



**Your complete composite
solutions partner**

Doing things differently



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PRF Composite Materials is a leading manufacturer and supplier of high performance materials for the advanced composites industry, with a comprehensive range of products available from stock, including: prepreg (tooling and component), reinforcements, epoxy resin systems, release agents and kitting services. With over 30 years' experience supplying the aerospace, motorsport, renewable energy, defence, sports & leisure, medical and marine industries, we are now building on significant recent investment to further develop our manufacturing capability and extend our range of high quality materials.

Following the installation of our new, state-of-the-art prepreg manufacturing line, we are now developing new and innovative products including our new Snap Cure epoxy prepreg RP-570 and new RP-801 tooling prepreg. We are continuing to extend the rest of our material range, including advanced reinforcements for our range of prepreg materials and developing new innovations, such as a new semi-permanent mould release for press moulding. Our purpose-built kitting and preforming centre continues to progress and we have extended our onsite laboratory facilities, bringing full mechanical testing in-house.

Contact PRF Composite Materials today to discuss your next project.

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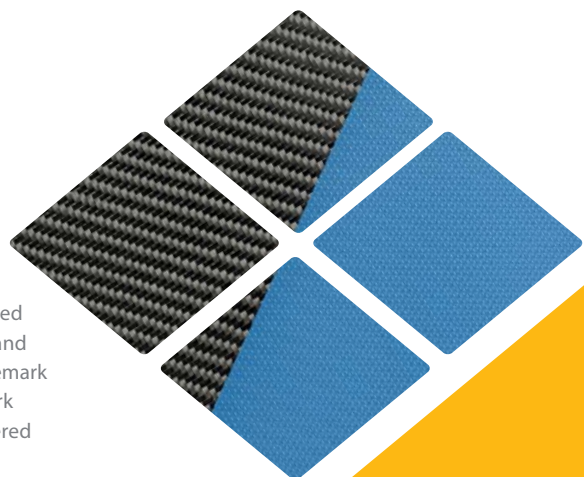
PRF is ISO 9001:2008 certified

We would like to thank all companies concerned for the use of the acknowledged trademarks and registered names. Kevlar® is a registered trademark of DuPont, Dyneema® is a registered trademark of DSM Dyneema, and Compoflex® is a registered trademark of Fibertex Composites.

We are continuously improving what we can offer to customers, not only in terms of products, but also in service and support, including extending our 24/7 PRF Online Store, performing infrastructure improvements, developing our sales team and strengthening our engineering capabilities within the company.

We remain committed to providing professional service and full technical support to customers, as well as making the majority of our central products available for immediate despatch from our rapid-response warehouse.

Doing things differently, PRF Composites is committed to innovation, product development, quality, and providing a flexible and responsive service with technical support. With an emphasis on reducing manufacturing time and improving efficiency and cost-effectiveness, PRF remains at the forefront as the composites industry advances.



Prepreg

Building on the installation of our hot melt prepreg line in 2013, we are now manufacturing high quality prepreg materials, incorporating a variety of fibre types, constructions and fabric technologies.

Our hot melt line, which has a capacity of over 1 million metres p.a. at up to 1.5m wide, is supported by chemists, engineers and technicians with extensive lab facilities, and incorporates the latest film weight scanning technology, in-house resin system development and R&D. Our manufacturing capabilities include both solvent dip and hot melt processes with a range of materials, including fabrics such as woven carbon, glass and aramid, hybrids, unidirectional carbon and glass, as well as prepregs with carbon nanotube additives. In addition, we supply resin films and adhesive films.

As with our other products, we are able to work with speciality and bespoke materials, and can accommodate smaller runs of 50m for such applications. We also have experience of working with speciality materials, such as Dyneema®, metal and metal-coated fibres, and Quartz.

For shorter lead times, we stock large quantities of standard lines in our purpose-built 360m³ freezer, ready for rapid delivery. Providing a full service, we are able to cut a wide variety of prepreg at our kitting and preforming centre; we accept two-dimensional CAD drawings via email and nest for optimum material usage. Kits are supplied in bags ready for use.

Flexible, responsive, innovative

Focusing on innovation, we have now introduced our new RP-570 Snap Cure Epoxy Prepreg System, which has a complete processing time of four minutes and produces a class A aesthetic quality finish. Developed for high volume production of parts produced by heated press process, RP-570 Snap Cure enables the constructor to create parts in a processing time of just four minutes, with no need to cycle the mould tool or to cool the hot mould tool before demoulding at 140°C. In addition, we have introduced our new RP-801 tooling prepreg and are now looking forward to the next innovation. These prepregs are now available on a variety of our reinforcement fabrics. *Please contact us for more details.*

In prepreg manufacturing over the last 25 years there has been great development in resin systems, but very little advance in the development of the reinforcements.

We believe that there is far more to be done by using the latest fabric technology in the manufacture of prepreg. This is central to our aims – the best prepreg can only be made from the best raw materials.



Reinforcements



Our extensive range includes Kevlar®, Dyneema®, glass and carbon fabrics, and covers the broad spectrum of textile technologies including woven fabrics and tapes, knitted multiaxials, braids and non-woven technical veils.

30 years of Reinforcements

From our 30 years' experience developing and supplying woven fabrics, we understand how the type of weave pattern will affect the drape of the fabric, the ease and speed of impregnation and the mechanical properties of the final laminate. For this reason, PRF's woven reinforcement fabrics are available in a large range of weave patterns, in balanced constructions with similar strength in the warp and weft, and biased fabrics with increased strength in the dominant fibre direction, the extreme being unidirectional fabrics.

All of our woven fabrics can be coated with a variety of powdered systems including epoxy and polyester. The powder coating stabilises the weave, preventing distortion and enables the fabric to be cut without fraying. The thermoplastic powder coating can be used to bond layers together as in the manufacturing of preforms for RTM processing. PRF also offers laminating and slitting services for the materials we supply.

Fabric Development

In addition to our standard range, we have extensive experience in developing bespoke woven and non-woven fabrics and will work together with clients in order to design their ideal solution. We can use speciality materials, such as stainless steel, quartz and basalt, to provide unique qualities, create new hybrid wovens and new weave patterns. We can also combine technologies, such as non-woven veils and woven fabrics to create a unique and truly innovative product

that behaves as required in the end component. We can start this bespoke service with an order of just 7m for sampling and testing. We also provide materials for cosmetic applications, including aesthetic grade carbon fabrics; extra-high quality fabrics which are woven to the highest standards.

Narrow Tapes and Braids

Our range of narrow woven tapes and braids are available in widths from 10mm–350mm, from carbon, aramid, glass, polyester and hybrid fibres. We supply unidirectional woven tubulars with elasticated weft fibres, and braided tubulars. A recent development, we can also offer state-of-the-art spiral woven tapes and braids, and 3D woven profile structures for preforms, where fibres are woven in a 0/90° orientation and also in 3D, right-angled on warp and weft; providing x, y & z reinforcement in the component.

Multiaxial Fabrics

Within our standard range of reinforcements, we stock a comprehensive selection of multiaxial fabrics which are ideal for heavyweight components where the high weight of the fabrics, together with the ability to orientate the fibres at different angles, enables fewer layers to be used. PRF stocks a range of high quality multiaxial fabrics in materials such as carbon and glass, in a variety of configurations and weights. Materials such as Kevlar® are also available.

Non-woven Technical Veils

Providing a cost-effective means of realising the advantage of high performance speciality fibres in a variety of composite structures, the non-woven technical veils supplied by PRF are available in a large range of fibres, with an area weight range of 4 to 200 g/m² (depending on the fibre type). We are uniquely experienced in using these products to their fullest potential, tapping into their technical properties to produce innovative composite materials, such as materials incorporating lightning-strike protection or materials that provide EMI/RFI shielding.

Composite Kit Cutting and Preforming

Our Kitting and Preforming centre, acquired in 2013, has greatly extended our material processing capabilities. This centre has been purpose-built and includes clean rooms for the cutting of prepreg materials.

Our well-established and highly efficient kit cutting service provides consistently cut, high quality parts in both prepreg and dry fabrics. We have 5m conveyerised CNC cutters, which cut fabrics of up to 1.5m in width, both in prepreg and dry form. Our machines are supported by our CAD office, where we can receive two-dimensional CAD drawings for cutting via email. Our qualified CAD draughtsmen are also able to digitise shapes for our customers without CAD facilities.

We use static, rotary and oscillating blades and have a great deal of experience achieving high quality results with the more difficult technical textiles; we can cut Dyneema® and Kevlar®, including ballistics grade Kevlar® up to 25mm thick. We nest for optimum material usage and can supply materials in kits, assembled to our customers' requirements; saving your time and labour costs. We can include out-life sheets, lot traceability, labelling and more as required. Prepreg kits can be stored in our freezer facility, ready for immediate despatch and 'just-in-time' delivery service.

Within this processing centre, we also manufacture rolled composite tubes for the sports and marine industries. These tubes are manufactured wholly from PRF carbon and glass prepreg and demonstrate not only the quality of manufacturing but also the quality of material, achieving carbon fibre volume fractions of between 58–60% in straight, bent and cranked tube technologies.

In addition, we are able to preform parts for customers making RTM and infusion-moulded components.



Aerospace



Motorsport



Marine



Renewable Energy



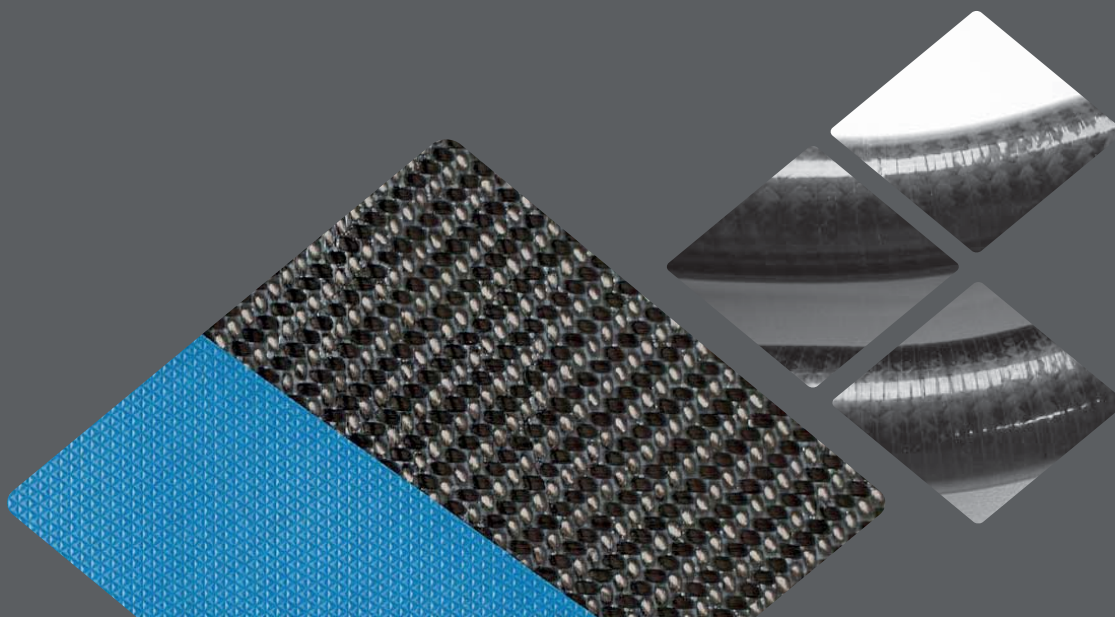
Sports and Leisure



Defence and Ballistics



Medical



Aerospace Adhesives

Epoxy Resin Systems



Aerospace



Motorsport



Marine



Renewable Energy



Sports and Leisure



Defence and Ballistics



Medical

PRF is an approved UK and Ireland supplier of a range of Safran Structil Aerospace Adhesives. Developed and tested over 20 years, this wide range of high performance adhesives are considered as the industry standard and are qualified to a number of aerospace manufacturer specifications. Used for demanding applications such as bonding metals and composites, honeycomb splicing, and cavity filling, these products are available in a number of different packaging options to ensure precision use, cost and waste control, and minimum exposure for users.

Mould Release Technology

To complement our range of advanced composite products, PRF has developed Qiiacote® mould release technologies for thermoset and thermoplastic composites. The Qiiacote® range of products offers hard-wearing release films giving multiple releases, with variable slip with a high gloss finish, and a low cost per part.

The range includes cleaners, sealer, a variety of semi-permanent release agents, including water-based agents, and special products such as an internal mould release agent and Silicone Shield, specially formulated to preserve silicone bags and seals. Products can be applied by hand or sprayed. Currently in development: a new release agent for press moulding, with increased durability of the film.

Our class-leading and extensive range of epoxy resin systems includes low viscosity systems for room temperature laminating, RTM and resin infusion, as well as systems required to operate in high temperatures, specialist gelcoat formulations and adhesives. New products and developments are frequently introduced, such as RTM systems with short cycle times particularly suited to automotive applications.

Our resin systems are used mostly in performance driven applications for the production of components that require high static and fatigue strength properties, and high stiffness. Our customers include companies producing sports equipment, aircraft components and the racing car constructors. Large quantities of our resin systems are also supplied into the wind energy industry.

The precursors used in the formulation of our resin systems are, where possible, carefully selected to reduce odour levels and provide very good physiological properties thereby minimising skin irritation and skin allergy problems. For optimum processing flexibility most of our systems come with a range of hardeners, which vary in reactivity.



Composite Shears and Cutting Tools

Technical textiles pose a number of problems for cutting, including tougher fabric that wears blades, smooth surfaces that cause blades to slip and the addition of resin and adhesives which can foul the blades and produce poor cutting results and ruined tools. To further support our customers, PRF has teamed up with Robuso, Europe's leading shears manufacturer, to provide a comprehensive range of master-crafted hand and electrical shears which are specifically designed to provide the complete cutting solution for our large range of high performance reinforcements.

Forged from high carbon steel and developed with over 90 years of expertise, both the hand and electrical products are designed to ensure efficient, reliable and comfortable cutting for any composite material or process. In addition, each model in our range of hand shears is hand-assembled and adjusted to perfection by skilled craftsmen. All models can also be comprehensively overhauled via our regrinding service, providing excellent value from this premium product.

Consumables

Vacuum bag consumables are used in autoclave, vacuum bag and resin infusion applications. PRF stocks a wide range of consumables for use in these applications, including peel ply, breather fabrics and sealant tapes. PRF also supplies the innovative Compoflex® products, which are breathable microporous peeling materials designed to work as a combination of peel ply, release film and flow mesh. In a suitable application, this single layer product can provide a superior result over large areas and significant advantages such as the ability to overlap material without jeopardizing the quality of the laminate, a reduction of airborne resin dust, and significant time and cost savings.

Tooling Block

Used for the manufacture of high precision mould tools, PRF holds a range of premium epoxy tooling block on stock for immediate despatch.





***Find out what PRF can
do for your business.***

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