

## About HEXCEL

Hexcel is one of the largest US producers of carbon fibre; the world's largest weaver of structural fabrics; the number one producer of composite materials such as prepregs, film adhesives and honeycomb; and a leading manufacturer of composite parts and structures.

As the most vertically integrated supplier in the industry Hexcel manufactures the full spectrum of advanced material solutions. This means that we can offer enhanced design flexibility and support to our customers worldwide.

Hexcel's research and technology function supports our businesses worldwide with a highly developed expertise in materials science, textiles, process engineering and polymer chemistry.

Hexcel has pioneered the development of prepregs for over 60 years. The HexPly® trademark is renowned in high performance industries.

With in-house weaving capabilities for the manufacture of unidirectional and woven reinforcements fabrics in glass, carbon and aramid fibres and hybrids - all marketed under the HexForce® brand name - Hexcel provides customers with a total package of composite solutions.

Our global technical support team is on hand to assist with material selection, processing, and can provide training to those who are new to composites technology.

## Hexcel in Industries

Hexcel innovations have supported a wide range of industrial markets over the years, with successes such as supplying racing yachts and luxury cars, entering the golf market with prepreg for the unique TaylorMade bubbleshaft, qualifying prepregs for the first rail structural applications including carbon M10.1 prepreg for high speed TGV structures, bringing innovation to famous sports shoes with TPU honeycomb and more recently becoming sole source for the BMW M series carbon roof. Innovation is the key word in industries and Hexcel has decided to focus on the fields of transport, sports equipment, energy generation, machinery and tooling.



### 1- HexPly® Prepregs

Hexcel prepregs provide a tougher, lighter and stiffer alternative to conventional materials. They are specially formulated resin matrix systems that are reinforced with man made fibres composite such as carbon, glass and aramid. Prepreg is the ultimate composite material. The thermoset resin cures at elevated temperatures, undergoing a chemical reaction that transforms the prepreg into a solid structural material that is highly durable, temperatures resistant, exceptionally stiff and extremely lightweight. The product range continues to evolve adding surface film and faster curing systems. All benefit from Hexcel's high performance lightweight composite materials especially for new markets such as machinery and alternative energy.



### 2- HexTOOL® Tooling Material

HexTOOL® is Hexcel's new patented composite tooling material that, for the first time, enables the tolerance accuracy achieved with metals to be combined with the extreme lightness of carbon fibre composites. HexTOOL® moulds are also easy to repair and the dimensions are simple to modify. This new concept for lightweight, efficient large-scale tools is cost-effective compared with conventional composite tools and metal moulds, especially those made from Invar®.

Since the launch of HexTOOL®, several leading tooling engineers have used the material confirming the benefits of the technology. They have noted that dimensional stability is maintained, at tolerances very close to those achieved with metal tooling and that vacuum integrity is assured, even in heavily machined areas. Long tool life, ease of use, and the machinability of cured structures are some of the primary reasons HexTOOL® is being chosen for the tooling for parts on new generation aircraft worldwide.



### 3- HexMC® Moulding Concept

HexMC® is a high performance sheet moulding material, suitable for the high volume production of complex shapes (10 000 parts and above) and specifically designed for compression moulding. With long fibre and low resin content, HexMC® provides better mechanical properties than any other

short or long fibre moulding compound.

The HexMC® epoxy system provides short cure cycles, from five minutes at 135C°/ 275°F depending on part thickness.

Complex shapes can be achieved and inserts can be integrated in the moulding process. This product is particularly beneficial for sports goods, automotive and marine applications, as well as a wide range of industrial components.

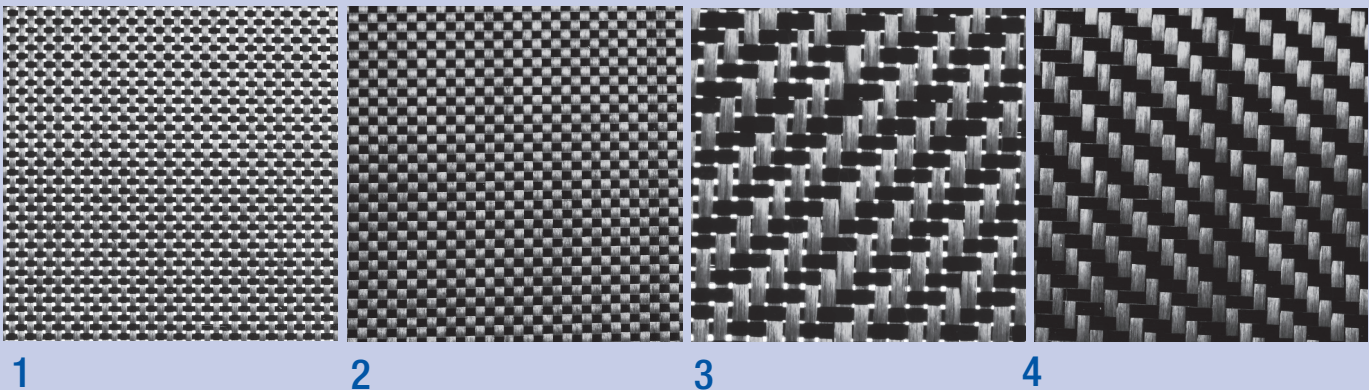


## 4- HexForce® Reinforcements

Hexcel is the leading manufacturer of woven and multiaxial reinforcements for composites, in glass, carbon and aramid fibres. Woven fabrics are the result of at least 2 threads which are interlaced at 0° (the warp) and 90 (the weft) with the weave style varied according to the required performance. Fabrics are available in a wide range of weights and 3 main weave styles: plain weave, twill weave and satin weave. Woven fabrics provide strength and stiffness in 2 directions, resulting in excellent handling characteristics and good drape. It is also possible to mix fibres to provide hybrid fabrics. Multiaxial fabrics also known as Non Crimp Fabrics are layers of unidirectional fibre that are assembled and stitched together. They provide strength and stiffness in multiple directions depending on the controlled orientation of the fibres. The range includes Biaxial, Triaxial, and Quadriaxial. These reinforcements provide composites with stiffness and strength and are key products for many industrial markets.

### Zoom on PrimeTex™ Reinforcements

PrimeTex™ is a range of carbon fabrics which have been processed for a smooth, closed weave and uniform cosmetic appearance. The fibre tows are spread in both the warp and weft direction for unique aesthetic appeal. **PrimeTex™ fabrics are more uniform as the filaments in each tow are spread out creating a thinner and more closely woven fabric that provides better mechanical properties and less porosity in a composite.** It can also be used to lower the mass in a composite where lighter weight is the key characteristic.



1. Hexforce® 43199 UB1250 – Taux: 7.5% / 2. PrimeTex™ 43199 UB1250 ST – Taux: 0.5%  
3. Hexforce® 48194 C 1270 – Taux: 5% / 4. PrimeTex™ 48194 C 1270 – Taux: 0.5%

### Key features and benefits cosmetics

**PrimeTex™ is obtained thanks to Hexcel Proprietary Spreading Technologies:**

PrimeTex™ allows use of high K Tow fibers for lowest areal weight

PrimeTex™ brings a clear visual plus to the final product

PrimeTex™ enhances laminate mechanical properties

## PrimeTex™ Range

With 3K fiber, from 160 to 245 gsm  
With 6K fiber from 285 to 370 gsm  
With 12K fiber from 193 to 400 gsm  
For PrimeTex™ using 1K and 24K fibers, consult us.

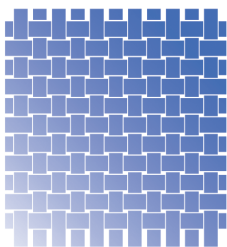
## PrimeTex™ Applications

- Automotive cosmetic applications
- Recreational (rowing boats, bicycles )  
and marine (hulls & spars)
- Industrial Machinery
- Aerospace thin and sandwich structures

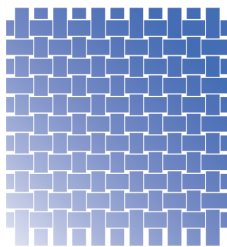
## What are the different fabric styles?

The fabrics consist of at least two threads which are woven together : the warp and the weft. The weave style can be varied according to crimp and drapeability. Low crimp gives better mechanical performance because straighter fibres carry greater loads; a drapeable fabric is easier to lay up over complex forms.

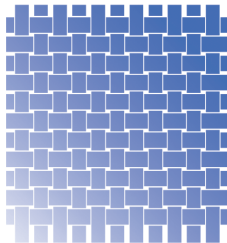
### They are three main weave styles



**PLAIN WEAVE**  
Low drapeability/high crimp

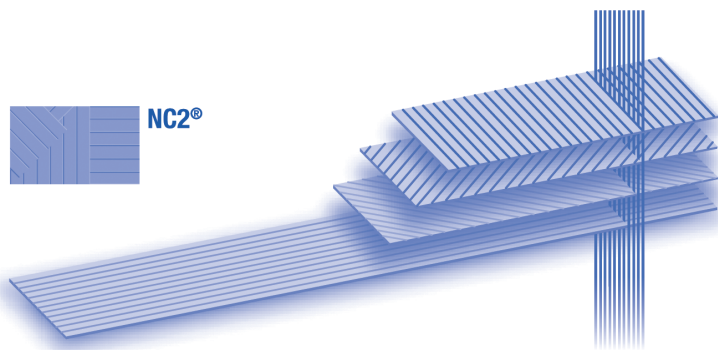


**SATIN WEAVE**  
(4, 5, 8, 11)  
Good drapeability/low crimp



**TWILL WEAVE**  
(2/1, 3/1, 2/2)  
Average drapeability/  
average crimp

## New Crimp Fabrics



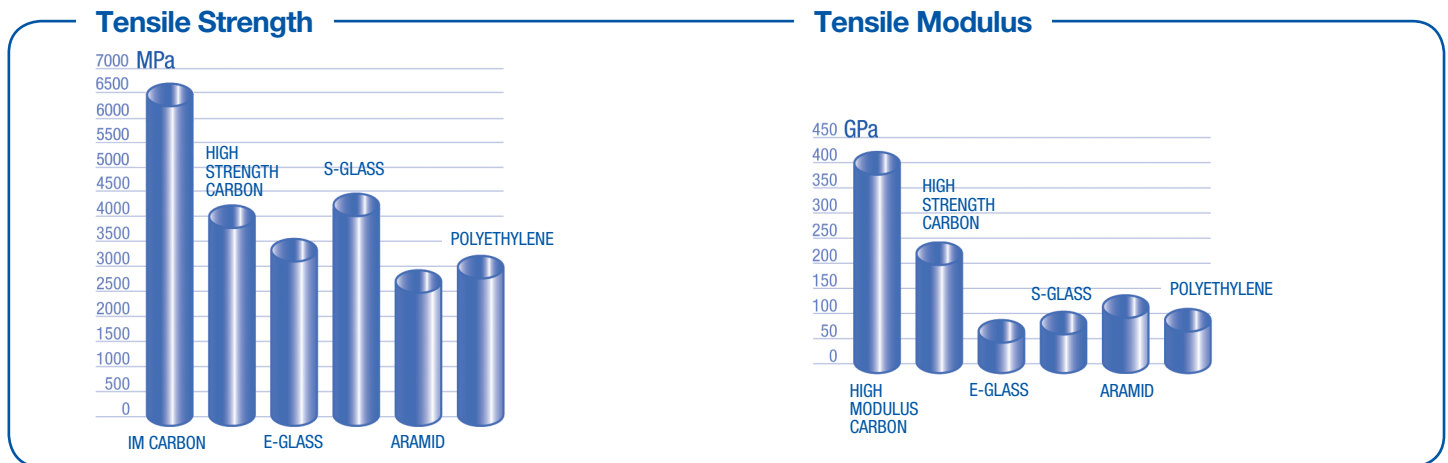
Hexcel's HexForce® NC2® multi-axial reinforcements are a unique concept non-crimp technology for industrial applications that provide strength and stiffness exactly where required, as a result of the preplacement of oriented unidirectional tapes joined by a novel stitching technology.

NC2® allows great flexibility of fibre orientation with previously unknown and still unmatched width adjustment capabilities.

Thick materials can be manufactured using thin plies, providing customers with a cost effective solution that reduces production time. This new technology can accommodate a broad range of fibres, with total freedom regarding ply stack sequence and orientation. Using NC2® technology Hexcel is able to make light single ply reinforcements from 50g/m<sup>2</sup> - 2.3oz/yd<sup>2</sup> that are balanced and provide full fibre coverage, at competitive prices.

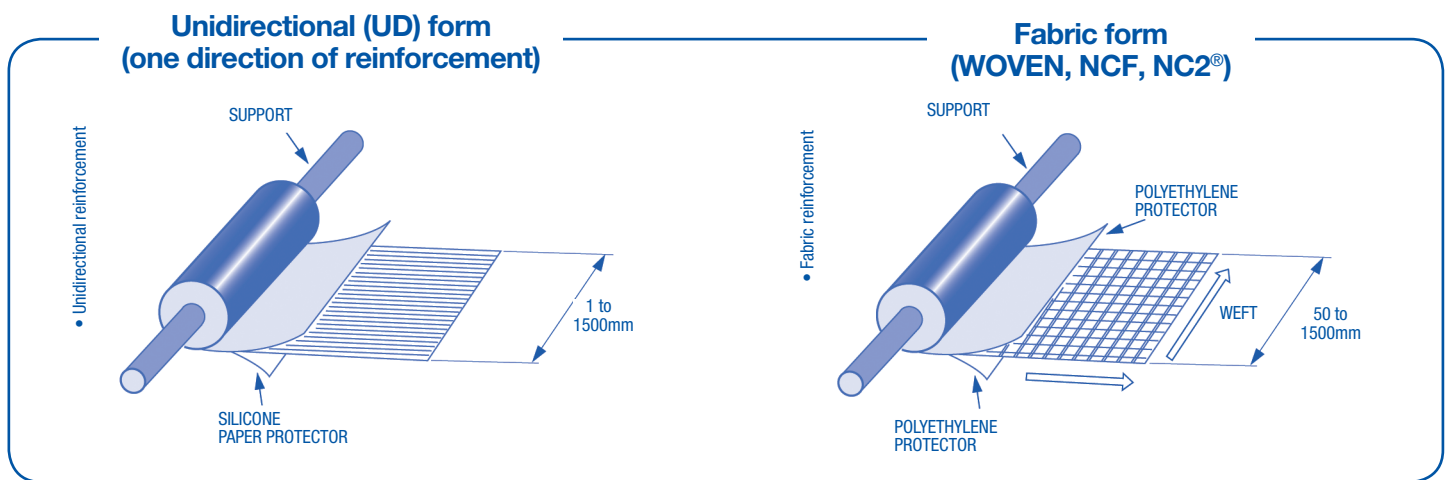
## What are the fibre properties?

The fibre reinforcements provide composites with mechanical performance: excellent stiffness and strength, as well as good thermal, electric and chemical properties, while offering significant weight savings over metals. The range of fibres is extensive. The graphs below highlight the main criteria for fibre selection.



## What is a prepreg?

A prepreg consists of a combination of a matrix (or resin) and fibre reinforcement. It is ready to use in the component manufacturing process. It is available in:



## What is the role of the matrix?

The role of the matrix is to support the fibres and bond them together in the composite material. It transfers any applied loads to the fibres, keeps the fibres in their position and chosen orientation. The matrix also gives the composite environmental resistance and determines the maximum service temperature of a prepreg. When selecting prepreps the maximum service temperature is one of the key selection criteria for choosing the best prepreg matrix.

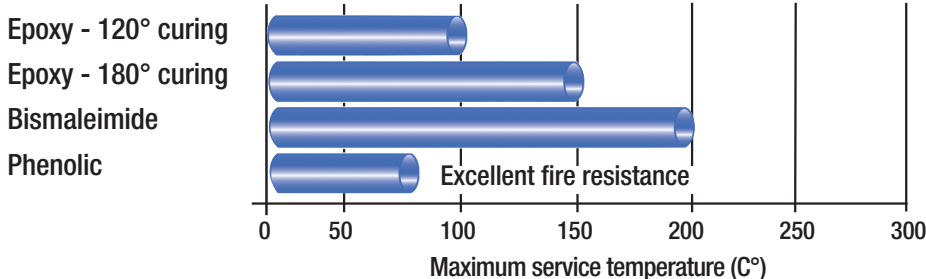
### A prepreg matrix is :

A formulation of many components  
Resins, curing agents, tougheners, fire retardants, accelerators.

Different chemistries available depending on end-use.  
Epoxy, Phenolic, BMI, Cyanate Ester

All thermosetting chemistries

## What are the prepreg matrix properties?







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# HexPly<sup>®</sup> Matrix

HEXPly <sup>®</sup> RESIN SYSTEM	DRY TG ONSET (DMA) °C (F°)	TYPICAL CURE CYCLE		CURE PROCESS		SELF ADHESIVE	ATTRIBUTES
		Temp °C (F°)	Time (mins)	AUTOCLAVE / PRESS	VACUUM ONLY		
<b>EPOXY</b>							
M34	80 (180)	75 (165)	480	X	X	X	Low temperature cure. FST behaviour
M10.1/M9G/M19G	125 (255)	120 (250)	60	X	X		Base line resin Long shelf life
M35-4	150* (302)	135 (275)	90	X			Flexible cure
M76	150* (302)	135 (275)	180	X		X	Tough
M47	130* (295)	120 (250)	90	X			Structural
M52	95 (203)	120 (250)	15	X			Fast cure and glossy
M49	125 (255)	120 (250)	90	X	X		Cosmetic structural
M48	185	180 (356)	120	X			Right Tg
M77	125	150	2	X			Extra fast cure

<b>PHENOLIC</b>							
250CB		135	90	X		X	



# HexTOOL<sup>®</sup> Tooling Material

	DRY TG ONSET (DMA) °C (F°)	TYPICAL CURE CYCLE		CURE PROCESS		SELF ADHESIVE	ATTRIBUTES
		Temp °C (F°)	Time (mins)	AUTOCLAVE / PRESS	VACUUM ONLY		
HexTOOL <sup>®</sup> M61	275**	190	240	** Post cure 16h at 220°C		X	BMI
HexTOOL <sup>®</sup> M81	220***	125	360	*** After post cure 2h at 205°C		X	Epoxy



# HexMC<sup>®</sup> Moulding Concept

	DRY TG ONSET (DMA) °C (F°)	TYPICAL CURE CYCLE		CURE PROCESS		SELF ADHESIVE	ATTRIBUTES
		Temp °C (F°)	Time (mins)	AUTOCLAVE / PRESS	VACUUM ONLY		
HexMC <sup>®</sup> R1A	100	120	15	X		X	

\* Higher Tg can be obtained with post cure cycle

# HexPly® product data

FLOW CONTROLLED HIGH	SELF EXTINGUISHING	OUTLIFE AT ROOM TEMPERATURE <i>days</i>	STORAGE at -18°C (0°F) <i>months</i>	MARKET
X	X	10	12	Rail and Marine
X		42	12	Marine, Automotive, General Industrial, Rail, Wind Energy
X		60	12	High Performance Car
X		21	12	High Performance Car
X	X	30	12	High Performance Car
X		24	12	High Performance Car, Sporting Goods, Aesthetic Parts, General Industrial
X		30	12	Automotive, Sporting Goods, Aesthetic Parts, General Industrial
X		30	12	Doctor Blades and Rollers, High T° Applications, Industrial machinery
X		42	12	Automotive, Sporting goods, General Industrial
X	X	60	12	Rail, Civil Engineering

# HexTOOL® product data

FLOW CONTROLLED HIGH	SELF EXTINGUISHING	OUTLIFE AT ROOM TEMPERATURE <i>days</i>	STORAGE at -18°C (0°F) <i>months</i>	MARKET
		28	12	Tooling - 120° C part cure cycle and fast prototyping for any composite parts
		21	12	Tooling - 180° C part cure cycle

# HexMC® product data

FLOW CONTROLLED HIGH	SELF EXTINGUISHING	OUTLIFE AT ROOM TEMPERATURE <i>days</i>	STORAGE at -18°C (0°F) <i>months</i>	MARKET
X		24	12	Automotive, Sporting goods, General Industrial





# HS Carbon reinforcements

WEIGHT <i>gsm</i>	STYLE	PRIME <sup>TM</sup> QUALITY	WEAVE	WEIGHT RATE		FIBRE COUNT		REINFORCEMENT YARN		STANDARD WIDTH <i>cm</i>	THICKNESS <i>mm</i>
				Warp	Weft	Warp	Weft	Warp	Weft		
<b>BALANCED FABRICS - HIGH STRENGTH FIBRES</b>											
90	41090	X	PLAIN	50	50	6.7	6.7	1K HS	1K HS	102	0.09
120	41120	X	PLAIN	50	50	9	9	1K HS	1K HS	100/127	0.10
160	43161	X	PLAIN	50	50	4	4	3K HS	3K HS	125	0.16
160	43162	X	TWILL 2x2	50	50	4	4	3K HS	1K HS	125	0.16
193	48192	X	PLAIN	50	50	1.2	1.2	12K HS	12K HS	127	0.20
193	48194	X	TWILL 2x2	50	50	1.2	1.2	12K HS	12K HS	127	0.20
200	43199	X	PLAIN	50	50	5	5	3K HS	3K HS	125	0.20
200	43200	X	TWILL 2x2	50	50	5	5	3K HS	3K HS	125	0.20
245	43245		TWILL 2x2	50	50	6	6	3K HS	3K HS	125	0.25
285	G1174		TWILL 4x4	50	50	7	7	3K HS	3K HS	125	0.29
285	43285		TWILL 2x2	50	50	7	7	3K HS	3K HS	125	0.29
285	46281		PLAIN	50	50	3.5	3.5	6K HS	6K HS	120	0.29
285	46285	X	TWILL 2x2	50	50	3.5	3.5	6K HS	6K HS	120	0.29
300	48301	X	PLAIN	50	50	1.9	1.9	2K HS	12K HS	127	0.30
300	48302	X	TWILL 2x2	50	50	1.9	1.9	12K HS	12K HS	127	0.30
385	48385	X	TWILL 2x2	50	50	2.4	2.4	12K HS	12K HS	125	0.40
400	48400	X	PLAIN	50	50	2.5	2.5	12K HS	12K HS	125	0.41
600	48400		TWILL 2x2	50	50	3.7	3.7	12K HS	12K HS	130	0.62
660	48661		TWILL 2x2	50	50	4	4	12K HS	12K HS	125	0.66
800	49800		TWILL 2x2	50	50	2.15	2.15	24K HS	24K HS	125	0.8

PrimeTex™ is a range of carbon fabrics which have been processed for a smooth, closed weave and uniform cosmetic appearance. The fibre tows are woven flat and spread in both the warp and weft direction for unique aesthetic appeal and for improvement of the performance

## UNIDIRECTIONAL FABRICS - HIGH STRENGTH FIBRES

200		48200	UD PW	99	1	2.5	1	12K HS	HEAT SET	30/60	0.20
300		48299	UD PW	99	1	3.75	1	12K HS	HEAT SET	30/60	0.30
300		48300	UD PW	99	1	3.7	3	12K HS	EC5 11	100	0.32
450		49450	UD PW	99	1	2.8	1	24K HS	HEAT SET	30/60	0.45
530		48520	UD	94	6	6.2	4.4	12K HS	EC9 68	100	0.55
600		49599	UD PW	99	1	3.75	1	24K HS	HEAT SET	30/60/120	0.6



# IM/HM Carbon reinforcements

WEIGHT <i>gsm</i>	STYLE	WEAVE	WEIGHT RATE		FIBRE COUNT		REINFORCEMENT YARN		STANDARD WIDTH <i>cm</i>	THICKNESS <i>mm</i>
			Warp	Weft	Warp	Weft	Warp	Weft		
<b>INTERMEDIATE MODULUS FIBRES</b>										
200	46200 W	TWILL 2x2	50	50	4.5	4.5	IM7 6K	IM7 6K	100/25	0.21
200	48200 JD Primetex™	TWILL 2x2	50	50	3.1	3.1	IM10 12K	IM10 12K	100	0.21
280	46280 W	SATIN 5	50	50	6.5	6.5	IM7 6K	IM7 6K	100	0.28
<b>HIGH MODULUS FIBRES</b>										
200	46201	PLAIN	50	50	4.5	4.5	M46JB 6K	M46JB 6K	100	0.21
200	46202	TWILL 2x2	50	50	4.5	4.5	M46JB 6K	M46JB 6K	100	0.21
280	G1168	5H SATIN	49	51	6	6.5	M46J 6K	M46J 6K	100	0.28

Special fabrics with IM10 and IM8 available, please contact Hexcel : [communications@hexcel.com](mailto:communications@hexcel.com)



# NC2<sup>®</sup> Multiaxial reinforcements

A special process to customise your product:

- Width from 1270mm to 2500mm
- All Angles required / In ply symmetry possible (+45/-45°/+45°)
- Possibility to stack different weights and angles per ply
- Possibility to produce complex heavy and highly drapable product with a large range of stitching

- Tailored weight per ply and stacking sequence

WEIGHT <i>gsm</i>	STYLE	FIBRE ORIENTATION	PLY AREAL WEIGHT <i>gsm</i>	REINFORCEMENT YARN	STITCHING <i>gsm</i>	STANDARD WIDTH <i>cm</i>	THICKNESS <i>mm</i>	e-NC2 <sup>®</sup> OPTION
<b>BUT ALSO A STANDARD RANGE OF BIAxIAL</b>								
160	NLT00 HR1270 0160	0° / 90°	80	HS CARBON	6	127	0.16	X
160	NBB00 HR1270 0160	+45° / -45°	80	HS CARBON	6	127	0.16	X
200	NLT00 HR1270 0200	0° / 90°	100	HS CARBON	6	127	0.20	X
200	NBB00 HR1270 0200	+45° / -45°	100	HS CARBON	6	127	0.20	X
300	NLT00 HR1270 0300	0° / 90°	150	HS CARBON	6	127	0.30	X
300	NBB00 HR1270 0300	+45° / -45°	150	HS CARBON	6	127	0.30	X
400	NLT00 HR1270 0400	0° / 90°	200	HS CARBON	6	127	0.40	X
400	NBB00 HR1270 0400	+45° / -45°	200	HS CARBON	6	127	0.40	X

e-NC2<sup>®</sup> is a multiaxial reinforcement with thermoplastic veil for enhanced handleability and ease of injection



## Powdering for Preforming and Stabilisation

REF	COMPATIBILITY	STORAGE AT ROOM TEMPERATURE	PREFORMING	APPLICABLE FOR	INJECTION TEMPERATURE	CURING TEMPERATURE OF RESIN SYSTEM
HP03	PU & Epoxy	1 year	Starting at 80°C, Recommended 100°C	LRI	<45°C	>50°C
E01	Epoxy	Up to 1 year	Starting at 80°C, Recommended 100°C	RTM/LRI	No restriction	Any

**POWDERING:** All fabrics can be epoxy powdered on 1 or 2 sides in order to facilitate preforming and dimensional stabilisation



# E glass reinforcements

WEIGHT <i>gsm</i>	STYLE	WEAVE	WEIGHT RATE		FIBRE COUNT		REINFORCEMENT YARN		STANDARD WIDTH <i>cm</i>	THICKNESS <i>mm</i>
			Warp	Weft	Warp Yarns/cm	Weft	Warp	Weft		
25	106	PLAIN	50	50	22	22	EC5.5	EC5.5	110/127	0.02
48	1080	PLAIN	56	44	24	19	EC5.5 11	EC5.5 11	110/128	0.04
70	2112	PLAIN	52	48	16	15	EC7 22	EC7 22	110/126	0.05
86	235	PLAIN	49	51	12	12.5	EC9 34	EC9 34	105	0.06
105	120	4H SATIN	51	49	24	23	EC5 11x2	EC5 11x2	120	0.08
106	2116	PLAIN	51	49	24	23	EC7 22	EC7 22	110/126	0.08
125	1510	PLAIN	65	35	11.5	6.3	EC9 34x2	EC9 68	70	0.09
125	1522	PLAIN	53	47	9.6	8.5	EC9 34x2	EC9 34x2	65/80/140	0.09
160	1717	PLAIN	52	48	11.8	10.7	EC9 68	EC9 68	82/164	0.12
162	1039	TWILL 2x2	51	49	11.8	11.5	EC9 68	EC9 68	100	0.12
202	1035	TWILL 2x2	50	50	14	14	EC9 68	EC9 68	88/120	0.15
202	7628	PLAIN	59	41	17	11.8	EC9 68	EC9 68	110/127	0.15
202	1266	PLAIN	60	40	8.9	6	EC9 136	EC9 136	80/130	0.15
204	1184	PLAIN	51	49	7.4	7.2	EC9 68x2	EC9 136	80	0.15
206	471	PLAIN	51	49	7.4	7.2	EC9 68x2	EC9 68x2	65/80	0.15
300	1102	TWILL 2x2	50	50	7	7	(EC9 68)x3	(EC9 68)x3	88/100/124	0.23
300	1103	PLAIN	50	50	7	7	(EC9 68)x3	(EC9 68)x3	80/124	0.23
300	7581	8H SATIN	51	49	22	21	EC9 68	EC9 68	127	0.23
390	1113	TWILL 2x2	53	47	5.9	6.6	(EC9 68)x5	(EC9 136)x2	110/125	0.30
600	1038	TWILL 2x2	50	50	22	22	(EC9 136)x3	(EC9 136)x3	125	0.52

## WOVEN UNIDIRECTIONAL

190	1022	UD 4H SATIN	80	20	22	10.5	EC9 68	EC9 34	100	0.14
290	1543	UD 4H SATIN	90	10	19	11.8	EC9 68 x2	EC7 22	100/127	0.22
315	1031	UD 4H SATIN	87	13	19.5	11	EC9 136	EC9 34	100/120	0.24
430	1017	UD PLAIN	90	10	5.7	6.3	EC9 136x5	EC9 68	120	0.33



# Finish for E glass fabrics

MATRIX	DESCRIPTION	EPOXY	POLYESTER	VINYL ESTER	PHENOLIC
<b>FINISH</b>					
TF 950 - Z 6040	Epoxy Silane				
Z 6224	Chloride free amino silane				
TF 970	Amino silane				
A 1100	Amino silane				



# Aramid fabrics

WEIGHT <i>gsm</i>	STYLE	WEAVE	WEIGHT RATE		FIBRE COUNT		REINFORCEMENT YARN		STANDARD WIDTH <i>cm</i>	THICKNESS <i>mm</i>
			Warp	Weft	Warp Yarns/cm	Weft	Warp	Weft		
175	20967	PLAIN	51	49	6.7	6.5	HM 1210	HM 1210	120	0.2
175	20968	TWILL 2x2	51	49	6.7	6.5	HM 1210	HM1210	120	0.2
175	20914	4H SATIN	51	49	6.7	6.5	HM 1210	HM1210	120	0.2
320	21071	5H SATIN	51	49	6.3	6.2	HM 2400	HM2400	100	0.4



# Specialities

WEIGHT <i>gsm</i>	STYLE	WEAVE	WEIGHT RATE		FIBRE COUNT		REINFORCEMENT YARN		STANDARD WIDTH <i>cm</i>	THICKNESS <i>mm</i>
			Warp	Weft	Warp Yarns/m	Weft Picks/cm	Warp	Weft		
<b>POLYAMIDE PEEL PLY</b>										
83	T0470N	PW	58	42	19	15	PA66 235	PA66 235	*	0.06
100	T0098	PW	58	42	19	14	PA66 23	PA66 235	100	0.06

\* : 180 - 160 - 130 - 120 - 90 - 50 - 30 - 20 - 10 - 5

## AESTHETIC E GLASS FABRICS

202	1035 TEXALIUM®*	TWILL 2X2	50	50	14	14	EC9 68	EC9 68	88/120	0.15
300	1102 TEXALIUM®*	TWILL 2X2	50	50	7	7	(EC9 68)x3	EC9 68)x3	64/88/124	0.23

## INJECTEX® E GLASS FABRICS

295	21186 1200	TWILL 2X2	50	50	22.2	5.5	EC9 68	EC9 68x4	120	0.022
315	EB315 E 1200	TWILL 2X2 POWDERED	50	50	22.2	5.5	EC9 68	EC9 68x4	120	0.24
400	21180 1200	3X / FORMABLE	50	50	14.8	14.8	EC11 136	EC9 68x2-EC1	100	0.31
420	EF420 E 1000	3X/FORMABLE POWDERED	50	50	14.8	14.8	EC11 136	EC9 68x2-EC1	100	0.32
1000	21156 1200	3X / FORMABLE	51	49	16.3	15.5	EC13 300	R0320	120	0.77
1030	E1030 E 1200	3X/FORMABLE POWDERED	51	49	16.3	15.5	EC13 300	R0320	120	0.78

## INJECTEX® CARBON FABRICS

600	GF630 N 1000	3X/FORMABLE POWDERED	50	50	7.4	7.4	6K HS	6K HS	100	0.60
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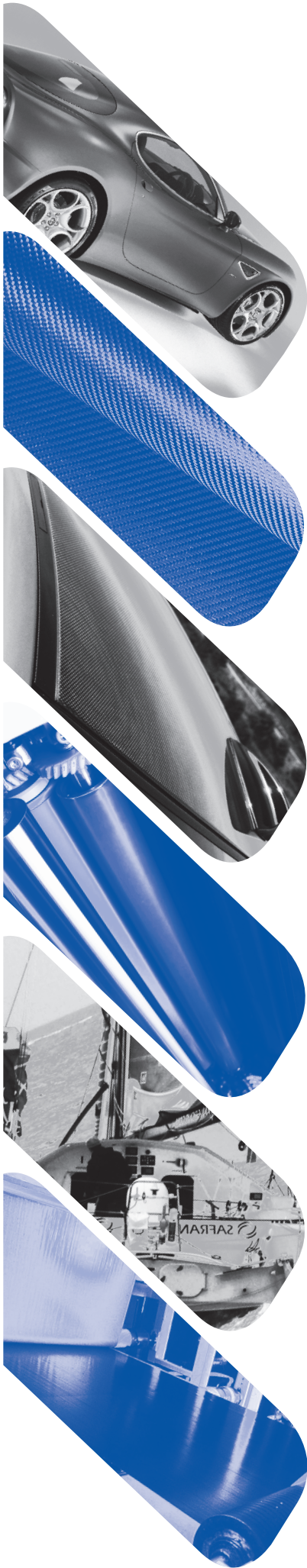
## ARAMID CARBON HYBRIDS

155	73156	PLAIN	45-14	19-22	3.4	1.4	3K HS	3K HS	100/120	0.15
					1.6	2.8	ARHM 1270	ARHM 1270		
157	73158	SPECIAL	91	4-5	7.1	1.6	3K HS	AR HM 420	100	0.15
						3.2		AR HM 215		
170	G0882	TWILL 2x1	37-13	22-28	3.3	1.8	3K HS	3K HS	80/120	0.17
						1.8	3.3	ARHM 1270		
210	73210	TWILL 2x2	22-28	22-28	2.2	2.2	3K HS	3K HS	125	0.20
							3.2	AR HM 215		
245	73230	TWILL 3x1	60	40	7.1	7	3K HS	AR HM 1270	100	0.24

\* TEXALIUM® : Glass fabrics aluminium coated on one side







# HEXCE



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