

MATERIALS AND PROCESS SELECTION AND DESIGN FOR MANUFACTURING GUIDELINES TOOL ON-LINE TOOLS FOR LIGHTWEIGHT COMPOSITES APPLICATIONS - APPLIED TO AN AUTOMOTIVE FLOOR

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A £7M UK Government and Industry funded project, Light weighting Excellence; has been investigating the design and manufacture of a cost effective solution for 50000 per annum lightweight electric car manufacturing.

This paper discusses the development and application of a web based tool within this project to assess suitability of materials and manufacturing processes. It provides comparison of process attributes, expected component weight and manufacturing cost.

A complementary knowledge tool was set up to explain process technologies for lightweight composites and to guide designers through detail design and manufacturing specification, including mould tooling specification, joining and assembly processes.

The application of the tools to an automotive floor for selection and comparison of the most appropriate materials and processing techniques for both weight and cost is presented. The process options compared are discussed for their future application potential



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