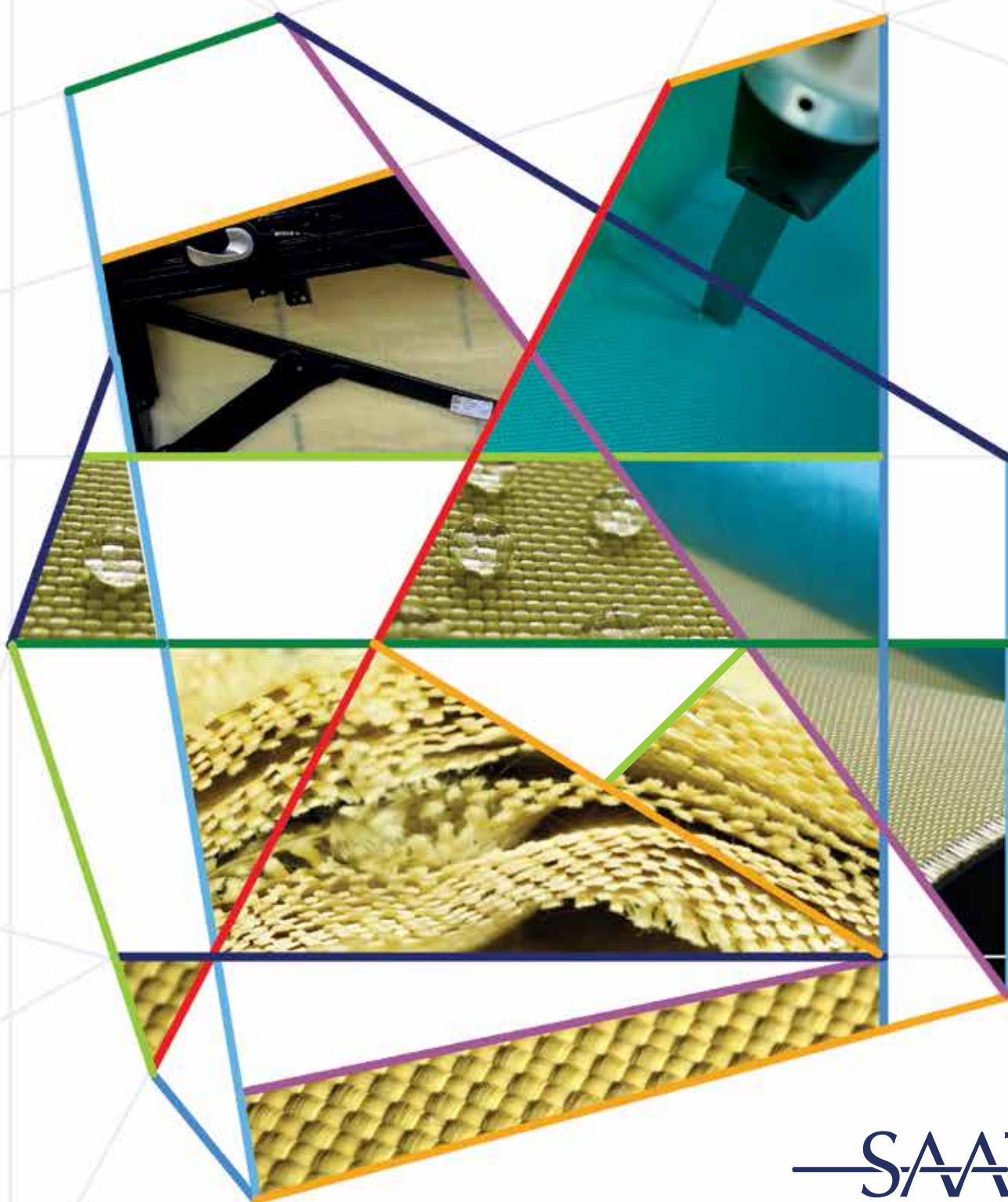


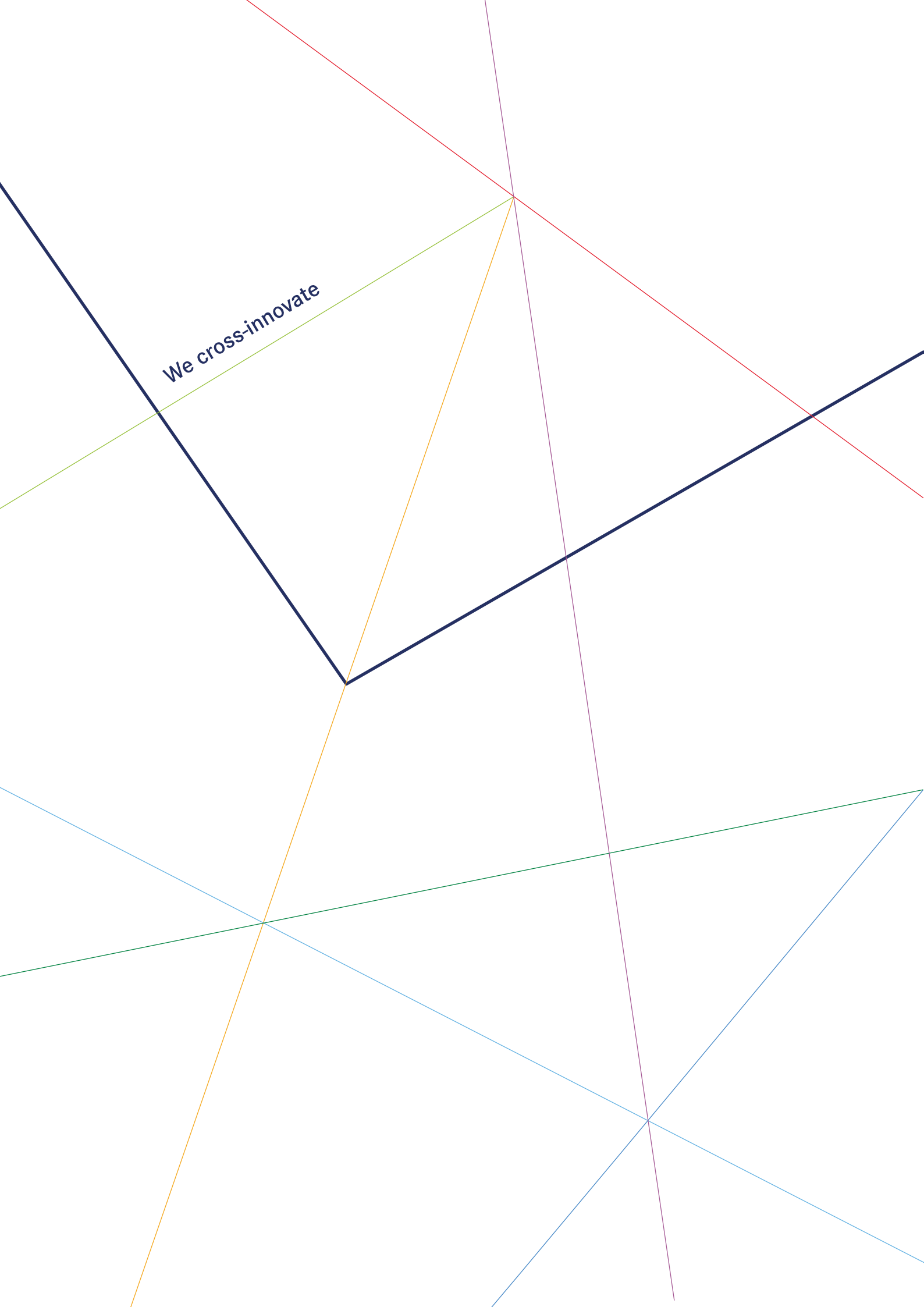
# SAATIProtection

performance fabrics &  
hybrid technologies



**SAATI**  
We cross-innovate

We cross-innovate





We cross-innovate

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# SAATIprotection

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## The Company

SAATI is focused on the production of fabrics, panels and laminated materials in aramid fiber with unique resin finishing processes, for multi-threat protection, both for personal protection and light armouring systems. We offer insight gained in more than 40 years of providing technology and support to markets around the globe.

SAATI offers products that may include a variety of water repellent treatments, hot melt and solvent resin coating, thermoplastic, rubberized and thermoset (epoxy and phenolic options).

Whatever your protection needs, SAATI can provide the right solution.



## Unsurpassed Customer Support

With business offices and warehouses throughout the world, SAATI provides strong local support, expert response to customer inquiries, and quick delivery to all locations.

SAATI Sales Representatives and Engineers are committed to a tradition of continuous innovation. They understand their customers' applications and offer the most appropriate product in a form that best meets their customers' needs.

The search for new materials and designs is facilitated by our continual acquisition of new technology and equipment. Our R&D and Technical team can take advantage of state of the art laboratories and in-house ballistic test capability, where they can study incoming raw materials and finished products, with the purpose of developing the best solution for the customers' requirements.



## Improving Safety

As a leading supplier of products for the protection sector, SAATI is at the forefront of technology. We strive to develop innovative and reliable systems that are able to protect the military and law forces against the different threats. Not only protection against bullets, but also protection against knives, spikes, fragments and blunt impacts.

SAATI is the partner able to find solutions to the continuously evolving challenges, first of all in terms of protection to the more and more sophisticated threats, and also challenges in terms of productivity, availability, reliability, safety, costs. For each threat, we are able to develop different solutions, several options that can all give an answer to the required performances, with a different approach.

Recently SAATI has been developing products which offer advantages for customers and final users such as lightness and flexibility in order to reach a greater comfort & wearability, improvement of production process and reduction of scraps. SAATI aims to develop products minimizing ever more the impact on the environment.





# SAATIprotection

Production

Warping



Weaving



Finishing



Pre-Preg



Lamination



Molding



# SAATIprotection

## SAATILab

SAATI offers comprehensive laboratory capabilities; our skilled Quality Control and R&D teams are supported by the most state of the art quality control devices and equipment, and are able to make in house all the tests which are required by the industry.

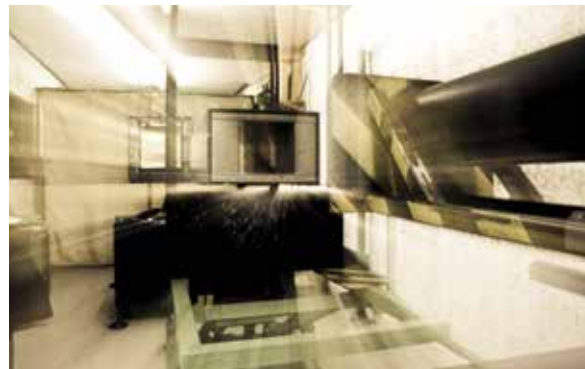
We constantly innovate to raise performance and open up new possibilities to develop customized solutions according to worldwide standards in order to meet customers' requirements

Some of our laboratory testing capabilities include:

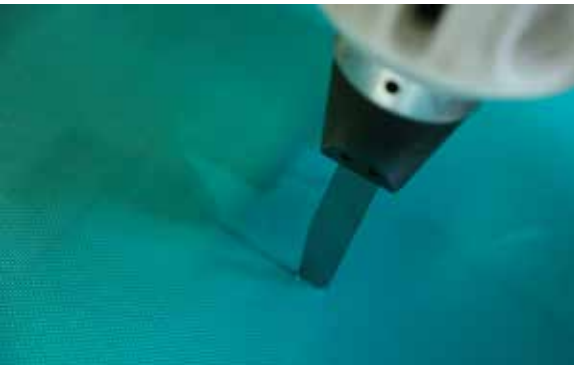
**Physical – Yarn, Fabric**



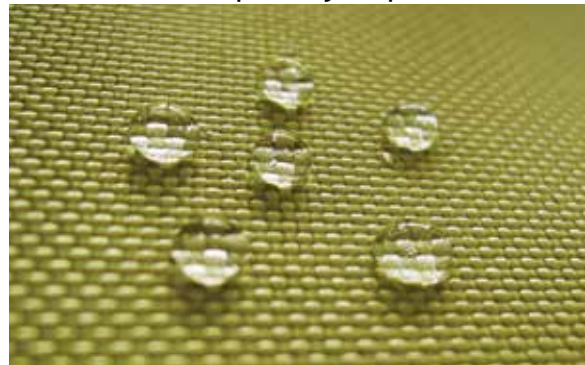
**Ballistic**



**Stab/Spike**



**Budensmann  
Water Repellency Properties**



**Thermal – DSC**



# SAATIprotection

## The Products

SAATI is a global manufacturer of fabrics, pre-pregs, Multi-threat Protection (MTP) systems, backing and spall liners for law enforcements, military, corrections & private security applications, both for personal protection and armouring.

### Aramid Fabrics

Our wide range of the most advanced fabrics available in the market covers the various civil, law enforcement and military applications for personal protection. A leadership obtained through the development and manufacturing of fabrics in para-aramidic and other fibres, consolidated through an ongoing process of product innovation and exclusive finishing procedures. We offer a wide range of fabrics with an areal density from 110 g/sqm to 625 g/sqm using aramid fibers from 220 to 3300 dtex.



### Threats



Bullets



Fragments



Spike

### Main Application Areas





Item	Weave		Threads x cm		Title Count		Thickness (mm)	Weight (g/m <sup>2</sup> )	Warp (DaN/cm)	Weft
			Warp (n°/cm)	Weft (n°/cm)	Warp (dtex)	Weft (dtex)				
270	tela	plain	27,5	27,5	Kevlar K159 220	Kevlar K159 220	0,20	125	80	100
310	tela	plain	14,0	14,0	Kevlar KM2+440	Kevlar KM2+ 440	0,17	125	100	100
431	tela	plain	12,2	12,2	Kevlar KM2+440	Kevlar KM2+ 440	0,13	110	90	90
6402	tela	plain	10,7	10,7	Kevlar KM2+670	Kevlar KM2+ 670	0,20	145	130	130
6602	tela	plain	12,2	12,2	Kevlar KM2+670	Kevlar KM2+670	0,25	165	135	135
3631	tela	plain	10,7	10,7	Kevlar KM2+940	Kevlar KM2+940	0,31	200	140	140
3651	tela	plain	11,7	11,7	Kevlar KM2+940	Kevlar KM2+ 940	0,32	220	150	150
802	tela	plain	8,5	8,5	Kevlar KM2+1100	Kevlar KM2+ 1100	0,26	190	150	150
812	tela	plain	12,2	12,2	Kevlar KM2+1100	Kevlar KM2+ 1100	0,38	280	220	220
863	tela	plain	9,3	9,3	Kevlar KM2+1100	Kevlar KM2+ 1100	0,33	205	140	140
865	tela	plain	10,0	10,0	Kevlar KM2+1100	Kevlar KM2+1100	0,27	220	170	170
258	tela	plain	6,4	6,4	Kevlar K129 3140	Kevlar K129 3140	0,62	410	320	350
300	tela	plain	4,5	4,5	Kevlar K29 3000	Kevlar K29 3000	0,40	300	190	190
101	tela	plain	6,7	6,7	Kevlar K29 3000	Kevlar K29 3000	0,63	460	280	280
103	batavia 4/4	twill 4/4	9,3	9,3	Kevlar K29 3000	Kevlar K29 3000	0,91	635	320	320

# SAATIprotection

## The Products

### Coated Aramid Fabrics

Our coated and laminated products are manufactured both with traditional fabrics, using phenolic, epoxy, thermoplastic and rubber resin system. The properties of the resins, combined with the properties of the fibres, meet the most high demanding requirements in the sector of ballistic protection (helmets, armouring).

The last generation of products provides for the use of preservable matrices at room temperature, long shelf life, mold at low temperature and therefore compatible with thermoplastic systems.



### Threats



Bullets



Fragments

### Product Range for Vehicle Armouring

#### Phenolic Systems

Item	Resin content	Prepreg Weight	Moulded Layer Thickness	Curing Cycle		
	(%)			(g/m <sup>2</sup> )	(mm)	(°C)
Style 258 PHHGM	12	455	0,43	165	30	15
Style 101 PHHGM	16	525	0,49	165	30	15

#### Rubberized Systems

Item	Resin content	Prepreg Weight	Moulded Layer Thickness	Curing Cycle		
	(%)			(g/m <sup>2</sup> )	(mm)	(°C)
Style 101 GRC - 1	15	515	0,63	175	10 - 50	Depending on N° of layers
Style 101 GRC - 2	21	580	0,66	175	10 - 50	Depending on N° of layers
Style 101 GHY - 1	15	515	0,63	185	10 - 50	Depending on N° of layers

#### Thermoplastic Systems

Item	Resin content	Prepreg Weight	Moulded Layer Thickness	Curing Cycle		
	(%)			(g/m <sup>2</sup> )	(mm)	(°C)
Style 101 L60	11	495	0,58	160	10	Depending on N° of layers
Style 258 L60	11	450	0,55	160	10	Depending on N° of layers

## Main Application Areas



## Product Range for Helmets & Shields

### Phenolic Systems

Item	Resin content	Prepreg Weight	Moulded Layer Thickness	Curing Cycle		
	(%)	(g/m <sup>2</sup> )	(mm)	(°C)	(bar)	(min)
Style 258 PHHGM one side coated	12	455	0,43	165	30	15
Style 101 PHHGM one side coated	16	525	0,49	165	30	15
Style 258 PHHGM double side coated	25	535	0,5	165	30	15
Style 3651 PHUSD Black double side coated	18	262	0,35	165	30	15

### Thermoplastic Systems

Item	Resin content	Prepreg Weight	Moulded Layer Thickness	Curing Cycle		
	(%)	(g/m <sup>2</sup> )	(mm)	(°C)	(bar)	(min)
Style 101 L60	18	490	0,43	125	2 - 7	15
Style 258 L60	26	540	0,45	125	2 - 7	15
Style 258 PCK	12	455	0,65	135	30	30
Style 350 PCK	9	374	0,56	135	30	30

## Main Application Areas



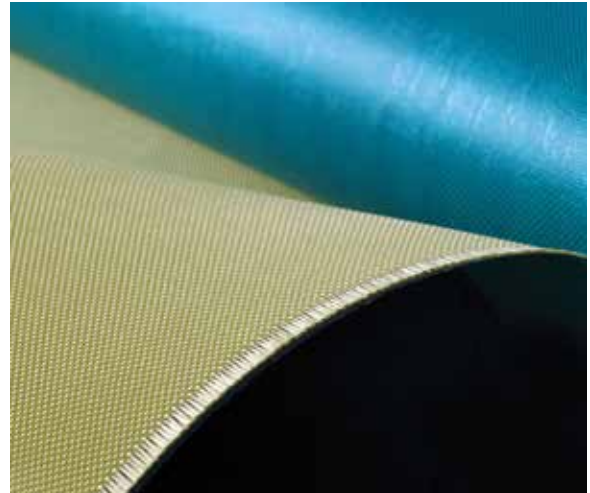
# SAATIprotection

## The Products

### Multi-Threat Protection (MTP) Systems

SAATI MTP systems are designed to protect against threats of different origins: bullets, knives and spikes. To face these kinds of threats we offer a wide range of products as multi-threat protection “MTP” (trauma reduction systems, stab and spike protection systems).

According to technical specifications, SAATI is able to offer products in sheets and in rolls in order to reach the required target: lightness, flexibility and reduction of scraps during the fabrication.



### Threats



Bullets



Fragments



Blades



Spike



Trauma Reduction

### Main Application Areas





### Stab and Spike Protection Systems

Item	Standard Dimensions	Thickness	Weight
	(mm x mm)	(mm)	(g/m <sup>2</sup> )
AS 299	2130 x 1270	0,13	165
MTS 310	from 1200 up to 1600	0,35	310

### Trauma Reduction Systems

Item	Standard Dimensions	Thickness	Weight
	(mm x mm)	(mm)	(g/m <sup>2</sup> )
AT2	2130 x 1300	0,50	510
TRS 295	from 1200 up to 1600	0,38	295

### MTP Systems

Item	Standard Dimensions	Thickness	Weight
	(mm x mm)	(mm)	(g/m <sup>2</sup> )
AS401S	2000 x 1200	0,22	235
AS401D	2000 x 1200	0,23	280
TRS380	2000 x 1300	0,33	372
MTS285L	2000x12000	0,22	285



# SAATIprotection

## The Products

### Backings and Spall Liners

SAATI product range for the military protection is completed with the engineering and manufacturing of backings and spall liners for military vehicles. The product range includes special laminates and panels which are developed according to the latest requirements of the protection sector's regulatory framework.



### Threats



Bullets



Fragments

### Backing Spall Liner

Item	Standard Dimensions	Thickness	Weight	Resin Matrix
	(mm x mm)	(mm)	(g/m <sup>2</sup> )	
L60/14	1200 x 2000	6	7	Thermoplastic
L60/16	1200 x 2000	7	8	Thermoplastic
L60/25	1200 x 2000	11	12,5	Thermoplastic
PVB 14/19	1200 x 2000	8,3	8,7	Thermoset
GRC 101 19/15-2	1950 x 1360	7	8,4	Rubberized
GRC 101 19/7-2	1950 x 1360	4,8	3,9	Rubberized

## Main Application Areas



# SAATIprotection

## The Products

### Armourfit - Lightweight Armour Systems

SAATI manufactures flexible and lightweight armour systems for vehicle protection. Thanks to these features, Lightweight armour systems are compatible to every vehicle shape and surface type.



### Threats



Bullets



Fragments

### Armourfit

Item	Weight (g/m <sup>2</sup> )	Thickness (mm)	Fire Resistance UL 94 Level
CM-R Armourfit 6.6 B4	6,6	6,4	V0
CM-R Armourifit 7.6 B4	7,6	7,0	V0
CM-S Armourfit 6.3 B4	6,3	10	V0



Main Application Areas



# SAATIprotection

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For a Sustainable Future

## We Work To Improve Everyday Life

We understand the importance of operating a sustainable business. First of all, in terms of the products we manufacture. At SAATI, we develop and make available technological products that feature in people's everyday routines, all over the world, helping to make their lives healthier, safer, or simply easier.



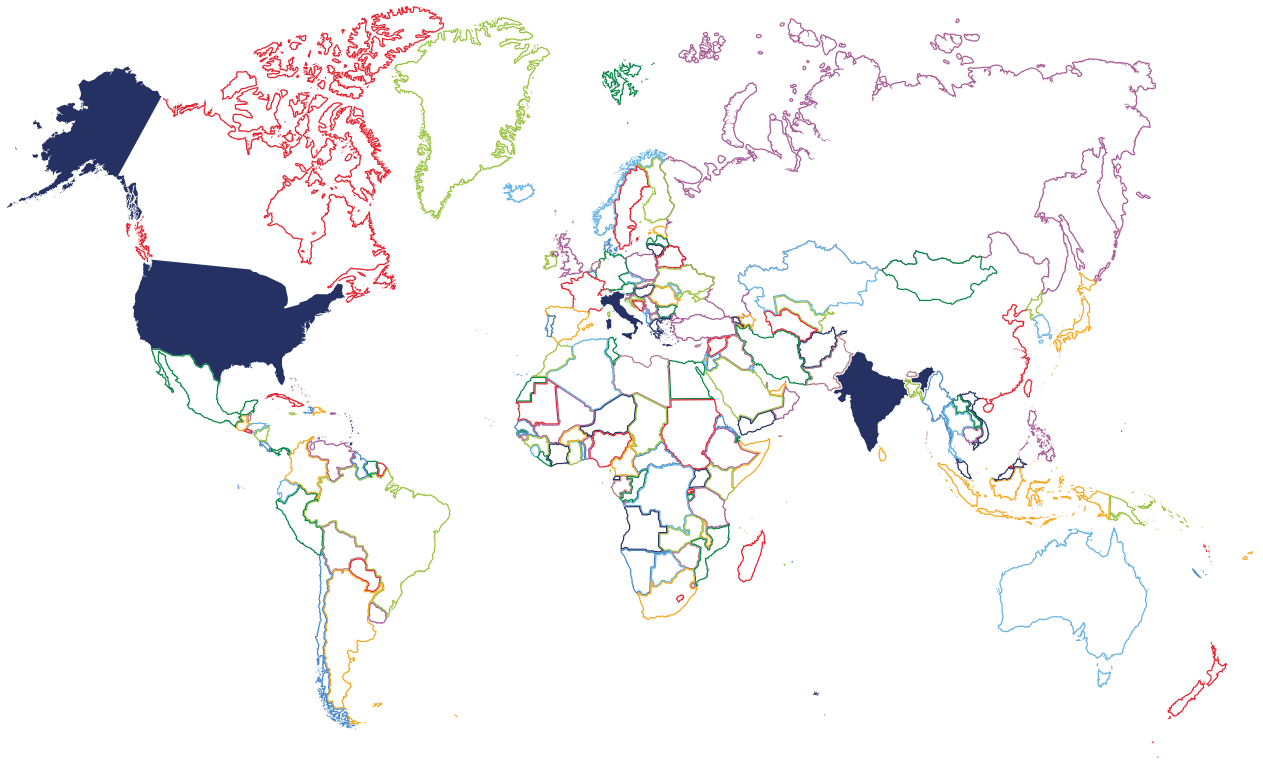
## Life Is Precious. We Work To Protect It

All our products, from fabrics, through components to chemicals, recognize that life is precious. At SAATI, we manufacture technologies for life: filter fabrics for blood transfusion set; aramid fabrics in bullet proof jackets; functional fabrics and chemicals to manufacture solar cells, mobile phones and tablets that improve our lives.





**We cross-innovate**



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**—SAATI**

**We cross-innovate**