Fine-tuned baseball bats

A PROFESSOR at Kettering University, Michigan, USA, is researching how to fine-tune the performance of composite baseball and softball bats.

Working for CE-Composites Baseball Inc, a Canadian manufacturer of composite sports equipment, Dr Dan Russell is looking at the physics of how baseball bats vibrate.

Because it is hollow, a composite bat will compress on collision with a ball, causing what is known as the 'trampoline effect'. As it springs back, the bat actually increases the amount of energy transferred to the ball. Russell says it is possible to design bats to maximize this effect, enabling the ball to be hit further.

"Industry-wide, there has been a lot of focus on making hollow bats thinner, or using double walled barrels," says Russell. "Whether they understand the physics of it or not, what they are doing is dropping the frequency, in effect 'tuning' the bat."

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Pressure vessel award

A COMPOSITE pressure vessel built by Covess of Belgium won the Industry category of the JEC Awards presented at the JEC 2003 Composites Show in April.

Developed in partnership with glass reinforcement manufacturer Saint-Gobain Vetrotex, the vessel is designed for transportation and water treatment applications involving pressures up to 100 bar. It is lighter than steel and more economical than aluminium, and unlike metal, will not corrode, says Covess.

Tanks are tailor-made to suit each application and consist of three filament wound glass reinforced polymer sections welded together using a method developed by Covess. The low weight means mounting is quickly and easy, says Covess.

Covess; e-mail: info@covess.com; Saint-Gobain Vetrotex; website: www.saint-gobainvetrotex.com.

A Covess pressure vessel.