

The story '7E7 design damage tolerance tested' published on page 16 of the December 2004 issue of *Reinforced Plastics* contained a number of errors. The correct version of this story is published here. We would like to apologise to NSE Composites and Boeing for the incorrect statements in the December article.

Design tolerances tested for Boeing 7E7

BOEING HAS awarded a follow-on contract supporting the composite fuselage design of its 7E7 aircraft to NSE Composites, based in Seattle, Washington, USA. NSE says that it will continue to support the fuselage design for another year, as well as continue working on other contracts it has won from the aerospace company, including the development of a software program that can be used to optimize 7E7 composite fuselage structure.

The contract involves developing engineering methods to help design structures that meet requirements for damage tolerance. Designs that are 'damage tolerant' are said to allow aircraft to fly in safety even if structures such as the fuselage or the wing sustain damage. As part of the damage tolerant design approach, airlines perform periodic inspections to ensure that damage is found and repaired before aircraft safety is compromised.

The engineering methods will be developed from test results made by Boeing from large-scale fuselage and wing test articles, along with predictions from computer models, NSE reports.

NSE plans to use this combined data to develop strength curves for the anticipated range of configurations on the airplane. The curves will then be used by Boeing to develop the design guidelines for engineers to use when

sizing the 7E7 structural components.

"We are happy to support Boeing in their 7E7 development effort," says DM Hoyt, who co-founded NSE in 1996. "Our expertise in composites offers Boeing a cost effective means to increase their engineering resources when required."

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Carbon fibre skateboard outclasses wood

A CARBON fibre skateboard has been developed which, its maker claims, is vastly superior to wood boards.

Revolution Enterprises, based in Poway, California, USA, says that its Revdeck skateboard is stronger and can last around 6-8 times longer than a wooden board. A vital property of modern skateboards is 'pop', or spring action. The company says that there is much more pop produced by the carbon fibre board and this quality lasts much longer than on wooden boards.

Revdeck boards are also about 20% lighter than a standard wooden skateboard, weighing around 940 g, making them more responsive and easier to control, Revolution Enterprises reports. The boards are also said to be weather proof and resistant to chipping and delamination.

The company says that the carbon fibre composite skateboards, which were developed

using proprietary materials and a specific compression moulding process, were devised when one of the founders' sons expressed frustration at the inconsistent performance and short lifetime of his wooden board.

"We began our quest to create and develop a better skateboard more than four years ago," says Dave Hadzicki, who founded Revolution Enterprises along with his brother Joe Hadzicki. "We went through multiple cycles of design and testing and hundreds of prototypes before we were satisfied that the Revdeck met our stringent criteria."

The board has been used in competitions by Tas Pappas, one of the most successful skateboarding professionals. It is available in two sizes: 31 in x 8 in (79 cm x 20 cm) for use on hard surfaces, and 32 in x 8.5 in (81 cm x 22 cm) for use on vertical terrains. But at

US\$115, the Revdeck costs around twice as much as a premium wood skateboard.

Revolution also makes other carbon fibre composite products such as kayak paddles, golf

club shafts, sport kites and bicycle frames and components.

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Revolution Enterprises' carbon fibre skateboard.



The carbon fibre skateboard deployed by former world champion skateboarder, Tas Pappas.