



CULZEAN[®]

INDUSTRIAL & MEDICAL FABRICS

CASE STUDY - WEFT BIAS RESIN
INFUSION FLOW FABRIC

CASE STUDY

Our Client for this project was a company specializing in novel infusion flow reinforcement fabrics for the composite industry, based in the USA.



PROJECT

Our client identified an opportunity to improve the efficiency of the resin infusion process by having an infusion flow fabric with a 'weft bias' flow characteristic rather than the industry normal of a 'warp-bias' flow.

The 'weft-bias' flow allows the infused resin in a composite to flow across the width of the fabric instead of along the length of the fabric. This is particularly useful when manufacturing boat hulls or turbine blades for example. The simple fact that the flow is across the width of the fabric removes the need for the end user to cut the fabric into short lengths then re-orientate the fabric in the component mould.

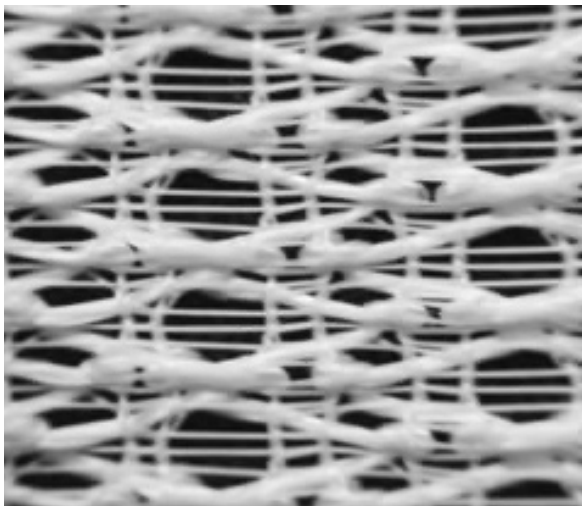
Our Client approached Culzean to develop their conceptual idea into a production ready Textile Solution for manufacture in USA.



SOLUTION

Culzean developed a unique warp knitted substrate. The fabric was designed with 'undulations' and 'nodes' to direct the flow of resin through and across the fabric. Consideration was given to many technical requirements for the fabric including; stability, compressive strength, porosity, compatibility with resins, and the ability to scale-up manufacture,

Since the initial Textile Solution, Culzean worked with the client to Patent protect the fabric, then transfer the knowledge of manufacturing the fabric to the clients designated manufacturer in their home market.





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