



HexPly®

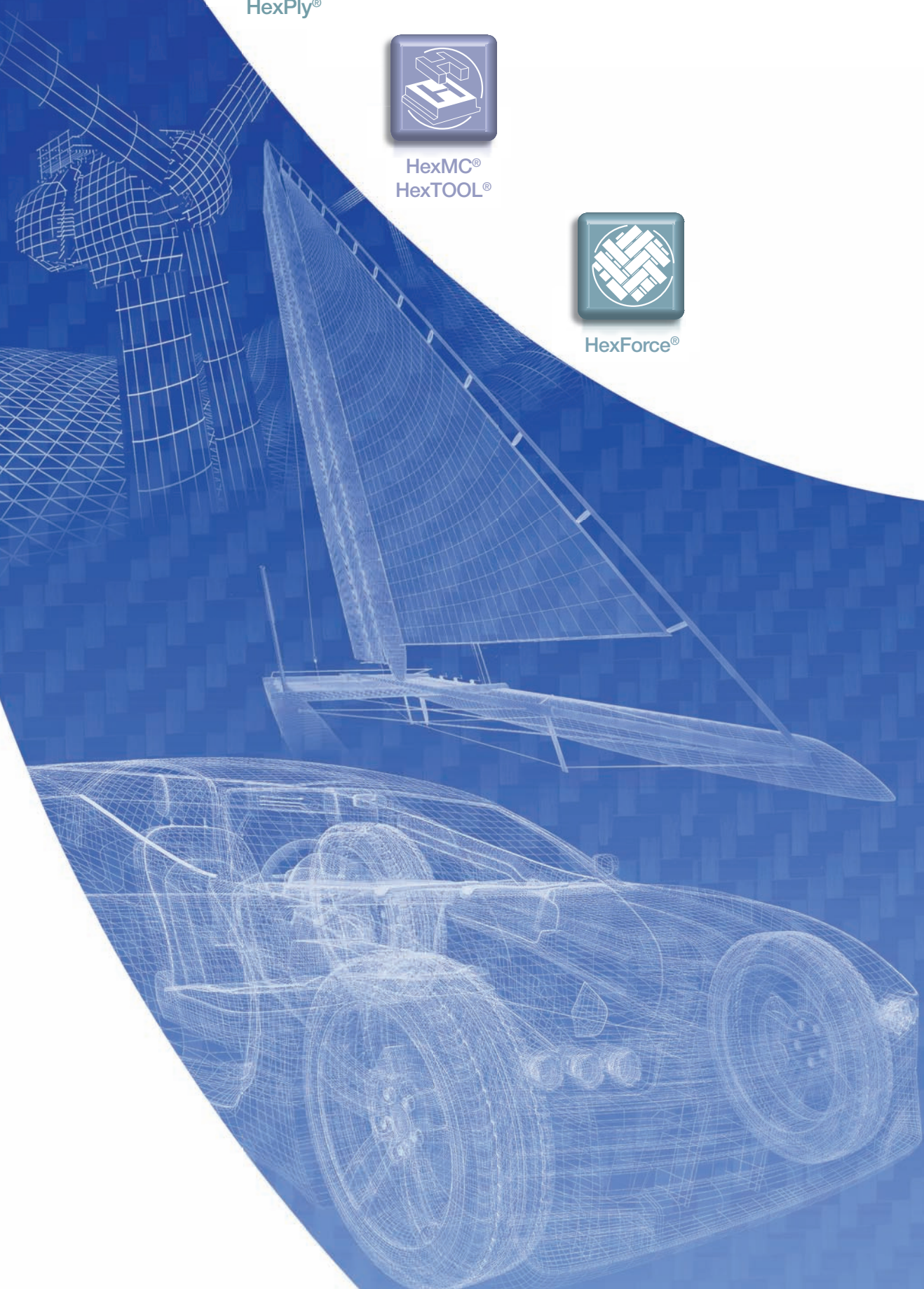


HexMC®
HexTOOL®



HexForce®

Selector Guide **Industry**



About HEXCEL

Hexcel is one of the largest US producers of carbon fibre; a major 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 reinforcement 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 Industrial markets

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 M10R 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 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, temperature 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 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.

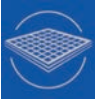
The HexMC® epoxy system provides short cure cycles, from two minutes at 150 C°/ 302°F depending on part thickness.

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.

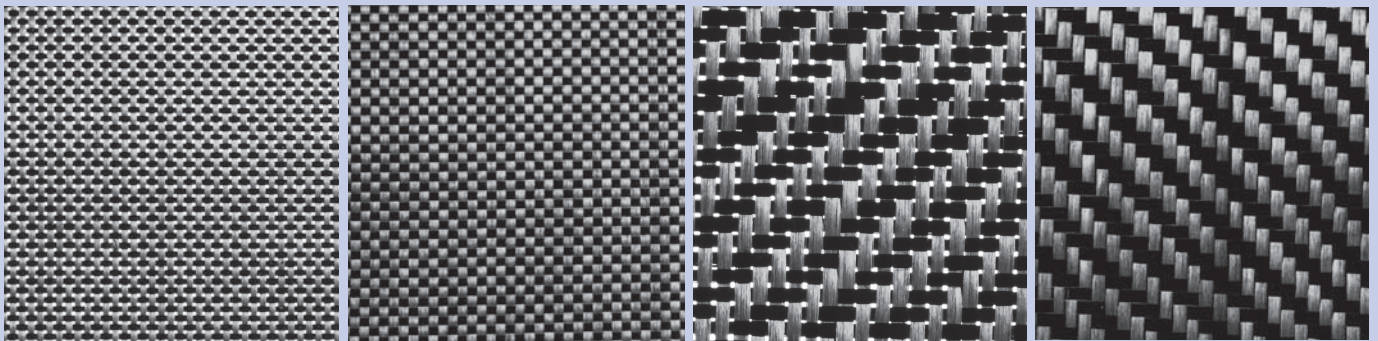


5- Polyspeed® laminates

Hexcel laminates are fibre-reinforced epoxy resin impregnated materials, which are supplied pre-cured. A range of pressed laminates with either woven, unidirectional or a mix of both reinforcement types, are manufactured for high performance. Providing the lightness and strength of fibre-reinforced epoxies, without the time consuming lay-up and cure processes, these materials are widely used in the manufacture of ski and snowboards and for many industrial applications like skins for sandwich panels.

6- 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

2

3

4

1. HexForce® 43199 UE1250 - Fibre coverage: 93% / 2. PrimeTex® 43199 UE1250 S - Fibre coverage: 99%
3. HexForce® 48194 C 1270 - Fibre coverage: 96% / 4. PrimeTex® 48194 C1270 S - Fibre coverage: 99.5%

Key features and benefits

PrimeTex® is obtained thanks to Hexcel's Proprietary Spreading Technologies:

PrimeTex® allows use of high K Tow fibres for lowest areal weight

PrimeTex® brings a clear visual benefit to the final product

PrimeTex® enhances laminate mechanical properties

PrimeTex® Range

With 3K fibre, from 100 to 245 gsm

With 6K fibre from 240 to 370 gsm

With 12K fibre from 193 to 400 gsm

For PrimeTex® using 3K and 30K fibres, contact Hexcel.

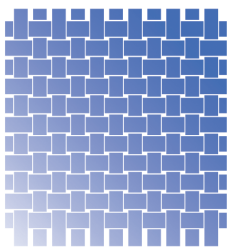
PrimeTex® Applications

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

What are the different fabric styles?

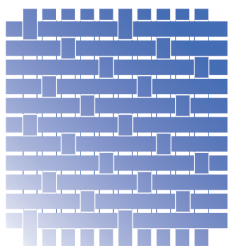
The fabrics consist of at least two threads which are woven together : the warp and the weft. The weave style can be varied according to crimp and drapeability. Low crimp gives better mechanical performance because straighter fibres carry greater loads; a drapeable fabric is easier to lay up over complex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

They are three main weave styles



PLAIN WEAVE

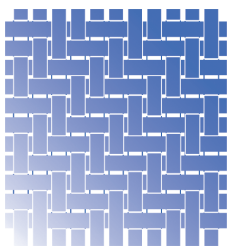
Low drapeability/high crimp



SATIN WEAVE

(4, 5, 8, 11)

Good drapeability/low crimp

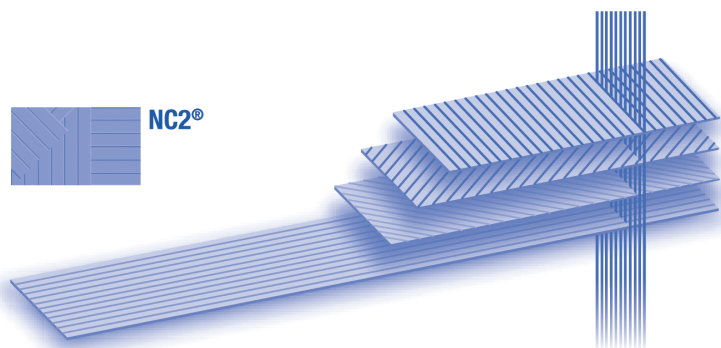


TWILL WEAVE

(2/1, 3/1, 2/2)

Average drapeability/
average crimp

New Crimp Fabrics



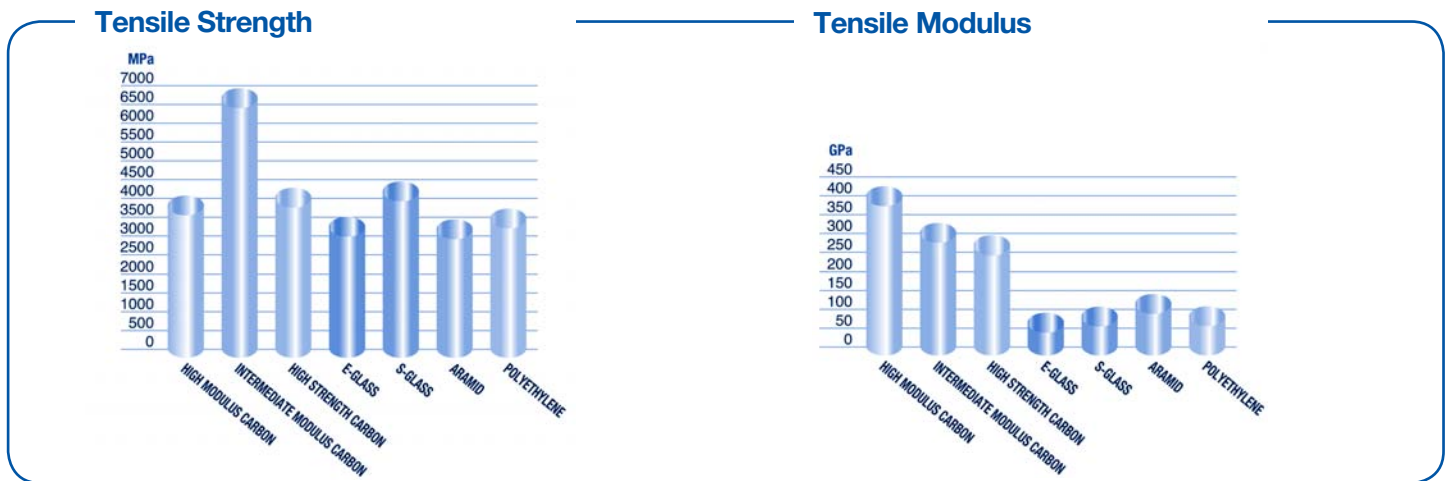
Hexcel's HexForce® NC2® multi-axial reinforcements are a unique concept non-crimp technology for industrial applications that provide strength and stiffness exactly where required, as a result of the preplacement of oriented unidirectional tapes joined by a novel stitching technology.

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 100g/m² - 2.3oz/yd² that are balanced and provide full fibre coverage, at competitive prices.

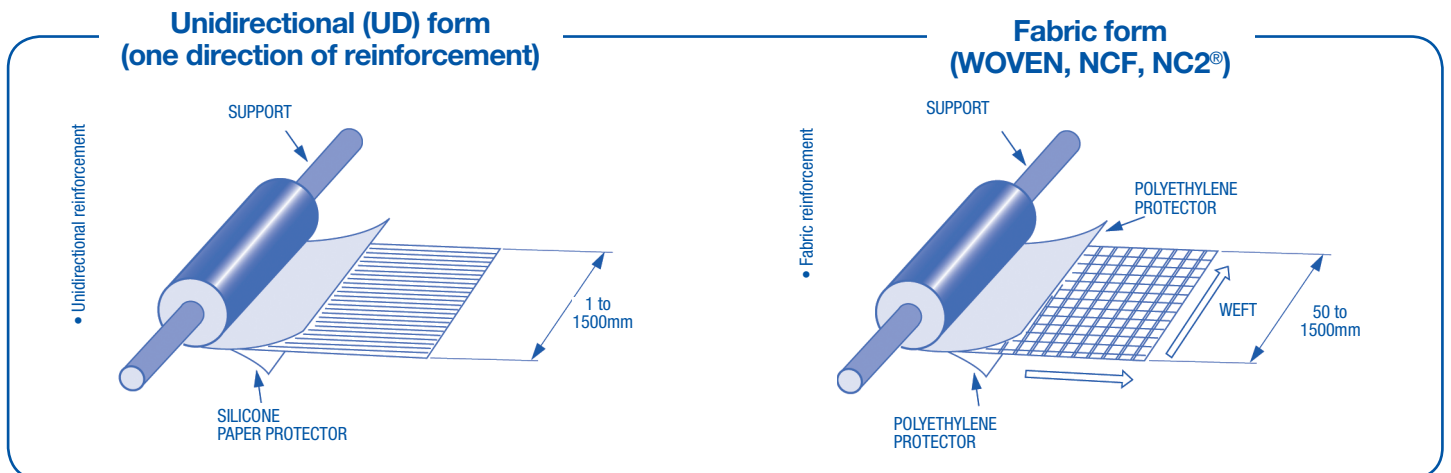
What are the fibre properties?

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

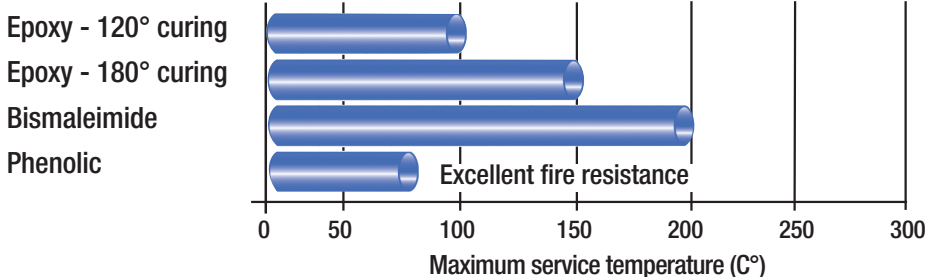
Resins, curing agents, tougheners, fire retardants, accelerators.

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® Matrix

HEXPly®
RESIN
SYSTEM

DRY TG ONSET
(DMA)
°C (F°)

TYPICAL CURE CYCLE
Temp °C (F°) | Time (mins)

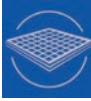
CURE PROCESS
AUTOCLAVE / PRESS | VACUUM ONLY

SELF ADHESIVE

ATTRIBUTES

EPOXY

	DRY TG ONSET (DMA) °C (F°)	TYPICAL CURE CYCLE Temp °C (F°)	Time (mins)	AUTOCLAVE / PRESS	VACUUM ONLY	SELF ADHESIVE	ATTRIBUTES
M9.X	125 (255)	120 (250)	30	X	X		Base line resin, various tack levels available
M10R	120 (250)	120 (250)	60	X	X		Base line resin Long shelf life
M34	80 (180)	75 (165)	480	X	X	X	Low temperature cure. FST behaviour
M35-4	140* (285)	135 (275)	90	X			Flexible cure
M47	130* (295)	120 (250)	90	X			Structural
M49	115 (240)	120 (250)	90	X	X		Aesthetic
M77	125 (255)	150 (302)	2	X	X		Extra Fast cure
M79	80 (176)	70 (160)	480	X	X		Low temperature cure Low exotherm
M81	200 (392)	135 (275)	180**	X			Tough



Polyspeed® Laminates

TYPE	LAMINATE WEIGHT UNGROUND (g/m ²)	FABRIC WEIGHT (g/m ²)	REINFORCEMENT	WEIGHT RATE (g/m ²)	
				WARP	WEFT
R	1151	840	R84	840	0
R	1643	1200	R120	1200	0
R-Kombi	2468	1777	R138LT397	1740	25
EV	825	470	470R	372	90
EV	1210	750	750R	504	240
EV	1541	940	2x470R	744	180
GRID	675	566	551Gi	240	300

R= UD glass fiber, R-Kombi= UD glass fiber + woven fabric, EV= bidirectional reinforcement, GRID= woven grid reinforcement



HexTOOL® Tooling Material

	DRY TG ONSET (DMA) °C (F°)	TYPICAL CURE CYCLE Temp °C (F°)	Time (mins)	CURE PROCESS AUTOCLAVE / PRESS VACUUM ONLY	SELF ADHESIVE	ATTRIBUTES
HexTOOL® M61	275 (527)	190 (375)	240**	Post cure 16h at 220°C	X	BMI
HexTOOL® M81	220 (428)	125 (255)	360**	After post cure 2h at 205°C	X	Epoxy



HexMC® Moulding Concept

	DRY TG ONSET (DMA) °C (F°)	TYPICAL CURE CYCLE Temp °C (F°)	Time (mins)	CURE PROCESS AUTOCLAVE / PRESS VACUUM ONLY	SELF ADHESIVE	ATTRIBUTES
HexMC®M77	120 (248)	150 (302)	2	X		
HexMC®M81	210	180 (356)	30**	X		

* Higher Tg can be obtained with post cure cycle

** Plus post cure

HexPly® product data

FLOW CONTROLLED HIGH	SELF EXTINGUISHING	OUTLIFE AT ROOM TEMPERATURE days	STORAGE at -18°C (0°F) months	MARKET
X		42	18	Wind energy, Automotive, Marine, General industrial
X		60	18	Marine, Automotive, General Industrial
X	X	10	12	Rail and Marine
X		60	12	High Performance Cars / Bike
X	X	30	12	High Performance Cars
X		30	12	Automotive, Sporting Goods, Carbon look, General industrial
X		42	18	Automotive, Sporting goods, General Industrial
X		42	18	Wind Energy, Marine
X		14	12	High Performance Cars

Polyspeed® Laminates product data

THICKNESS BOTH SIDES GROUND (mm)	WIDTH (mm)	RESIN/TG (°C)	MECHANICALS	
			TENSILE STRENGTH 0° Mpa	TENSILE MODULUS 0° Gpa
0.5	38-1200	Epoxy / 125°	1100	39
0.8	38-1200	Epoxy / 125°	1100	41
1.2	38-1200	Epoxy / 125°	1150	39
0.4	38-1200	Epoxy / 125°	600	24
0.6	38-1200	Epoxy / 125°	450	20
0.8	38-1200	Epoxy / 125°	580	24
0.75	38-1200	Epoxy / 125°	250	10

HexTOOL® product data

FLOW CONTROLLED HIGH	SELF EXTINGUISHING	OUTLIFE AT ROOM TEMPERATURE days	STORAGE at -18°C (0°F) months	MARKET
		20	12	Tooling - 180° C part cure cycle
		20	12	Tooling - 120° C part cure cycle and fast prototyping for any composite parts

HexMC® product data

FLOW CONTROLLED HIGH	SELF EXTINGUISHING	OUTLIFE AT ROOM TEMPERATURE days	STORAGE at -18°C (0°F) months	MARKET
X		42	18	Automotive, Sporting goods, General Industrial
X		14	12	Automotive, Sporting goods



HS Carbon reinforcements

WEIGHT <i>gsm</i>	STYLE	PRIME [®] TEX [®] QUALITY	WEAVE	WEIGHT RATE		FIBRE COUNT		REINFORCEMENT YARN		STANDARD WIDTH <i>cm</i>	THICKNESS <i>mm</i>
				Warp	Weft	Warp	Weft	Warp	Weft		
BALANCED FABRICS - HIGH STRENGTH FIBRES											
90	41090		PLAIN	50	50	6.7	6.7	1K HS	1K HS	102	0.09
120	41120		PLAIN	50	50	9	9	1K HS	1K HS	100/127	0.12
100	43098	X	PLAIN	50	50	2.3	2.3	3K HS	3K HS	102	0.09
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	3K 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	X	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
300	48302	X	TWILL 2x2	50	50	1.9	1.9	12K HS	12K HS	127	0.30
330	49331	X	PLAIN	50	50	0.9	0.9	24K HS	24K HS	150	0.32
385	48385	X	TWILL 2x2	50	50	2.4	2.4	12K HS	12K HS	125	0.40
400	46402		TWILL 2x2	50	50	5	5	6K HS	6K HS	125	0.40
400	48400	X	PLAIN	50	50	2.5	2.5	12K HS	12K HS	125	0.41
600	48600		TWILL 2x2	50	50	3.7	3.7	12K HS	12K HS	130	0.62

PrimeTex[®] is a range of carbon fabrics that have been processed for a smooth, closed weave and enhanced uniform appearance. Should you wish to achieve specific cosmetic effects with PrimeTex[®], please contact Hexcel.

UNIDIRECTIONAL FABRICS - HIGH STRENGTH FIBRES

175	43175		UD PW	96	4	8.4	6.9	3K HS	EC511	136	0.18
185	43185		UD PW	85	15	8.4	4	3K HS	1K HS	135	0.19
300	48300		UD PW	99	1	3.7	3	12K HS	EC511	100	0.32
530	48520		UD	94	6	6.2	4.4	12K HS	EC968	100	0.55



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		
INTERMEDIATE MODULUS FIBRES										
200	46200 W	TWILL 2x2	50	50	4.5	4.5	6K IM7	6K IM7	100/125	0.21
280	46280 W	SATIN 5	50	50	6.5	6.5	6K IM7	6K IM7	100	0.28

Special fabrics with IM10 and IM8 available, please contact Hexcel.



NC2[®] Multiaxial reinforcements A special process to customise your product:

- Width from 1270mm to 2500mm
- All Angles between 48° and 90°
- All combinations and in ply symmetry possible (+45°/-45°/+45°)
- Possibility to stack different weights/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 [®] OPTION
BUT ALSO A STANDARD RANGE OF BIAxIAL								
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[®] 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 <i>Yarns/cm</i>	Weft	Warp	Weft		
25	00106	PLAIN	50	50	22	22	EC5.5	EC5.5	110/127	0.02
48	01080	PLAIN	56	44	24	19	EC5 11	EC5 11	110/122	0.04
70	02112	PLAIN	52	48	16	15	EC7 22	EC7 22	110/126	0.05
86	00235	PLAIN	49	51	12	12.5	EC9 34	EC9 34	105	0.06
105	00220	4H SATIN	51	49	24	23	EC7 22	EC7 22	120	0.08
106	02116	PLAIN	51	49	24	23	EC7 22	EC7 22	110/126	0.08
125	01510	PLAIN	65	35	11.5	6.3	EC9 34x2	EC9 68	70	0.09
125	01522	PLAIN	53	47	9.6	8.5	EC9 34x2	EC9 34x2	65/80/140	0.09
160	01717	PLAIN	52	48	11.8	10.7	EC9 68	EC9 68	82/164	0.12
162	01039	TWILL 2x2	51	49	11.8	11.5	EC9 68	EC9 68	100	0.12
202	01035	TWILL 2x2	50	50	14	14	EC9 68	EC9 68	88/120	0.15
202	07628	PLAIN	59	41	17	11.8	EC9 68	EC9 68	110/127	0.15
202	01266	PLAIN	60	40	8.9	6	EC9 136	EC9 136	80/130	0.15
204	01184	PLAIN	51	49	7.4	7.2	EC9 68x2	EC9 136	80	0.15
206	00471	PLAIN	51	49	7.4	7.2	EC9 68x2	EC9 68x2	65/80	0.15
290	01202	TWILL 2x2	50	50	7	7.2	EC9 68x3	EC9 204	88/100/124	0.23
290	01203	PLAIN	50	50	7	7.2	EC9 68x3	EC9 204	88/100/124	0.23
300	07581	8H SATIN	51	49	22	21	EC9 68	EC9 68	127	0.23
390	01113	TWILL 2x2	53	47	5.9	6.6	EC9 68x5	EC9 136x2	110/125	0.30
600	01038	TWILL 2x2	50	50	7.3	7.3	EC9 136x3	EC9 136x3	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
FINISH					
TF 950 - Z 6040	Epoxy 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 <i>Yarns/cm</i>	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		

POLYAMIDE PEEL PLY

83	T0470N	PW	58	42	19	15	PA66 235	PA66 235	On demand 30 to 2000	0.06
100	T0098	PW	54	46	22	18,5	PA66 235	PA66 235	147	0.06

AESTHETIC E GLASS FABRICS

202	1035 TEXALIUM®*	TWILL 2X2	50	50	14	14	EC9 68	EC9 68	88/120	0.15
300	1202 TEXALIUM®*	TWILL 2X2	50	50	7	72	EC9 68x3	EC9 204	88/124	0.23

* TEXALIUM® : Glass fabrics aluminium coated on one side

INJECTEX® E GLASS FABRICS

295	21186 1200	TWILL 2X2	50	50	22.2	5.5	EC9 68	EC9 68x4	120	0.22
315	EB315 E 1200	TWILL 2X2 POWDERED	50	50	22.2	5.5	EC9 68	EC9 68x4	120	0.22
400	21180 1200	3X / FORMABLE	50	50	14.8	14.8	EC9 68x2	EC9 68x2	100	0.31
420	EF420 E 1000	3X/FORMABLE POWDERED	50	50	14.8	14.8	EC9 68x2	EC9 68x2	100	0.31
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	0.77

INJECTEX® CARBON FABRICS

600	GF630 1000	3X/FORMABLE POWDERED	50	50	7.4	7.4	6K HS	6K HS	100	0.60
630	GF600 1000	3X/FORMABLE	50	50	7.4	7.4	6K HS	6K HS	100	0.60

ARAMID CARBON HYBRIDS

170	73172	PLAIN	37	37	3.4	3.4	3KHS	AR HM 1210	125	0.19
			13	13	1.7	1.7	AR HM 1210	3KHS		
170	G0882	TWILL 2x1	37	22	3.3	1.8	3K HS	3K HS	80/120	0.17
			13	28	1.8	3.3	ARHM 1210	ARHM 1210		
210	73210	TWILL 2x2	22	22	2.2	2.2	3K HS	3K HS	125	0.22
			28	28	4.4	4.4	AR HM1210	ARHM1210		

For further information, please contact your nearest sales office, or visit our website at www.hexcel.com

Australia

Melbourne
Tel/Fax: 61 3 9457 3736

Austria

Schärdinger Strasse 1
A-4061, Pasching
Tel: 43 (0)7229 7720
Fax: 43 (0)7229 772299

Belgium

Rue Trois Bourdons, 54
B-4840 Welkenraedt
Tel: 32 87 307 539
Fax: 32 87 882 895

Brazil

Av.Cassiano Ricardo, 133/22,
S.J.Campos, SP 12246-870
Tel: 55 12 3941 2242
Fax: 55 12 3923 1186

China

D2101, Shanghai Everbright
Conference & Exhibition
Center
80 Cao Bao Road
Shanghai 200235
Tel: 86 21 64836741
Fax: 86 21 64836744

France

45, rue de la plaine
CS 10027 - 01126 Dagneux cedex
Tel: 33 (0)4 72 25 26 27
Fax: 33 (0)4 72 25 27 30

Germany

Sophie-Scholl-Weg 22
21684 Stade
Tel: 49 4141 7879-00
Fax: 49 4141 7879-01

Italy

Via San Cristoforo, 44
21047 Saronno (VA)
Tel: 39 02 96709082
Fax: 39 02 9600809

Japan

4F Yokohama YS Nishiguchi Bldg
2-25-1 Tsuruya-cho
Kanagawa-ku Yokohama 221-
0835
Tel: 81 45 290 0866
Fax: 81 45 314 0852

Malaysia

Hexcel Composites Sdn Bhd
Wisma Samudra,
Jalan Kontraktor U1/14,
Hicom - Glenmarie
Industrial Park,
40150 Shah Alam,
Selangor Darul Ehsan, Malaysia
Tel: +60 3 5569 3510,
Fax: +60 3 5569 3460

Russia

Ulitsa Tverskaya, dom 16
Strojenie 1, 7th Floor
125009, Moscow
Russian Federation
Phone: +7 (495) 411 55 20
Fax: +7 (495) 935 89 62

Spain

Bruselas, 10 - 16
Polig. Ind. «Ciudad de Parla»
28980 Parla, Madrid
Tel: 34 91 664 4900
Fax: 34 91 698 4914

United Kingdom

Ickleton Road, Duxford, Cambridge
CB22 4QD
Tel: 44 (0)1223 833141
Fax: 44 (0) 1223 838808

USA

11711 Dublin Blvd.
Dublin, CA 94568-2832
Tel: 1 925 551 4900
Fax: 1 925 828 9202

