Sunseeker has selected Hexcel’s novel HiMax™ DPA technology for the resin infusion of its new performance cruiser.
Composites have been used in the marine industry since 1970 and new processing technologies and materials have continued to find their way into the mainstream boat production. Hexcel is known for its investments in relevant and practical solutions and remains a one stop shop supplier of fabrics and prepregs to the marine sector, building a reputation for consistency in performance and quality.

Value-adding technology

Adding further value to its customers’ processes, Hexcel has developed the novel HiMax™ DPA technology to its range of multiaxial reinforcements.

HiMax™ DPA reinforcements come pre-tacked for ease of laying up multiple fabrics in preparation for infusion. Designed to provide the optimal level of tack whilst minimising additional weight, they eliminate the need to spray an adhesive onto the fabric surface, which reduces the risk of inconsistent application, restricted resin flow, contamination and excess weight.

The DPA fabrics have a controlled and consistent level of adhesive applied by machine in dots across the whole fabric, weighing just 3g/sqm. The HiMax™ fabric can simply be unrolled and applied to the mould or core layer, then repositioned if desired, before resin is introduced. The spread of the adhesive has been optimised to reduce resin flow interference offering additional health and safety benefits.
Quality, repeatability and manufacturing efficiency

Sunseeker, the renowned British luxury motor yacht manufacturer, has implemented Hexcel’s novel composites technology in the Predator 50, its new performance cruiser. The company uses a range of HiMax™ fabrics, including quadaxials and 0/45 biaxials, with the dot pattern adhesive on one or both sides of the fabric.

The company has seen significant benefits: reduced lay-up time by using fewer heavier fabrics rather than multiple lighter layers, the ease of handling the fabrics without the need to use a spray adhesive, and the consistency of the fabric quality from Hexcel. These production advantages are all in addition to the mechanical performance benefits provided by non-crimp fabrics.

“Our focus is always on the customer,” says Chris Wright, Predator 50 Project Manager at Sunseeker.

“We are continually looking at what the customer wants from his or her boat, and meeting or exceeding expectations. Quality is important to us, but so is repeatability and manufacturing efficiency so we can offer excellent value. With HiMax™ DPA materials we know we are achieving a consistently high standard of build, and we are providing a cleaner and safer working environment for our staff.”

Successful implementation

The HiMax™ DPA range can be used in a wide variety of marine applications including hulls, decks, keels, rudders, foils, crossbeams, masts and booms as well as for the composite tooling required for these components. The non-crimp construction of the range, the option to integrate different infusion cores within the structure, and the availability of multi-stack fabrics help reduce lay-up time and therefore reduce the time to market.

Hexcel’s novel composites technology has proven itself to be market leading; over 50% of Hexcel’s marine fabrics are now supplied with DPA reinforcements.

About HiMax™: Hexcel’s HiMax™ multiaxial reinforcements allow manufacturers to process multiple layers of unidirectional fibres in a single fabric offering improved cutting and handling stability. The multiaxial materials provide strength and stiffness in multiple directions, the weight distribution of the fabric is optimised, and the laminate can be built up more speedily. The straight, un-crimped fibres allow for good resin penetration, ultimately achieving a higher fibre weight fraction. Hexcel’s multiaxials are the perfect alternative to woven fabrics for custom and series production sailing and motor yachts.
Hexcel Product Family

For more information
Hexcel is a leading worldwide supplier of composite materials to aerospace and industrial markets. Our comprehensive range includes:

- HexTow® carbon fibers
- HexForce® reinforcements
- HiMax™ multiaxial reinforcements
- HexPly® prepregs
- HexFlow® resins
- HexMC® molding compounds
- HexFlow® RTM resins
- HexBond™ adheresives
- HexTool® tooling materials
- HexWeb® honeycombs
- Acousti-Cap® sound attenuating honeycomb
- Engineered core
- Engineered products
- Polyspeed® laminates

For quotes, orders and product information call our sales office in Austria +43 7229 772-0. For other worldwide sales office telephone numbers and a full address list, please go to:

http://www.hexcel.com/contact/salesoffice

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