

# REPEAT SEATS

A new seat making process that promises to save time, weight and offer increased driver safety

**T**he seat fitting process is a common sight around the world of motorsport, the driver getting into the car and sitting on what are essentially two bin liners full of foam, making sure he or she is comfortable. When the foam filling - which is made up from a combination of epoxy resin and expanded polystyrene beads - hardens, it is trimmed and ready for use, often bonded to a composite shell like the ones produced by Hendrick's carbon fibre shop. Every time a new seat is needed the process is repeated. At least that's the way it used to be.

**44 a 40-50 per cent weight reduction 44**

But now an American firm called Bald Spot Sports has developed a new, time-saving process, using expanded polypropylene (EPP) foam. The EPP has the added benefit of being very lightweight, offering a 40-50 per cent reduction in weight over traditional foams, and is also said to absorb energy repeatedly and be highly durable, too. 'The beauty is the process of creating a comfortable, safe racing seat with EPP is repeatable and, with no mixing of epoxy, weight is reduced by more than 45 per cent and risk of human error mitigated,' explains Cameron Cobb, manager of construction and specialty products, Createc Corporation. 'In third-party testing for one of our racing series, our seat material absorbed 30 per cent more energy on the first impact



## SAFETY FIRST

High absorption capabilities under repeat impacts is a further benefit of the new BSS seat

and 60 per cent more energy during the second impact than other seat materials currently in use.'

The first seat fitting still takes place in the traditional fashion, but the difference is the shaped foam is then laser scanned to make a 3D model that is stored for future reference. If the team then

need a new seat they simply call up and order one.

'We're wheel to wheel and bumper to bumper every weekend, and the team's success depends on protecting our driver,' comments Dave Kenny, an engineer at Penske Racing. 'Our track time is also extremely valuable, and we need to be focused on racing rather than spending time making seats. We work to nail the first seat fitting and then

duplicate it all season. We believe in the lightweight BSS products because they save us time and money and offer quick turnaround. Our team's drivers are also very happy with this product.'

However, as with all advanced techniques, there is a cost attached. 'Certainly, the initial cost is higher but, over the course of a season, it works out well, both in financial terms and in time,' concludes Cobb.