



CristexCompositeMaterials
COMPOSITES YOU CAN TRUST



HIGH PERFORMANCE COMPOSITE MATERIALS
MARINE CATALOGUE





Marine Products

Formed in 1990, Cristex have steadily evolved to become one of the UK's premier suppliers of High-Performance Fibres and Fabrics for the UK Composites and Reinforced Plastics Markets. Cristex supplies a comprehensive range of products manufactured from Glass Fibre (E.C.S. ECR), Carbon Fibre, Aramid Fibre, Dyneema®, Thermoplastic (nylon, polyester etc.) as well as Epoxy Resins and Adhesives.

We are passionate about composites, customers, our people and the environment. We have been in the industry for over 30 years and our Director, Bruce Craig for over 40 years. We want to reflect our passion and commitment in everything we do to be the UK's leading supplier of composite materials.

01282 770666

www.cristex.co.uk



Products & Services

Cristex offers a wide range of products manufactured from Glass Fibre, Carbon Fibre and Aramid Fibre as well as a variety of Epoxy Resin Systems.

This brochure showcases our range of materials that are commonly used in the marine market. If the products, weights, or widths you are looking for are not displayed, please give us a call to further discuss your requirements.

Cristex also offer a full in house Cutting and Kitting as well as Slitting and Rewinding service.

Applications	6
Fabrics	8
Multiaxials	12
Tapes	16
RTM & Infusion	18
Resins & Adhesives	22
Tools	24
Services	26

Applications

The right material for every application

Cristex Composite Materials are a leading supplier in the UK market for composite reinforcements. In marine applications, we supply products to help increase the performance of yachts, power boats, inflatables to name a few.

Most common applications that benefit from using composite materials:

- Racing Power Boats
- Racing Sailing Yachts
- Motor Yachts
- Sailing Yachts
- Rigid Inflatables
- Tenders
- Kayaks & Canoes
- Surf Boards



For more information on how the team at Cristex can support your project, get in touch.

01282 770666



Fabrics

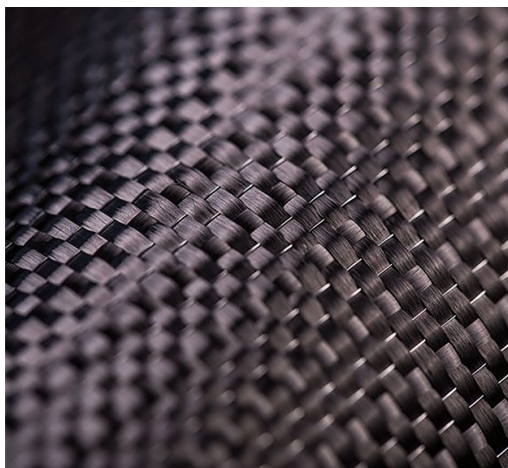
Woven Fabrics:

The range of woven fabrics suitable for the marine market are available in plain and twill constructions. These constructions are produced in various weights and widths.

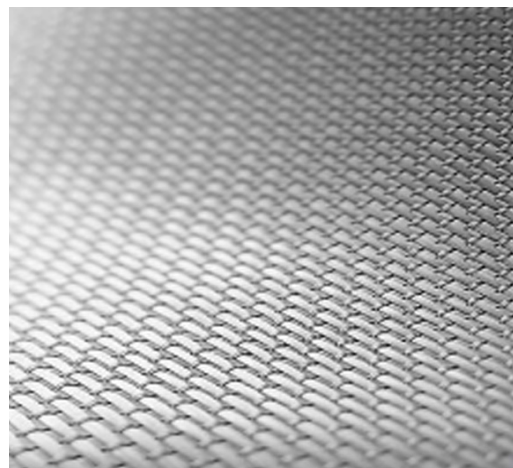
Multiaxials:

The range of multiaxial fabrics suitable for the marine market are available in various constructions: Biaxial, Bidirectional, Triaxial, Quadriaxial and Unidirectional. These constructions are produced in various weights and widths.

Woven Fabric



Multiaxial Fabric



1 Woven Fabrics: Carbon, Glass & Aramid

2 Woven Rovings: Glass

3 Multiaxials: Carbon & Glass

The fabrics that are listed in this section are from our standard line. Please contact us for any specific design requirements or information regarding certifications.

Woven Fabrics

Carbon Fibre

Reference	Fibre Weight in g/m ²	Weave Style	Width in mm
GG 206 P	200	Plain	1000
GG 206 T	200	2/2 Twill	1000
GG 240 T	240	2/2 Twill	1000
GG 400 P	400	Plain	1000 / 1200
GG 600 T	592	2/2 Twill	1000

Glass Fibre

Reference	Fibre Weight in g/m ²	Weave Style	Width in mm
02037	49	Plain	1000
91111	105	4HS	1000
92100	163	Plain	1000
05507	200	2/2 Twill	1000
92125	280	2/2 Twill	1000
92115	280	Plain	1000
92140	394	2/2 Twill	1000



Aramid Fibre

Reference	Fibre Weight in g/m ²	Weave Style	Width in mm
Style 120	60	Plain	1200
Style 281	172	Plain	1000 / 1200
Style 285	172	4HS	1000 / 1200
KK 300 T	310	2/2 Twill	1200
Carbon, Aramid Hybrids			
GK 165 P	168	Plain	1000 / 1200
GK 210 T	213	2/2 Twill	1000 / 1200

Woven Roving

Glass Fibre

Reference	Fibre Weight in g/m ²	Weave Style	Width in mm
WVR 300 P	300	Plain	1000
WVR 300 T	300	2/2 Twill	1000
WVR 600 P	600	Plain	1000
WVR 600 T	600	2/2 Twill	1000 / 1250
WVR 800 P	800	Plain	1000 / 1270
Woven Roving Combination Fabrics			
WVR600 / CSM300	WVR 600g – CSM 300	Plain	1000 / 1270
WVR800 / CSM300	WVR 800g – CSM 300	Plain	1000 / 1270



Multiaxials

Understanding the basics of stitch styles & effects on Multiaxial fabrics

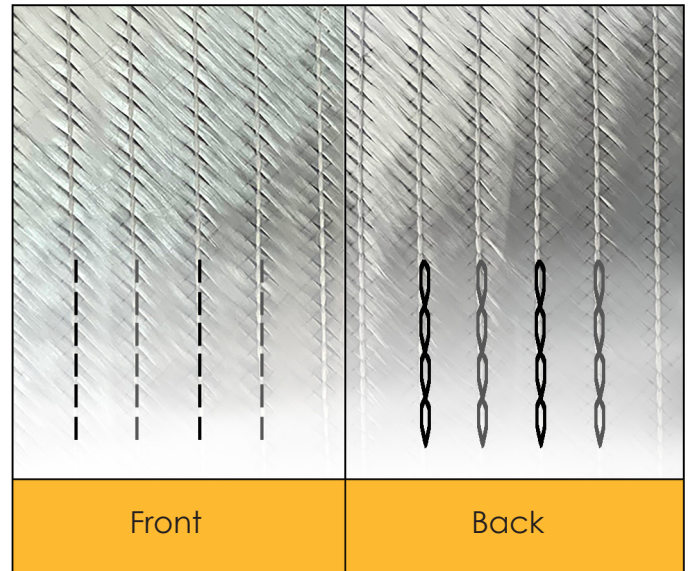
Pillar (Warp) Stitch:

Standard stitch for Biaxial fabrics ($\pm 45^\circ$), not possible for fabrics with a 0° fibre orientation on the top or bottom of the fabric.

- Good stability for Biaxial fabrics

Used in construction of:

- Biaxials fabrics ($-45^\circ/+45^\circ$)
- Triaxial fabrics ($-45^\circ/90^\circ/+45^\circ$)



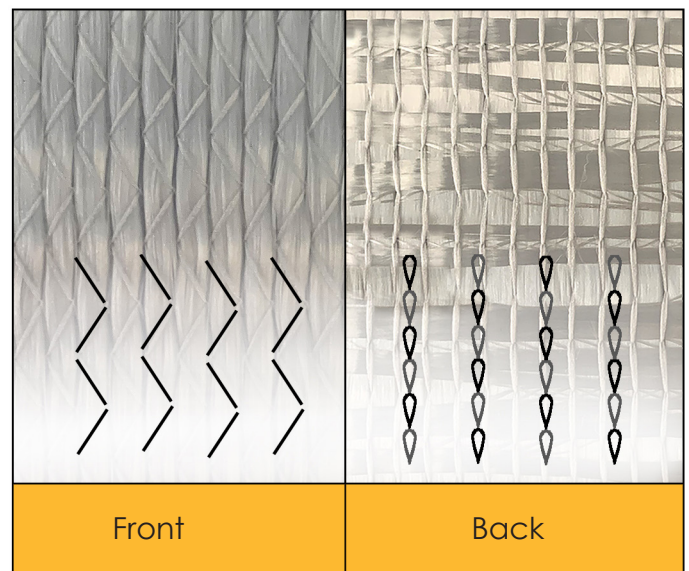
Tricot Stitch:

Standard stitch for fabrics with a 0° fibre orientation with good stability.

- Improved drapability on Biaxial fabrics.

Used in construction of:

- Unidirectional fabrics (0°)
- Bi-directional fabrics ($0^\circ/90^\circ$)
- Triaxial fabrics ($0^\circ/-45^\circ/+45^\circ$)
- Quadaxial fabrics ($0^\circ/-45^\circ/90^\circ/+45^\circ$)
- Biaxial ($-45^\circ/+45^\circ$) – High drape



Stitch length:

- Shorter the stitch length, the greater the permeability of the fabric.
- Longer the stitch length, the greater the drapability of the fabric.

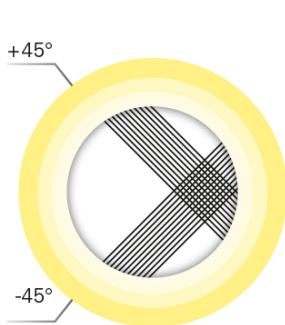
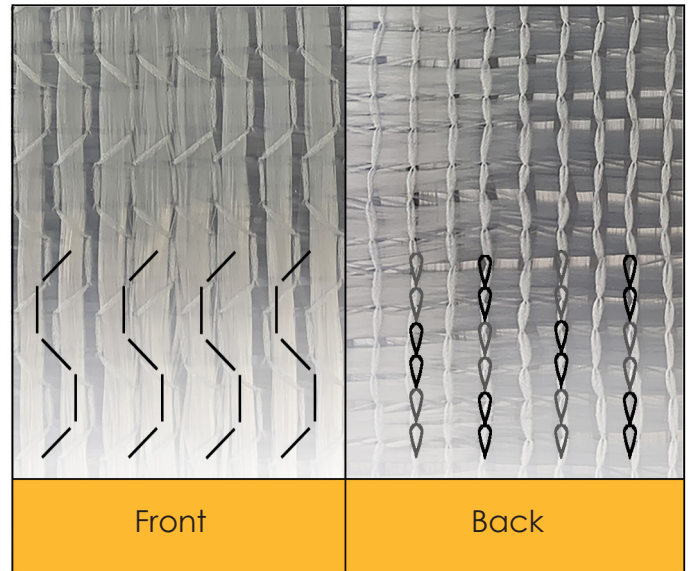
Half Pillar Tricot (Warp/ Tricot) Stitch:

Used on fabrics with a 0° fibre orientation.

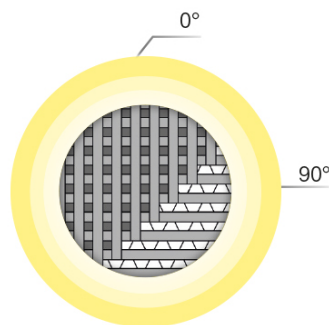
- Improved stability of 0° orientated fibre fabrics over Tricot stitch

Used in construction of:

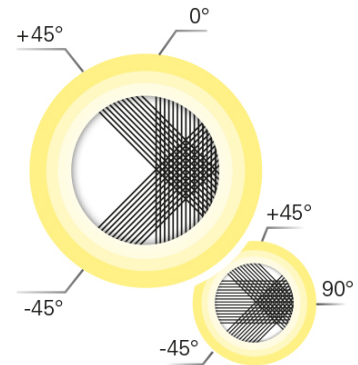
- Unidirectional fabrics (0°)
- Bi-directional fabrics (0/90°)
- Triaxial fabrics (0°/-45°/+45°)
- Quadaxial fabrics (0°/-45°/90°/+45°)



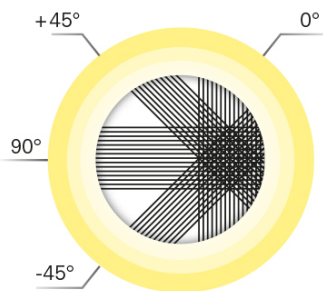
Biaxial Fabrics



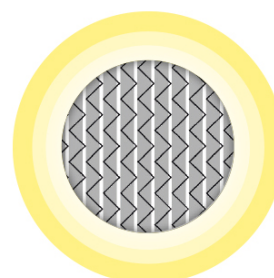
Bidirectional Fabrics



Triaxial Fabrics



Quadaxial Fabrics



Unidirectional Fabrics

Credit - Saertex GmbH & Co. KG

Multiaxials

Biaxial

Carbon Fibre

Reference	Fibre Weight in g/m ²	Construction	Width in mm	Certification
XC206	200	- 45° / + 45°	1270	DNV GL
XC306	300	- 45° / + 45°	1270	DNV GL
XC406	400	- 45° / + 45°	1270	DNV GL
XC606	600	- 45° / + 45°	1270	DNV GL

Glass Fibre

Reference	Fibre Weight in g/m ²	Construction	Width in mm	Certification
EX300	312	- 45° / + 45°	1270	DNV GL
EX440	434	- 45° / + 45°	1270	DNV GL
EX600	602	- 45° / + 45°	1270	DNV GL
EX800	802	- 45° / + 45°	1270	DNV GL
EX900	902	- 45° / + 45°	1270	DNV GL

Biaxial Combination Fabrics

EX600 + 225	602 + 225	- 45° / + 45° + CSM	1270	DNV GL
EX800 + 300	802 + 300	- 45° / + 45° + CSM	1270	DNV GL
EX936 + 100	936 + 100	- 45° / + 45° + CSM	1270	DNV GL

Bidirectional

Carbon Fibre

Reference	Fibre Weight in g/m ²	Construction	Width in mm	Certification
BC306	300	0° / 90°	1270	DNV GL
BC406	400	0° / 90°	1270	DNV GL
BC606	600	0° / 90°	1270	DNV GL

Glass Fibre

Reference	Fibre Weight in g/m ²	Construction	Width in mm	Certification
EB600	624	0° / 90°	1270	DNV GL
EB800	816	0° / 90°	1270	DNV GL
Bidirectional Combination Fabrics				
EB600 + 300	624 + 300	0° / 90° + CSM	1270	DNV GL
EB800 + 300	816 + 300	0° / 90° + CSM	1270	DNV GL

Triaxial

Glass Fibre

Reference	Fibre Weight in g/m ²	Construction	Width in mm	Certification
EY900	915	+/- 45° / 0°	1270	DNV GL
EY1200	1199	+/- 45° / 0°	1270	DNV GL

Quadaxial

Carbon Fibre

Reference	Fibre Weight in g/m ²	Construction	Width in mm	Certification
QC600	600	0° / - 45° / 90° / + 45°	1270	DNV GL
QC806	800	0° / - 45° / 90° / + 45°	1270	DNV GL

Glass Fibre

Reference	Fibre Weight in g/m ²	Construction	Width in mm	Certification
EQ600	623	0° / - 45° / 90° / + 45°	1270	DNV GL
EQ800	814	0° / - 45° / 90° / + 45°	1270	DNV GL
EQ1200	1178	0° / - 45° / 90° / + 45°	1270	DNV GL

Tapes

Unidirectional Tapes

Carbon Fibre

Reference	Fibre Weight in g/m ²	Construction	Width in mm	Application
GV201 U TFX	200	0°W	100 / 200 / 500	HLU
GV200 U	200	0°W	500 / 1000	HLU / INF
TCU200	200	0°W	50 / 100	HLU / INF
GV300 U TFX	304	0°W	100 / 200 / 500	HLU
GV330 U	305	0°W	500 / 1000	HLU / INF
TCU330	330	0°W	25 / 30 / 50 / 100 / 150 / 200	HLU / INF
GV400 U TFX	400	0°W	100 / 200 / 500	HLU
GV420 U	400	0°W	500 / 1000	HLU / INF
TCU420	430	0°W	50 / 75 / 100 / 200	HLU / INF
GV500 U TFX	496	0°W	100 / 200 / 500	HLU
TCU520	525	0°W	25 / 30 / 50 / 100 / 150 / 200	HLU / INF
GV601 U TFX	608	0°W	100 / 200 / 500	HLU
GV620 U	592	0°W	500 / 1000	HLU / INF
TGV1200 U TFX	1200	0°W	100 / 200 / 500	HLU

Glass Fibre

Reference	Fibre Weight in g/m ²	Construction	Width in mm	Application
V250 U TFX	260	0°W	100 / 200 / 500	HLU
V300 U TFX	300	0°W	100 / 200 / 500	HLU
TVU400	401	0°W	25 / 50 / 100	HLU / INF
V500 U TFX	500	0°W	100 / 200 / 500	HLU
TVU600	633	0°W	50 / 100 / 150 / 200	HLU / INF
V800 U TFX	800	0°W	100 / 200 / 500	HLU

Woven Tapes

Glass Fibre

Reference	Fibre Weight in g/m ²	Construction	Width in mm	Application
521	140	Plain	25 / 50	HLU / INF
569	205	Plain	25 / 50 / 75 / 100	HLU / INF
501	290	Plain	25 / 50 / 75 100	HLU / INF
507	450	Plain	25 / 50 / 75 / 100	HLU / INF

HLU Hand lay up

INF Infusion

If the product, weights, or widths you are looking for are not displayed, please give us a call to further discuss your requirements.

RTM & Infusion

SAERcore®

SAERcore® is a closed moulding reinforcement optimised for use in RTM (Resin Transfer Moulding), RTM light and the infusion processes. SAERcore® consists of one or two layers of chopped strand mat stitch bonded to a Polypropylene core.

SAERcore® High Flow was developed for enhanced flow characteristics. All of the below standards are available with a 5mm core. If this product is being used in combination with foams, a single layer of SAERcore® is recommended.

Reference	Fibre Weight in g/m ²	Construction	Width in mm
200/PP18/200	580 (CSM200/180/CSM200)	CSM/PP/CSM	1250
300/PP18/300	780 (CSM300/180/CSM300)	CSM/PP/CSM	1250
450/PP18/450	1080 (CSM450/180/CSM450)	CSM/PP/CSM	1250
600/PP18/600	1380 (CSM600/180/CSM600)	CSM/PP/CSM	1250

***Other weights available in the range.**

SAERcore®

SAERFix®

SAERfix® is a product that has been developed to make the process of positioning multiaxial fabrics such as Glass Fibre, Carbon Fibre and Aramid Fibre easier. The adhesive finish is repositionable and can be applied to either one or both sides of the material.

Reference	Compatibility	Fibre
SAERfix EP	Epoxy	Glass / Carbon / Aramid
SAERfix UP	Polyester & Vinylester	Glass / Carbon / Aramid

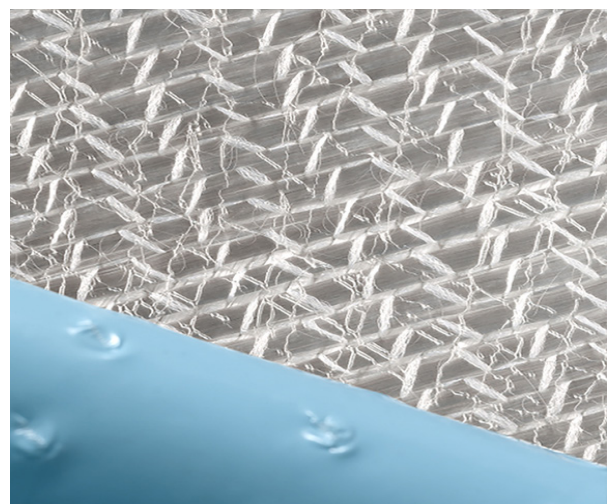
SAERFlow®

SAERflow® combines a glass reinforcement and a lightweight synthetic structure that remains as part of the laminate. Together, they provide uncompressible layers with excellent resin flow and high draping properties. SAERflow® is used as an internal flow media, which saves a tremendous amount of time.

Reference	Fibre Weight in g/m ²	Weave Style	Width in mm
SAERflow BX304/CSM150	438	- 45° / + 45° + CSM	1270
SAERflow BE600/BX304/CSM150	1004	0° / 90° / - 45° / + 45° + CSM	1270



SAERFlow®



SAERFix®

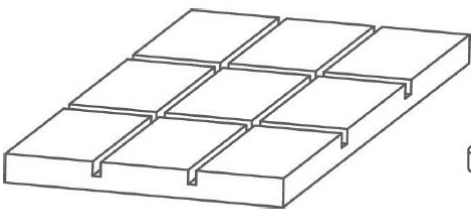
RTM & Infusion

SAERFoam®

SAERfoam® is a lightweight structural core material with 3D glass bridges. It replaces conventional core materials such as PVC, PET and Balsa. Ultralight foam (PU/PE/PIR) is combined with 3D glass reinforcements and the mechanical properties can be individually optimised. Certificates from the Marine Division of Bureau Veritas (BV) confirm the highly reproducible and homogenous quality of SAERfoam® in comparison with renewable raw materials.

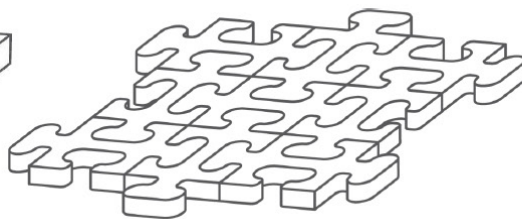


Options available:



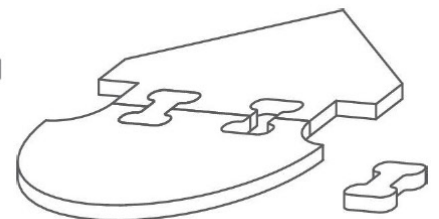
Grooved

■ 2 x 3 mm / Pattern 25 x 25 mm.



Drappable (grid scored)

■ Knife cut / Pattern 50 x 50 mm.



Kitting

- 90° or 45° chamfer.
- Combinations with curved shapes possible.
- Key bones included.

Designation	Thickness (mm)	Reference	Sample on stock	Sheets dimensions width x length (mm)	Packaging Sheets per box	Old designation
SAERfoam 60 RTM	10	30008239	x	1200 x 1200	75	PU(35)10 O10-30
	15	30008166			55	PU(35)15 O15-30
	20	30008324	x		45	PU(35)20 O20-30
	25	30008151			37	PU(35)25 O20-35
	30	30008244	x		30	PU(35)30 O25-35
SAERfoam 80 Resin infusion	10	30008629	x	1200 x 1200	75	PU(60)10 O10-30
	15	30009407	x		55	PU(60)15 O11-35
	20	30008674	x		45	PU(60)20 O14-35
	25	30008936	x		37	PU(60)25 O18-35
	30	30008937	x		30	PU(60)30 O23-35
SAERfoam+	Adaptable thickness: from 8-30 mm every 1mm step	Further information on request				



Sandwich laminate with SAERFoam®



SAERFoam® dry material

Resins & Adhesives

Epoxy resin systems

Cristex offer a range of high performance Epoxy resin systems suitable for a variety of manufacturing methods such as hand layup, vacuum infusion, hot press and RTM.

Resin	Hardener	Mix Ratio	Pot - life (Room temp 25°C) 200ml	Max Tg °C
EC 157 (Infusion)	W152.1 HR	100 : 30	10 - 14 (100ml)	88
	W152 MR		40 - 50	90
	W152 MLR		120 - 150	90
	W152 XLR		135 - 165	98
EC 14 (RTM)	W152.1 HR	100 : 30	8 - 10	98
EC 152 (Wet lay)	W152.1 HR	100 : 30	10 - 14	96
	W152 MR		35 - 45	96
	W152 MLR		90 - 115	108
	W152 XLR		110 - 130	110
EC 147 (Coatings & Osmosis Treatment)	W147	100 : 45	8 - 10 (100ml)	98

Additives

ADD UP 2 is designed to be used with polyester and vinylester gel coats when combined with Epoxy Resin Systems. It promotes adhesion between the gel coats and the laminate.

Reference	Flash Point	Density	Viscosity, dynamic	Mix Ratio
99207-P0-AD-1	32 °C	0.86 g/ml at 25 °C	10 - 20 mPa.s at 25 °C	2% by weight

Structural adhesives

The Cristex Epoxy Structural Adhesives offer outstanding performance in numerous composite bonding applications providing consistently high quality. These are available in various drum sizes and cartridge applicators that provide a perfect mix.

Base (Resin)	Hardener:	Mix Ratio (By weight)	Gel time min (1mm film 25°C)
AS90	AW90	100:45	90
AS90	AW91	100:45	330
AS90	AW92	100:45	540

Core Bonding

Base (Resin)	Hardener:	Mix Ratio (By weight)	Gel time min (1mm film 25°C)
EC 255 Tix (Thixotropic resin)	W152.1 HR	100:24	14-20
	W152 XLR	100:24	125 - 160

Spray adhesives

EPO-TAK is a solvent based modified Epoxy resin spray adhesive. By being Epoxy based it significantly reduces the risk of cosmetic parts having a cloudy surface finish, a common problem with many spray adhesives.

Reference	Appearance	Flash Point	Density	Operating Temperature	Solids Content	Volume
1007-P0-A-2	Clear	<-1°C	0.729 Kg/l	15 - 25 °C	18%	500ml



Tools

The Cristex electric shears are available in two styles, each having their own benefit.

The shears can cut through Carbon Fibre, Aramid Fibre and Glass Fibre in Woven or Multiaxial constructions. These shears can also cut through Glass Fibre Needle Felt and many other materials. Both sets of shears are cordless, but they can also be plugged in with a power adapter.

The full pack includes:

- 1 x Electric Cutter Unit
- 1 x (A) Cutter Blade - General purpose / Aramid
- 1 x (B) Cutter Blade - General purpose
- 1 x Battery
- 1 x Plug Battery
- 1 x Power Adapter
- 1 x Charging Stand

Replacement batteries and blades are available upon request.

Lithium battery powered shears



Standard battery powered shears



For more information on the two variations of electric shears please contact sales@crisnex.co.uk.

Services



Cutting and Kitting



1. Project Scoping

- Material requirements (Cristex stock, Free issue material).
- Project understanding (Lead times, packaging, delivery).



2. Design Process

- Template digitisation.
- CAD data processing.



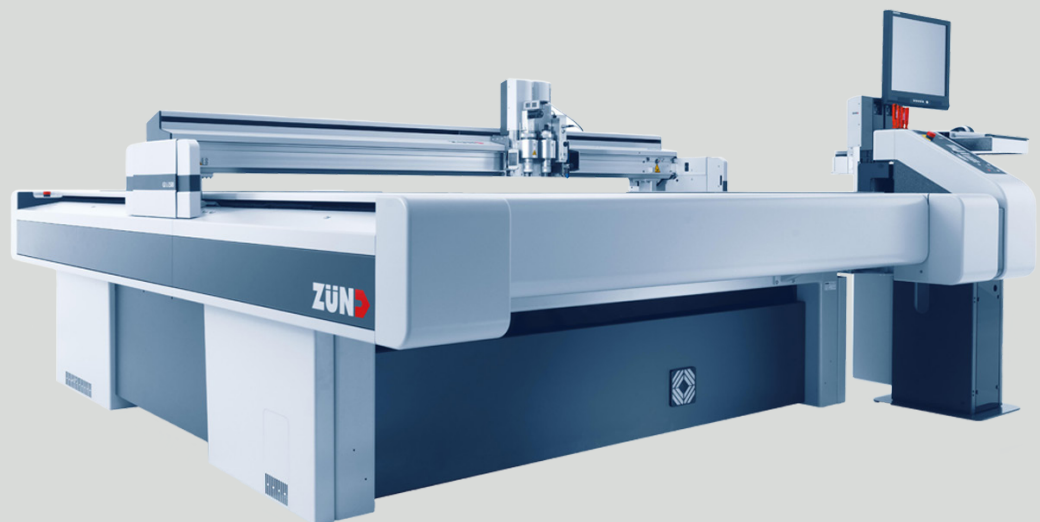
3. Production of Trial Kits

- Trial kits produced based on customer requirements.
- Quality assurance check to ensure accuracy of cut pieces.



4. Project Review

- Customer quality sign off.
- Ongoing technical support.



Slitting and Rewinding

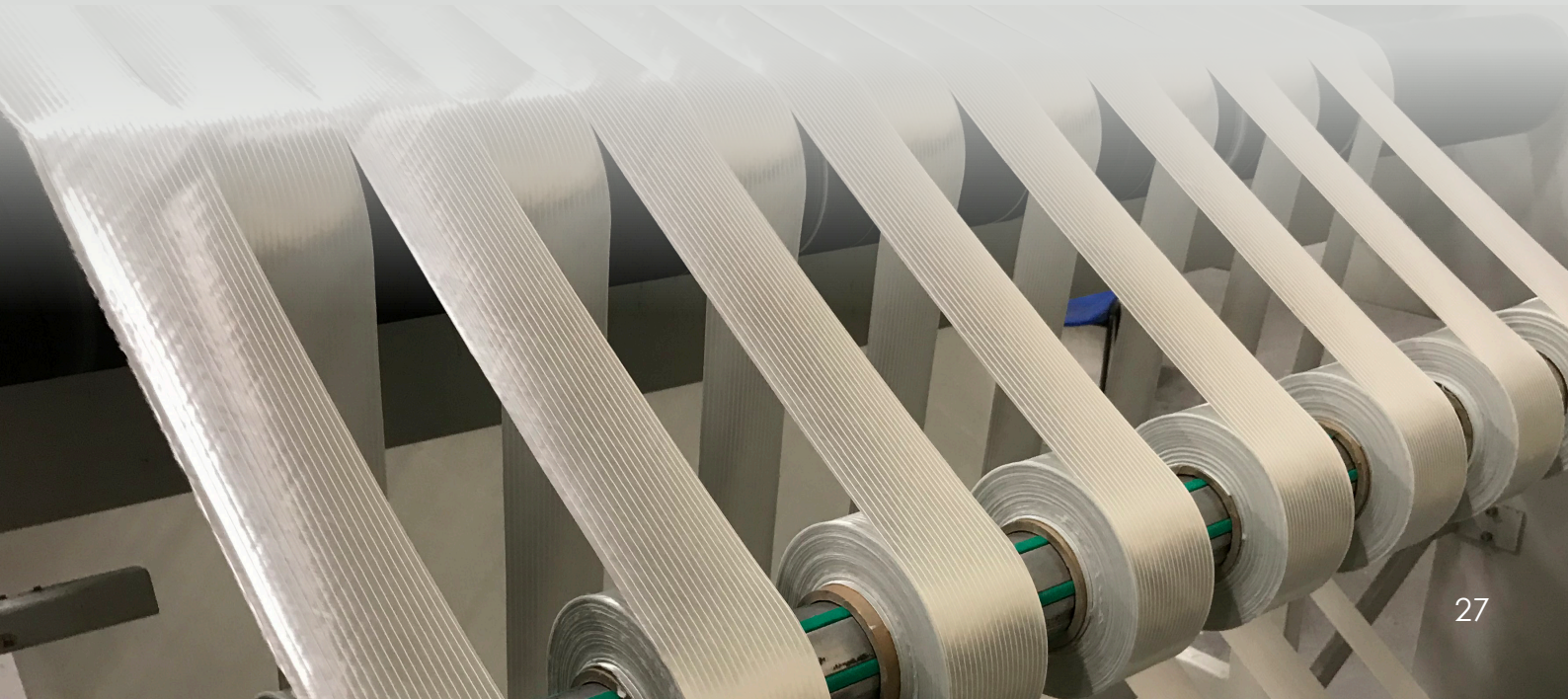
We can support our customers with a full slitting and rewinding service, with purpose-built machinery. Whether it is assistance with long-term supply or one-off requirements, we will provide the support and service your company needs.



Our slitter/rewinder is designed to convert master rolls of fabric into narrow width tapes for use in multiple applications. Master roll widths up to 3.5m and weighing up to 150kg can be accommodated for and with ISO 9001 accreditation you can be assured of full traceability.

Slitting and Rewinding

- Slit tapes from Glass Fibre and Carbon Fibre fabrics in various weights and constructions.
- Rolls can be cut into bespoke widths and lengths to suit individual needs.





www.cristex.co.uk

sales@cristex.co.uk

01282770666

