



SOLVAY

asking more from chemistry®

A driver wearing a white helmet with a blue visor is seated in a red and black open-wheel race car. The car is on a track, and the background is a blurred landscape under a clear blue sky. The car's body is primarily red with black accents and a white stripe. The driver's helmet is white with a blue visor. The car's chassis and suspension are black.

World Leading Portfolio of
Composite Materials for
Motorsport Applications

**COMPOSITE
MATERIALS**



Solvay is the established market leader in the supply of advanced composite materials to the motorsport industry and across all formulae. We offer a unique combination of products, application engineering and expertise to the motorsport industry. We are committed to short lead times and everything we do is underpinned by our customer-first approach.



Typical F1 car application



Blackstone Tek carbon fiber motorcycle wheels

We recognize that this industry is characterized by frequent changes to regulations, high demands on product performance, coupled with high service demands, as well as a priority on safety. This is why we are constantly developing new products to deliver innovation and technical advantage.

We offer an unsurpassed product range to our customers, typically supplying 25 to 30 different prepregs for the construction of a single car, with each product custom engineered to optimize the performance of structures.

Our ongoing innovation and in-depth testing of new materials, coupled with motorsport knowledge, helps provide confidence in material performance, delivering solutions that are critical to achieving design deadlines.

Composite Materials

- Full prepreg processing capability, including unidirectional and fabric, using all carbon and glass fiber types.
- Application-specific materials for engines, gearboxes, chassis, aerodynamics, impact structures, suspensions, etc.
- Flexibility in manufacture from small to large batch requirements in our European and USA facilities.
- Worldwide manufacturing, design and technical support.
- Commitments to short lead-times from all sites.

Composite Materials Product Selector Guide

	Resin System	Out Life (days)	Cure Flexibility °F (°C)	Cure Method	Tg (DMA Onset) °F (°C)*
Aerodynamic	CYCOM® 2020	60	176 – 356 (80 – 180)	Press/Autoclave	365 (185)
	CYCOM® 2040	21	275 – 392 (135 – 200)	Press/Autoclave	430 (221)
	CYCOM® 997	21	356 – 392 (180 – 200)	Press/Autoclave	437 (225)
	MTM® 28	30	185 – 248 (85 – 120)	Press/Autoclave	212 (100)
	MTM® 49-3	60	176 – 356 (80 – 180)	Press/Autoclave	374 (190)
	MTM® 79	30	275 – 356 (135 – 180)	Autoclave	428 (220)
	MTM® 249	21	275 – 392 (135 – 200)	Autoclave	397 (203)
	MTM® 58FRB	60	248 – 302 (120 – 150)	Press/Vacuum/Autoclave	284 (140)
Chassis	CYCOM® 919LB	30	266 (130)	Press/Vacuum/Autoclave	273 (134)
	CYCOM® 977-6	14	275 – 350 (135 – 177)	Press/Autoclave	320 (160)
	CYCOM® 2020	60	176 – 356 (80 – 180)	Press/Autoclave	365 (185)
	MTM® 28	30	185 – 248 (85 – 120)	Press/Autoclave	212 (100)
	MTM® 49-3	60	176 – 356 (80 – 180)	Press/Autoclave	374 (190)
	MTM® 58B and FRB	60	248 – 302 (120 – 150)	Press/Vacuum/Autoclave	284 (140)
	MTM® 71	30	248 – 275 (120 – 135)	Press/Autoclave	311 (155)
	Engine/ Gear Box/ Oil Tanks	CYCOM® 2040	21	275 – 392 (135 – 200)	Press/Autoclave
CYCOM® 997		21	356 – 392 (180 – 200)	Press/Autoclave	437 (225)
CYCOM® 5250-4		28	356 – 446 (180 – 230)	Press/Autoclave	559 (293)
LTM® 45		4	122 – 176 (50 – 80)	Press/Vacuum/Autoclave	410 (210)
MTM® 49-3		60	176 – 356 (80 – 180)	Press/Autoclave	374 (190)
MTM® 249		21	275 – 392 (135 – 200)	Autoclave	397 (203)
HTM® 60		28	393 (200)	Autoclave	446 (230)
Impact Structures	CYCOM® 977-6	14	275 – 350 (135 – 177)	Press/Autoclave	320 (160)
	CYCOM® 2040	21	275 – 392 (135 – 200)	Press/Autoclave	430 (221)
	MTM® 28	90	185 – 248 (85 – 120)	Press/Autoclave	212 (100)
	MTM® 49-3	60	176 – 356 (80 – 180)	Press/Autoclave	374 (190)
	MTM® 70	30	185 – 356 (85 – 180)	Autoclave	374 (190)
	MTM® 228	30	248 (120)	Autoclave	230 (110)
	MTM® 249	21	275 – 392 (135 – 200)	Autoclave	397 (203)
Suspension	CYCOM® 977-6	14	275 – 350 (135 – 177)	Press/Autoclave	320 (160)
	CYCOM® 997	21	356 – 392 (180 – 200)	Press/Autoclave	437 (225)
	CYCOM® 2040	21	275 – 392 (135 – 200)	Press/Autoclave	430 (221)
	MTM® 28	30	185 – 248 (85 – 120)	Press/Autoclave	212 (100)
	MTM® 49-3	60	176 – 356 (80 – 180)	Press/Autoclave	374 (190)
	MTM® 70	30	185 – 356 (85 – 180)	Autoclave	374 (190)
	MTM® 249	21	275 – 392 (135 – 200)	Autoclave	397 (203)
	HTM® 60	28	393 (200)	Autoclave	446 (230)
CYCOM® 5250-4	28	356 – 446 (180 – 230)	Press/Autoclave	559 (293)	

* achieved using highest cure cycle

Composite Materials Product Selector Guide (continued)

	Resin System	Out Life (days)	Cure Flexibility °F (°C)	Cure Method	Tg (DMA Onset) °F (°C)*
High Tg Heat Shield Material	LTM® 110	3	158 – 482 (70 – 250)	Autoclave	626 (330)
	MTM® 110	30	275 – 482 (135 – 250)	Autoclave	626 (330)
	HTM131	14	275 (135)	Vacuum/Autoclave	570 (300)

* achieved using highest cure cycle

Adhesive Films Product Selector Guide

Product	Out Life (days)	Service Temp °F (°C)	Cure Flexibility °F (°C)	Cure Method	Peel Strength	Shear Strength
FM® 87-1 HT	30	212 (100)	194 – 257 (90 – 125)	Autoclave / Press	High	Medium
FM® 94	30	221 (105)	194 – 257 (90 – 125)	Autoclave / Press / Vacuum	High	High
FM® 300-2	10	302 (150)	257 – 347 (125 – 175)	Autoclave / Press	Medium	Medium
FM® 377	30	356 (180)	347 (175)	Autoclave / Press	Low	Low
HTA® 240	30	356 (180)	266 – 356 (130 – 180)	Autoclave / Vacuum	Medium	Medium
MTA® 240	30	N/A	177 – 351 (80 – 176)	Vacuum	Medium	High

Process Materials

- Comprehensive range of composites processing materials optimised for the complex manufacturing methods employed within the motorsport market.
- Industry-leading bagging films and sealant tapes developed specifically with the customer in mind. Our STRETCH-VAC™ 3000 bagging film and UCS180 sealant tape are designed for the motorsport sector and have set the standard for this highly-demanding, technology-driven market.
- Development of reusable vacuum systems, intensifiers and pressure bags enable us to provide innovative solutions for autoclave and oven/vacuum bag prepreg molding. These systems have reduced costs by lowering cycle times, energy consumption and improved the quality of the final manufactured part.

Process Materials Product Selector Guide

Prepreg product	Bagging Film	Release Film	Sealant Tape	Peel Ply	Breather	Flash Tape
250°F (120°C) Epoxy OOA	VACFILM™ 450V HS8171	A6200/A6000 A5000	LTS0B UCS180	A100 B100 D300	AB100 AB10UHA	FT1
250°F (120°C) Epoxy in-autoclave	VACFILM™ 450V HS8171 STRETCH-VAC™ 3000	A6200/A6000 A5000 MR-FILM	UCS180 SM5142 SM5126	A100 B100 D300	AB10UHA AB40N	FT1
350°F (180°C) Epoxy OOA	HS8171 STRETCH-VAC™ 3000 STRETCH-VAC™ 6000	A6000 A5000 MR-FILM	SM5142 SM5126	A100 B100 D300	AB10UHA AB40N	FT1
350°F (180°C) Epoxy in-autoclave	HS8171 STRETCH-VAC™ 3000 STRETCH-VAC™ 6000	A5000 MR-FILM	SM5142 SM5126	A100 B100 D300	AB10UHA AB40N	FT1
BMI	STRETCH-VAC™ 3000 STRETCH-VAC™ 6000	A5000 MR-FILM	SM5142 SM5126	A100 B100 D300	AB40N	FT1



F1 chassis reusable vacuum bag

Tooling

- Tooling prepregs offering outstanding surface finish and longevity for the manufacture of complex mold tools.
- Design service supporting tool design optimization to ensure a fit-for-purpose solution.
- Soft tooling technology including intensifiers and caul sheets.

Tooling Prepreg Product Selector Guide

	Product Form	Out Life (days)	Service Temp. °F (°C)	Cure Flexibility/Recommended Cure °F (°C)	Cure Method
CYFORM® 1-5-1	Epoxy Prepreg	3 to 4	356 (180)	40 hours at 95 (35) or 8 hours at 140 (60) Post-cure 15 minutes at 392 (200) plus 8 hours at 374 (190)	Autoclave
DForm® Fabric	Epoxy Prepreg	3	356 (180)	8 hours at 140 (60) Post-cure 15 minutes at 392 (200) plus 8 hours at 374 (190)	Autoclave
LTM® 12	Epoxy Prepreg	3	356 (180)	70 hours at 86 (30) or 5 hours at 158 (70) Post-cure 15 minutes at 392 (200) plus 8 hours at 374 (190)	Autoclave
LTM® 212	Epoxy Prepreg	2	356 (180)	40 hours at 95 (35) or 8 hours at 140 (60) Post-cure 15 minutes at 392 (200) plus 8 hours at 374 (190)	Autoclave
CYFORM® 22	Epoxy Prepreg	3 to 4	350 (177)	168 hours at 68 (20) or 5 hours at 131 (55) Post-cure 5 hours at 390 (200)	Autoclave





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