

November 2008

## Welcome

BERU f1systems' composite division is expanding significantly. Headed up by David Dowdell, we have recruited experienced designers and laminators to offer increased engineering and manufacturing capability.

In addition BERU f1systems has invested in a new high pressure and temperature autoclave. This equipment allows us to build intricate and high quality components for motorsport, automotive and aerospace applications.

The first project to come out of the autoclave is however our own Factor 001 bicycle. Designed and to be manufactured in house, Factor 001 will be a rolling showcase of our composite design, engineering and manufacturing capability.

Regards,

John Bailey

+44 1379 646 200



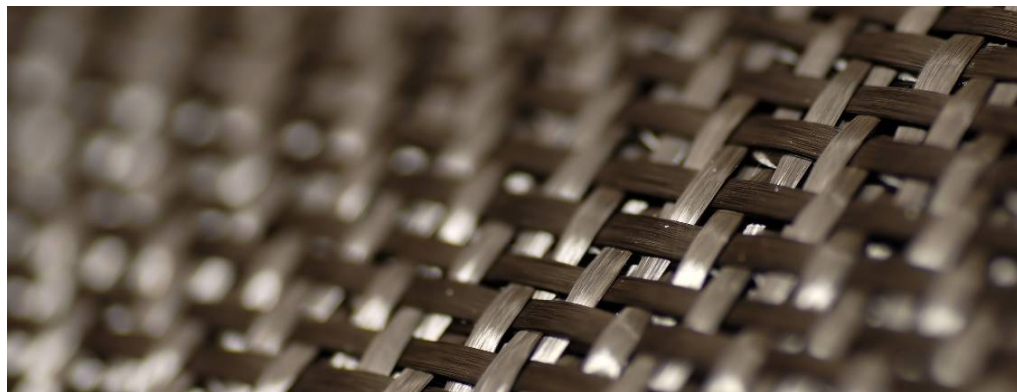
## Composites Issue

- New Autoclave **1**
- Increasing Capacity **2**
- Saving Weight **3**
- Replacing Titanium **4**

## High Temperature and Pressure Autoclave Online

BERU f1systems has opened a new composites facility that offers motorsport and aerospace companies a high temperature, high pressure 5m by 2m autoclave to develop advanced, complex and high quality prototype and production composite components. The 350°C autoclave, believed to be one of only a handful in the UK, is ideally suited for developing the new breed efficient composites and processes whilst the 200PSi pressure enhances quality even on intricate and complex parts.

*"Our new autoclave will help us develop lightweight and durable solutions to increase reliability, product quality or reduce weight."*



The autoclave is accompanied by a new preparation area with an automatic cutting table and walk-in freezer for storing composites. The larger size autoclave will also allow BERU f1systems to manufacture larger units, such as air boxes, wings and chassis tubs.

The new autoclave's properties are ideally suited to the development of low toxicity and low smoke composites that are being increasingly demanded by aerospace and rapid transport (such as rail) industries. BERU f1systems is keen to co-operate with partners to develop products and solutions in these markets following successful programmes in automotive and aeronautical sectors.

For standard components, BERU f1systems' new autoclave will allow larger and more efficient batch sizes to be produced. For a very competitive quotation on existing or future product, please contact David Dowdell on +44 1379 646213 or [david.dowdell@bf1systems.com](mailto:david.dowdell@bf1systems.com)

## Increasing our expertise and capacity

In addition to the new autoclave, BERU f1systems will also be retaining its existing 2m by 1m version. This will allow for increases in capacity and efficiency for composite components.

To capitalise on the new equipment and opportunities this offers, BERU f1systems has recruited Geoff Mays, BERU f1systems' new composites co-ordinator. Geoff has twenty years' experience from automotive and motorsport, including Lotus and RTN. He is joined by Paul Angell, an experienced motorsport pattern maker and laminator with five years experience. Coupled with our new facilities and equipment, BERU f1systems is fully committed to its Composites division and delivering exceptional product quality and service to customers in automotive, aerospace, motorsport and specialist engineering.



## Composites could replace titanium for a range of high temperature applications

Technological developments are allowing carbon fibre to challenge titanium as the material of choice for higher temperature environments. BERU f1systems is well equipped to tackle the development of these specialist designs including the use of metallic and ceramic coatings to optimize the use of composites in harsher environments, improving heat or wear resistance. Composites have successfully superseded aluminium parts, notably with superior fatigue performance and better stiffness. Now, BERU f1systems is developing composites to replace titanium in high temperature environments.



## Saving weight, complexity and cost, even on existing products

**With experienced designers, engineers, laminators and trimmers, BERU f1systems can engineer your composite component to make it lighter, stronger, easier to build or even more cost efficient.**

Motorsport drives us to seek optimum solutions. Our work with customers and our experience from our Factor 001 programme (shown above) is delivering weight benefits through more thoughtful design and

reductions in raw materials or lay up time. "Making a simple material change from metal to composite can realize a saving," says BERU f1systems' David Dowdell. "But we think it is necessary to go much deeper to deliver a greater benefit." BERU f1systems comprehensive design team offers the possibility to reassess a design and deliver the most efficient solution. "Successful composite designs reduce part count by integrating several functions into one solution, which simplifies assembly and reduces the number of critical tolerances.

*For composite enquiries, contact John Bailey on 01379 646200, [john.bailey@bf1systems.com](mailto:john.bailey@bf1systems.com)*