range, with new and exclusive yarn formulations, techniques and lacquering, is the result of intensified collaboration between our researchers, external specialists,



OVERALL EASYFLUOTM ADVANTAGES

- State of the art seamless double-side knife-coated quality
- Good stable mechanical properties
- Perfect weldability
- PVDF/ acrylic double lacquering
- Protection against moisture
- Resistant to temperature variation
- High abrasion resistance
- Largest choice of widths on the market
- Largest choice of colours
- FR and non-FR available
- Cost effective

WIDTHS

• 218 cm - 85.83 inch - 7.15 feet

• 250 cm - 98,43 inch - 8.2 feet

• 300 cm - 118.11 inch - 9.84 feet



COMMITTED

Sioen is ethically and ecologically committed to invest in sustainable business processes and relationships.

We strive to preserve and improve the global environment through a pro-active environmental policy. Our internal recycling systems and the respect of the EU norms and certification allow us to be a reliable partner for customers and suppliers.

























PROCESSES





























Classic range









WIKI'S



HOW TO DO IT IN BRIEF

Technical textiles (or fabrics) for tensile architecture applications are composite products with differing behaviours. Choosing the right product is a matter of defining the various project requirements, including mechanical, physical and aesthetic functionalities. Processing these fabrics to reach the desired results, however, is a matter of know-how. This small wiki will help define the required properties and support the production process.

TENSILE ARCHITECTURE DESIGN BASICS

Tensile surfaces are basically characterized by curved shapes. They always have to be double-curved. A simple sail, for example, needs at least 4 points of tension. The surface shape and all anchoring elements need to be designed to withstand all possible loads.

CHOOSING THE RIGHT FABRIC STRENGTH

The mechanical behaviour of the fabric is a critical factor for tensile surfaces. The fabric is a structural element and as such has to meet the necessary engineering and safety criteria. It is a good rule to estimate a proper safety factor by considering the maximum working load.

CUTTING AND PATTERNING

In the final stages of the design process, the surface is patterned into fabric parts in 2D, for assembly by welding in 3D shape. Patterning is a process of accurate geometrical definition, carefully dimensioning the single pattern and the precise percentage of decompensation.

WELDING AND ASSEMBLY

SIOEN fabrics can be easily welded with high frequency machines or by hot air processes. It is good practice to take the minimum seam width for the type of fabric used. Those are 40mm for type I, 60mm for type II and 80mm for type III fabrics.

PACKAGING AND INSTALLATION

While Sioen fabrics fold well, in packaging the finalized surface, thought must be given to optimal folding so as to avoid dangerous or damaging unfolding tasks on the worksite. Installation is the real know-how part of the process as here, besides of fundamental knowledge, also great care and skill are mandatory. Expertise is required during lifting and tensioning of the surface. Optimum weather conditions should be sought for these operations, never below 5°C or at wind speed over 5 m/s. Lifting and installation operations during rain weather shall consider proper water evacuation or shall simply be avoided.

INSPECTION AND MAINTENANCE

Permanent monitoring of the project's performance is essential. Sioen fabrics are engineered for long-lasting properties, but visual inspections must be conducted to check for obvious damage or for other deficiencies. The maintenance process needs to include:

- periodical or specific controls where necessary
- periodical or specific cleaning if needed

Eventual repairs to the fabric are an easy task but require an expert hand.



FOR MORE INFORMATION ON HOW TO USE THE FABRIC, CHECK OUR WEBSITE WWW.SIOEN-ARCHITECTURE.COM



FABRICS



FLUOMAXTM / T0108 / 650 gr.





1100 DTEX 650 gr./M²

PVC COATED HIGH-GLOSSY PVDF TYPE 0

FLUOMAXTM / T1108 / 725 gr.



725 G/M²

PVC COATED HIGH-GLOSSY PVDF



FLUOMAXTM / T2106 / 900 gr.



PVC COATED 1100 DTEX HIGH-GLOSSY PVDF 900 gr./M² TYPE 2



FLUOMAXTM / T2108 / 1050 gr.



1050 gr./M²

1100 DTEX HIGH-GLOSSY PVDF



VALUES

LIST OF PROPERTIES	MEASUREMENT METHODS/ CLASSIFICATIONS						
		T0108	T1108	T2106	T2108	T3108	T4108
MATERIAL COMPOSITION							
BASE FABRIC	(DIN) ISO 2076	PES	PES	PES	PES	PES	PES
YARN IN DTEX	(DIN) ISO 2060	1100	1100	1100	1100	1670	1670
TOTAL WEIGHT IN gr./M ²	EN ISO 2286-2	650	725	900	1050	1150	1350
THICKNESS IN MM		0.55	0.60	0.75	0.90	1.00	1.15
TOP SURFACE TREATEMENT	FLUOMAXTM	FINE-TUNED WELDABLE PVDF-LACQUER COMPOUND ON BOTH SIDES, LOW-WICK,					
BACK SURFACE TREATEMENT	FLUOMAX	MICROBIAL AND FUNGICIDE PROTECTED, UV-PROTECTED					
MECHANICAL PROPERTIES							
TENSILE STRENGTH IN N/50 MM	EN ISO 1421/1	2900/2700	3000/3000	4300/4200	4300/4200	6000/5500	8000/7000
TEAR STRENGTH IN N	DIN 53363	300/300	300/300	600/500	600/500	900/800	1200/1200
ADHESION N/5CM	EN ISO 2411	120	120	120	120	120	120
CRACK RESISTANCE	100000 X DIN 53359 A	NO CRACKS					
PHYSICAL PROPERTIES							
LIGHT TRANSMITTANCE (%)	550 NM	9 %	8%	6.5%	5%	4%	3%
REFLECTION		87.5%	88%	89%	90.5%	91%	92%
ABSORBTION		3.5%	4%	4.5%	4.5%	5%	5%
LIGHT FASTNESS	DIN EN ISO 105 B02	7 -8 NOTE					
TEMPERATURE RESISTANCE		-30°C / +70°C					
FIRE CLASSIFICATION		B1 (DIN4102), M2 (NFP 92507), EN13501-1:B-S2-D0, BS 7837, CALIFORNIA T19, GOST EN13501-1, C-S2-D					
WARRANTY (Y)		15 YEARS					
STANDARD ROLL WIDTH	CM	250					

FLUOMAXTM / T3108 / 1150 gr.



1670 DTEX

PVC COATED HIGH-GLOSSY PVDF TYPE 3



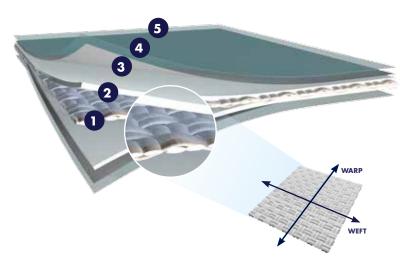
FLUOMAXTM / T4108 / 1350 gr.



PES 1670 DTEX 350 gr./M² PVC COATED HIGH-GLOSSY PVDF TYPE 4



SIOEN +



SCHEMATIC COMPOSITION OF THE FLUOMAXTM ARCHITECTURAL FABRIC

- Pre-treated base fabric PES high tenacity yarn -extra strong, stabilised, anti-capillary low-wick treated and flattened
- 2. Double-side impregnation coating layer for extra PES protection and increased adhesion properties to the PVC substrate
- 3. Double-side highest quality PVC main coating layer highly pigmented with UV stabilizers, anti-mould, fire-retardant and flexing additives
- Double-side binding primer layer for anti-peeling lacquer adhesion, pigmentation protection and foldability resistance
- FLUOMAX top coat lacquering layer grants a great cleaning ability, perfect UV resistance and still perfect weldability

One go COATING PRODUCTION SYSTEM

Our unique state-of-the-art machinery allows to coat back and front side of the fabrics in one run, avoiding stop-and go in between the various layering and lacquering processes. Herewith the product is not exposed to unfavorable thermal or mechanical



shocks, so that the final product is unbeatable quality wise. The One-gO process provides an extraordinary product stability, flat stretched fabric with better overall distensile properties and short lead times.

DEDICATED R&D CUSTOMIZED DEVELOPMENT

At our central research and development center, our dedicated team of professionals makes tensile architecture their daily business. This new range, with new and exclusive yarn formulations, techniques and lacquering, is the result of intensified collaboration between our researchers, external specialists,



OVERALL FLUOMAXTM ADVANTAGES

- State of the art seamless double-side knife-coated quality
- Clear white visual effect
- Anti-capillary low wicking treatment
- Flat, stable mechanical properties
- Perfect weldability
- Cleaning ability greatly enhanced
- Perfect UV resistance
- Protection against moisture
- Resistant to temperature variation
- High abrasion resistance
- Largest choice of widths on the market

WIDTHS

• 218 cm - 85.83 inch - 7.15 feet

• 250 cm - 98,43 inch - 8.2 feet

• 300 cm - 118.11 inch - 9.84 feet



COMMITTED

Sioen is ethically and ecologically committed to invest in sustainable business processes and relationships.

We strive to preserve and improve the global environment through a pro-active environmental policy. Our internal recycling systems and the respect of the EU norms and certification allow us to be a reliable partner for customers and suppliers.

























PROCESSES





























Compact range









WIKI'S



HOW TO DO IT IN BRIEF

Technical textiles (or fabrics) for tensile architecture applications are composite products with differing behaviours. Choosing the right product is a matter of defining the various project requirements, including mechanical, physical and aesthetic functionalities. Processing these fabrics to reach the desired results, however, is a matter of know-how. This small wiki will help define the required properties and support the production process.

TENSILE ARCHITECTURE DESIGN BASICS

Tensile surfaces are basically characterized by curved shapes. They always have to be double-curved. A simple sail, for example, needs at least 4 points of tension. The surface shape and all anchoring elements need to be designed to withstand all possible loads.

CHOOSING THE RIGHT FABRIC STRENGTH

The mechanical behaviour of the fabric is a critical factor for tensile surfaces. The fabric is a structural element and as such has to meet the necessary engineering and safety criteria. It is a good rule to estimate a proper safety factor by considering the maximum working load.

CUTTING AND PATTERNING

In the final stages of the design process, the surface is patterned into fabric parts in 2D, for assembly by welding in 3D shape. Patterning is a process of accurate geometrical definition, carefully dimensioning the single pattern and the precise percentage of decompensation.

WELDING AND ASSEMBLY

SIOEN fabrics can be easily welded with high frequency machines or by hot air processes. It is good practice to take the minimum seam width for the type of fabric used. Those are 40mm for type I, 60mm for type II and 80mm for type III fabrics.

PACKAGING AND INSTALLATION

While Sioen fabrics fold well, in packaging the finalized surface, thought must be given to optimal folding so as to avoid dangerous or damaging unfolding tasks on the worksite. Installation is the real know-how part of the process as here, besides of fundamental knowledge, also great care and skill are mandatory. Expertise is required during lifting and tensioning of the surface. Optimum weather conditions should be sought for these operations, never below 5°C or at wind speed over 5 m/s. Lifting and installation operations during rain weather shall consider proper water evacuation or shall simply be avoided.

INSPECTION AND MAINTENANCE

Permanent monitoring of the project's performance is essential. Sioen fabrics are engineered for long-lasting properties, but visual inspections must be conducted to check for obvious damage or for other deficiencies. The maintenance process needs to include:

- periodical or specific controls where necessary
- periodical or specific cleaning if needed

Eventual repairs to the fabric are an easy task but require an expert hand.



FOR MORE INFORMATION ON HOW TO USE THE FABRIC, CHECK OUR WEBSITE WWW.SIOEN-ARCHITECTURE.COM

FABRICS



SIOGLOSSTM / T0001S / 600 gr.



PES 1100 DTEX 600 gr./M² PVC COATED ACRYLIC GLOSSY TYPE 0



SIOGLOSS™ / T1001S / 700 gr.



PES 1100 DTEX 700 G/M² PVC COATED ACRYLIC GLOSSY TYPE 1



SIOGLOSSTM / T2001S / 900 gr.



1100 DTEX 900 gr./M² PVC COATED ACRYLIC GLOSSY TYPE 2



SIOGLOSSTM / T3001S / 1050 gr.



PES 1100 DTEX 1050 gr./M² PVC COATED ACRYLIC GLOSSY TYPE 3



VALUES

		TYPE 0	TYPE 1	TYPE 2	TYPE 3		
LIST OF PROPERTIES	MEASUREMENT METHODS/ CLASSIFICATIONS						
		T0001S	T1001S	T2001S	T3001S		
MATERIAL COMPOSITION							
BASE FABRIC	(DIN) ISO 2076	PES	PES	PES	PES		
YARN IN DTEX	(DIN) ISO 2060	1100	1100	1100	1100		
TOTAL WEIGHT IN gr./M ²	EN ISO 2286-2	600	700	900	1050		
THICKNESS IN MM		0.50	0.60	0.75	0.90		
TOP SURFACE TREATEMENT	SIOGLOSS™	HIGH DENSITY ACRYLIC GLOSSY, EMBOSSED					
BACK SURFACE TREATEMENT	Jicoloss	HIGH DENSITY ACRYLIC GLOSSY					
MECHANICAL PROPERTIES							
TENSILE STRENGTH IN N/50 MM	EN ISO 1421/1	2500/2300	3000/ 2800	4000/4000	4000/4000		
TEAR STRENGTH IN N	DIN 53363	270/ 270	300/ 300	600/ 500	600/ 500		
ADHESION N/5CM	EN ISO 2411	90	100	100	100		
CRACK RESISTANCE	100000 X DIN 53359 A	NO CRACKS					
PHYSICAL PROPERTIES							
LIGHT FASTNESS	DIN EN ISO 105 B02	7 -8 NOTE					
TEMPERATURE RESISTANCE		-30°C / +70°C					
WARRANTY (Y)		6 YEARS					
STANDARD ROLL WIDTH	CM	250	250	300	300		

























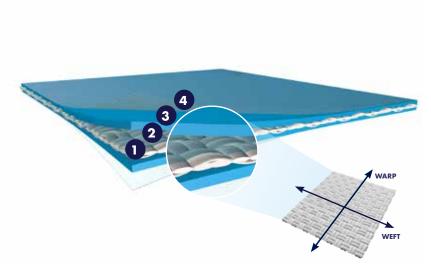
SIOGLOSSTM / T3001S / 1050 gr. / COLOR 1901 SANDSTONE



ACRYLIC GLOSSY
TYPE 3



SIOEN +



SCHEMATIC COMPOSITION OF THE SIOGLOSS™ ARCHITECTURAL FABRIC

- 1. Pre treated base fabric PES high tenacity stabilised yarn
- 2. Double-side PES adhesion impregnation layers
- 3. Double-side quality PVC main coating layer
- 4. Double-side SIOGLOSS acrylic top coat lacquering for good cleaning ability, UV protection and perfect weldability

Our unique state-of-the-art machinery allows to coat back and front side of the fabrics in one run, avoiding stop-and go in between the various layering and lacquering processes. Herewith the product is not exposed to unfavorable thermal or mechanical



shocks, so that the final product is unbeatable quality wise. The One-gO process provides an extraordinary product stability, flat stretched fabric with better overall distensile properties and short lead times.

DEDICATED R&D CUSTOMIZED DEVELOPMENT

At our central research and development center, our dedicated team of professionals makes tensile architecture their daily business. This new range, with new and exclusive yarn formulations, techniques and lacquering, is the result of intensified collaboration between our researchers, external specialists,



OVERALL SIOGLOSSTM ADVANTAGES

- State of the art seamless double-side knife-coated quality
- Good stable mechanical properties
- Perfect weldability
- Double acrylic lacquerina
- Resistant to temperature variation
- High abrasion resistance
- Largest choice of widths on the market
- Largest choice of colours
- Cost effective

WIDTHS

- 218 cm 85.83 inch 7.15 feet
- 250 cm 98,43 inch 8.2 feet
- 300 cm 118.11 inch 9.84 feet



Sioen is ethically and ecologically committed to invest in sustainable business processes and relationships.

We strive to preserve and improve the global environment through a pro-active environmental policy. Our internal recycling systems and the respect of the EU norms and certification allow us to be a reliable partner for customers and suppliers.

























PROCESSES

























