

Soric XF Enabling Wind Energy

Customer

Coruneas de Composites (CMC) is general moulder in Spain that is specialized in nacelle housings for the Wind industry. They are a supplier to Alstom a well-known wind turbine manufacturer.



Challenge

Originally the manufacturing of these nacelles was done in the open mold hand lay-up process. To secure a controlled thickness and therefore stiffness, Lantor Coremat was introduced in the laminate build-up. That way the main laminate can be build fast and stiff without the weight penalty that a single skin laminate will have. To further improve the quality a transition was made from the hand lay-up process to vacuum infusion. When introducing the infusion process a few topics become important:

- The infusion strategy and how to get the resin transported thru the laminate
- Due to thickness loss of the laminate in infusion, stiffness is compromised

Surely it was important in this transition that the mechanical properties (stiffness) of the laminate build up remains intact.



Result

Because of the use of the calculation Service of Lantor and the Soric XF material an efficient transition is made. Where the Soric acts both as an infusion core to minimize the use of consumables and as a core material to remain within the mechanical and flexural properties needed for the loads working on the nacelle housing.

Solution

Lantor Soric XF was therefore introduced to support the infusion process and to replace the Coremat core layer in the laminate build-up with a suitable replacement. The Lantor calculation service has helped CMC with the determination of the right laminate build up to ensure that with the infused nacelle covers Alstom would have an equally good or even better alternative for the open mold produced nacelle covers.

Customer

CMC (Spain) for Alstom

Soric XF is used for

Lightweight
Thickness control
Resin flow

Production process

Vacuum Infusion

Coremat®

Coremat is a polyester nonwoven that contains microspheres. Coremat can be used as a thin core (bulker mat) or as a print blocker (liner) in fibre reinforced laminates, manufactured in hand lay-up or spray processes.

Coremat Xi is the world standard for bulker mats. The Coremat resin consumption is about 600 grams per mm thickness. It contains a blue colour change resin indicator. Coremat Xi is very soft and pliable when impregnated and is therefore very suitable for complex shapes.

Coremat Xi is available in thicknesses of 1, 2, 3, 4 and 5 mm.

Coremat XM is the premium core product for hand lay-up processes and has a low resin uptake: 500 grams of resin per mm thickness. It is therefore suitable for weight critical applications. The hexagonal cell pattern results in a very consistent thickness in the product. XM has a high wet tensile strength and is therefore often used in applications where mats are pre-impregnated outside the mould.

Coremat XM is available in thicknesses of 2, 3, 4 and 10 mm.

Soric®

Soric is a polyester nonwoven material with a compression resistant cell structure. Soric can be used in closed mould processes like vacuum infusion, RTM light, RTM etc. Because of the unique properties and characteristics, Lantor Soric can be used as a thin core, as an interlaminar flow medium and as print blocker (Soric TF).

Soric SF is the general purpose grade, balancing resin flow and surface quality. Soric SF is therefore especially suitable for thinner laminates.

Soric SF is available in thicknesses of 2 and 3 mm.

Soric XF maximises weight reduction in structural core applications. Soric XF offers the fastest resin flow for the lowest resin consumption and is therefore ideal for thicker laminates.

Soric XF is available in thicknesses of 2, 3, 4, 5 and 6 mm.

Soric TF is the ideal product for the most demanding cosmetic and surface finish requirements. Soric TF can be used as a core and also as a print blocker for infused laminates.

Soric TF is available in thicknesses of 1.5, 2 and 3 mm.

Soric LRC is a special grade for **Low Resin Consumption** and is therefore suitable in weight critical laminates.

Soric LRC is available in thicknesses of 1.5, 2 and 3 mm.

Finishmat®

Finishmat is the Lantor range of sufacing veils for the composite industry. Finishmat products are used to improve cosmetics, to reduce the abrasion of moulds or to enhance the chemical resistant.

Finishmat D7760/80 is a needled felt made of polyacrylonitrile fibres. It prevents fibre print through from glass fibres and by creating a resin rich layer it can also help prevent water osmosis.

Finishmat D77 is available as 60 g/m² (D7760) and 80 g/m² (D7780).

Finishmat 6691 SL / LL is a chemical bond, polyester tissue. 6691 veils are used in filament winding and pultrusion processes. They create a smooth, resin rich layer, which serves as a chemical barrier and creates a smooth surface finish.

6691 SL weighs 20 g/m² and 6691 LL weighs 40 g/m².

Contact us

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