



Turbine Blade Demonstrator

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ACG has developed a range of epoxy resin matrix systems and rapid lay up prepreg formats specifically targeted at large structures such as those used in the renewable energy market.

Based on the Group's already successful MTM[®]57 prepreg, two new 80 to 120°C curing variants, MTM[®]57-2 and MTM[®]57-3, have been developed.

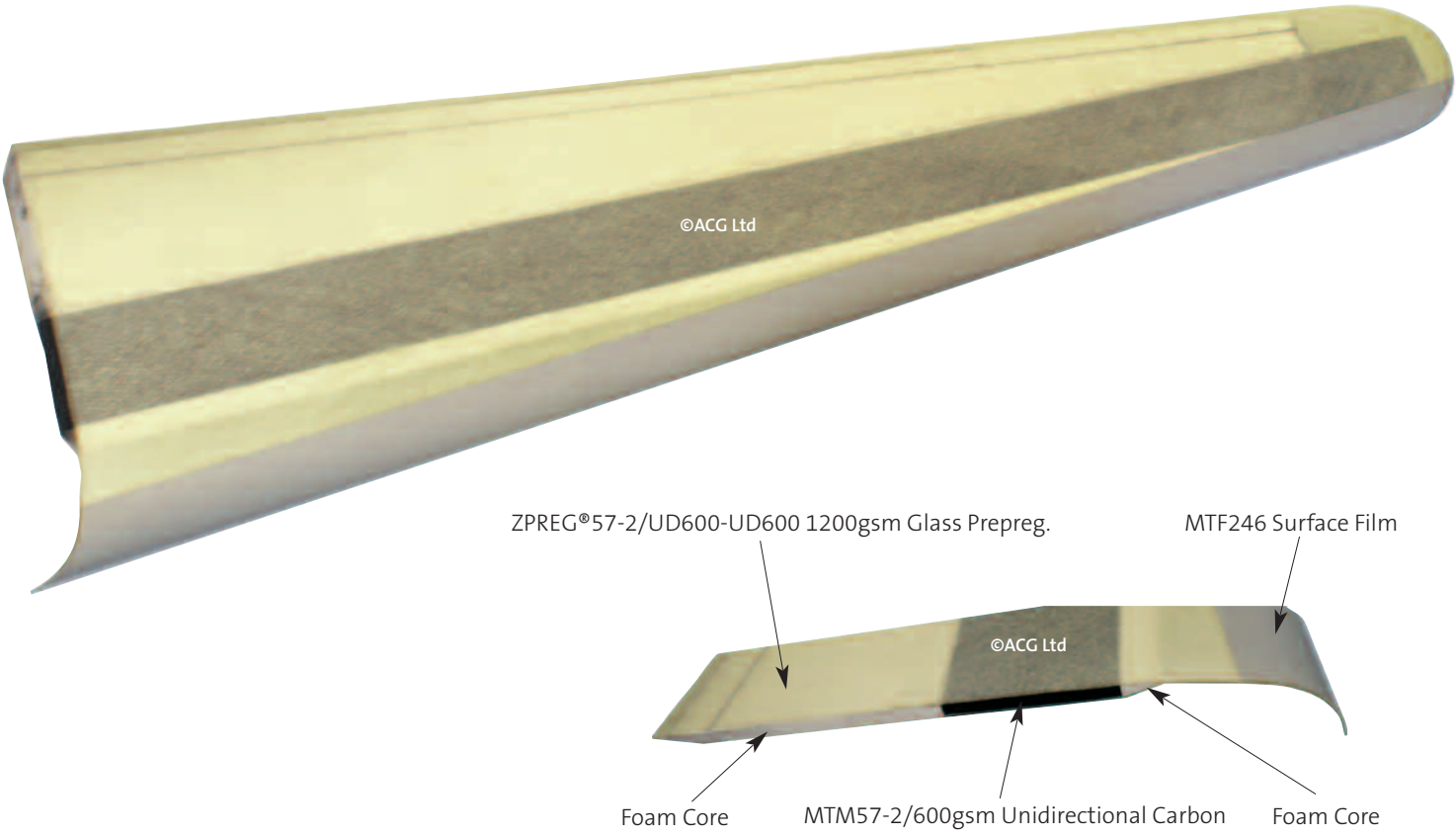
Here, on the ACG Turbine Blade Demonstrator, MTM57-2 on a glass 1200gsm ZPREG[®] rapid layup format is combined with an in-mould surface primer film, MTF246, to form the glass fibre skins of the turbine blade.

MTM57-2 heavyweight unidirectional (UD) carbon reinforcement is used to form the integrated spar, which is combined with a PVC foam core.

A final layer of 1200gsm ZPREG is laid into the inner surface prior to vacuum bagging and curing; autoclave processing is unnecessary.

ZPREG has been optimised for ease of handling and does not require intermediate processing (debulking) prior to the final curing cycle.

This technique allows a turbine blade to be manufactured in a low cost, one-shot operation.



TB750 tooling block bonded using ACG AS105 adhesive and then CNC machined and sealed using ACG CS711B.



Laminated using ACG LTF318 GF1200/GF2300 surface ply and LTM[®]317 GF0700 bulk ply 1-8-1 construction.

Bagged for curing using Richmond-Aerovac consumables.

