

COMPOSITE NEWS

EXCITING DEVELOPMENTS AT A DIVISION OF THE HULL BASED COMPANY, HALLMARK GROUP

Fortrace Limited, part of the Hallmark Group, has been involved in developing new techniques in producing GRP based products. Magnum Venus Products Europe and Cray Valley have been providing equipment, materials and expertise in bringing this exciting project to fruition.

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F O R T R A C E
L I M I T E D

“ Did you know,
that something
very interesting
has been going
on at Fortrace?”

“ Not a lot
of people
know that!”

CRAY VALLEY

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F O R T

Opening doors

What is the recipe for a successful GRP company?

Shaun Palmer - General Manager of Fortrace Limited, part of the Hallmark Group of companies, tells 'Reinforced Plastics' readers about what he thinks, makes for a successful manufacturing company in the current economic climate.

Fortrace was formed in 1990, initially to produce patterns and moulds for the resin shower tray industry. As time progressed, increasing competition and a depressed economy caused the market to become extremely volatile. Fortrace saw this as an opportunity to diversify.

During 1995 Fortrace began to develop and manufacture a range of maintenance free products for the home improvement industry. The new products were well received and the company began to grow steadily. Over the years the range of products has increased from simple mouldings for the window industry to

larger components for the new build and refurbishment markets.

Like many other GRP fabrication companies Fortrace supply products to many diverse markets including the offshore and petrochemical industry. These demand numerous bespoke products, require unique design patterns and mouldings.

"The benefits of dealing with Fortrace are their ability to deliver promises with no compromise on quality whether it be one item or a multiple contract."

Unusually, Fortrace have their own mould and pattern making facilities. This is an obvious plus for their customers but has enabled them to develop a GRP skin for one of their sister companies, Hallmark Panels.

Hallmark Panels is one of the largest suppliers of PVC in-fill panels to the glazing industry. They also produce a fully maintenance free Entrance Door system in a ready to hand format.

Approximately 40% of all these entrance doors are coloured and have to be handled very carefully in order to maintain quality.



Unfortunately, they were experiencing reliability problems with the original PVC or Polycarbonate vacuum formed products. It became obvious that a GRP skin would be far superior and cause less problems when handling the finished product.

"The problems of scratching and marking with normal handling, disappeared overnight!"

Initially the door skins were made using the hand lay up method but Hallmark's no-compromise attention to quality and consistency demanded that a more uniform and predictable product was needed.



RACE

to success

Shaun Palmer, General Manager at Fortrace, decided to enlist the expertise of Neil Scott from Magnum Venus Products Europe and the technical support staff at Cray Valley, supplier of the high quality gel coats that are used in the process.

This partnership provided Hallmark with a product which is streets ahead in terms of quality and resistance to accidental marking due to inevitable handling and proving far more reliable than any previously used.

"With the implementation of GRP skins using superior Cray Valley gel coat and equipment from Magnum Venus, we knew we were on to a winner!"

Said Shaun, "With an overall investment of approximately £80,000, it hasn't exactly been cheap, but the benefits to the business



and the quality of our finished product, makes the risk well worth while."

"For one thing, it has enabled us to triple our output of door skins! We're not stopping there though, further investment is planned to enable us to increase production from 75 to 100 skins per day."

OUR RECIPE FOR GRP SUCCESS!

- **Determination to challenge the status quo and seize hold of opportunities**
- **Pursuit of excellence**
- **Dedicated staff**
- **Input from the experts,**

**Cray Valley
for Resins, Gel Coats
& technical expertise**

**Magnum Venus Products Europe
for Gel Coat Spraying, Injection
Equipment & technical expertise**

F O R T R A C E
LIMITED

Fortrace + MVP + Cray Valley = SUCCESSFUL COMPOSITES

Magnum Venus Products Europe - Established 1988

Sole authorised distributor of Magnum Venus polyester processing equipment

In 2002 MVP expanded into the field of Closed Mould Processing. With their knowledge and experience within the composite industry they offer full technical support in all aspects of the RTM process. MVP developed a range of RTM processing equipment (Precision Tech RTM) to suit the individual requirements of manufacturers in the Composite industry.

Fortrace for example, were looking to change their successful PVC residential door from a thermoplastic skin to composite skin. The stakeholders had to decide on what type of manufacturing process to initiate based on complexity of moulded profile design and surface finish through to the projected volume of manufacturing required to fulfil the sales forecast.



It was decided to manufacture the composite skins using the vacuum assisted resin injection process (light RTM). MVP provided Fortrace with technical drawings and expertise required at each stage of the matched mould tool build.



MVP visited after each completed stage, especially at the crucial point when the calibrated cavity and technical flange detail were constructed. On completion of the matched Light RTM tools, MVP supplied the injection processing equipment, including 2 Vacuum pumps, one to seal the technical flange and the other to draw the resin flow when the mould is under injection.

An important part of the manufacturing process is the mould release agent. MVP is a distributor for Chem-Trend Chemlease Release Systems and so were able to provide the correct mould release agent for Fortrace's process. MVP's ProVantage RTM machine was used in the first stage of proving the mould as the requirements were to inject the mould using a pre-determined amount of resin through a sacrificial injection line.

Fortrace also required a system capable of scaling to increased production demands as well as accommodating the current range of

coloured skins in their range. A 4-Colour Internal Mix Gelcoat Spraying System was installed, with the advantage of having the ability to add more Gelcoat Pump Assemblies as Fortrace adds more colours to it's portfolio.

Careful consideration was given to the injection equipment, as Fortrace required a system that would have a process management capability. MVP's Optilogic RTM Machine was chosen, with its innovative control interface for automating the RTM process.



Featuring a logical operator interface, the equipment is capable of the control and storage of up to 10 different mould injection recipes, auto injection valve control linked to the auto Pro-Gun. Automatic, timed air purge /solvent flush, air dry after the injection valve closes, the ability to monitor the resin usage during the injection process and totalising the amount after each complete injection cycle. It also allows the operator to stop the injection cycle at any time and then resume injection to the preprogrammed shot size (resin quantity). The system will also run in manual mode, whilst still retaining the previous functions.



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