



Self-Reinforced Polymer Armour

Lightweight body armour

Case Study

Self-Reinforced Polymers (SRPs)

Self-reinforced polymers (SRPs) are a particular family of thermoplastic composite materials in which both the reinforcing fibre and the polymer matrix are from the same polymer family (for example, polypropylene-reinforced polypropylene). This results in affordable materials that are extremely impact resistant - an essential property for body armour. SRPs can also be processed rapidly by compression moulding and are easily recycled at end-of-life.

Comfort and Weight Saving

As well as being protective, it is also important that personal protection is as comfortable and unencumbering as possible. The fact that SRPs are lightweight helps in this regard, but with the support of Sheffield Hallam University, unique designs that reduce fatigue through close-to-body fit are also being explored, together with novel articulated mouldings. Solutions for aerospace protection have also been developed.

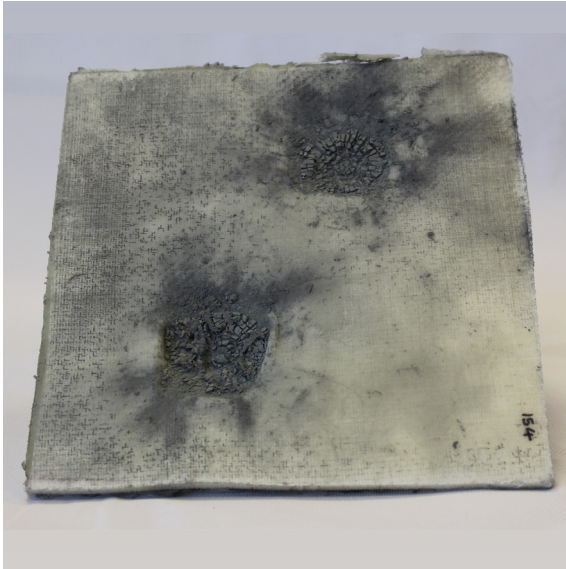


Can we help you with *your Materials & Process Development requirements?*

Whether it's thermosetting or thermoplastic composites, biocomposites or nanocomposites, we can help you develop a material or process that meets your requirements.

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Case Study



SRPs for Ballistic Protection

In order to provide protection against a broad range of ballistic threats, Coventive Composites has been investigating how SRPs can be tuned and paired with complementary materials.

Various SRP/ceramic combinations have been found to be particularly effective against high energy localised impacts and have been tested successfully against threats from 9 mm handguns and 7.62 x 51 mm high velocity rounds.

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