

**FOR IMMEDIATE RELEASE**

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## Huntsman and Shincell Create Fully Recyclable TPU Foam for Footwear

**THE WOODLANDS, TEXAS** – Huntsman has developed a new thermoplastic polyurethane (TPU), which is fully recyclable, UV protected and can be extruded into a film and then easily expanded into foamed sheets. The special grade of IROGRAN® TPU was developed by Huntsman, in conjunction with the Shincell New Material Company Ltd, which is using the material to create foam sheets that are then used in insole, midsole and forepart insert applications by some of the world's leading footwear brands.

Designed as an alternative to EVA, the new material has high energy return properties and provides long-lasting cushioning performance. The TPU film can be easily expanded in a high-pressure vessel, using gas assisted technology, and without the use of additional chemicals typically needed for foaming or cross-linking. This makes the resulting expanded foam sheet, and any post-production scraps and final footwear components, super lightweight and easy to recycle.

Huntsman developed the grade of IROGRAN® TPU after in-depth discussions with Shincell about how best to improve the production of expanded TPU sheets, which are growing in popularity across the footwear sector. During a technical briefing, Shincell revealed it had several objectives. From a manufacturing perspective, Shincell wanted a TPU grade that would increase its productivity, help it reduce waste and cut overall energy consumption. Shincell wanted to specify a TPU that was free of toxic or volatile chemicals and formaldehyde residues; and could be expanded without the use of butane, fluoride and azodicarbonamide foaming agents. When it came to performance, Shincell was looking for a comfortable, durable, long-lasting TPU system that would be suitable for use in high performance sports shoes, would outperform EVA in terms of cushioning set properties, and be recyclable.

Dr Xiulei Jiang, founder of Shincell said: "As a business, we are focused on providing our customers with clean, environmentally friendly, high performance, lightweight materials. When we decided to find a partner to help us improve the sustainability of our foam sheets, I knew Huntsman was the company to talk to. My relationship with Huntsman predates the creation of Shincell. Huntsman has always provided me with a consistently high level of support, and I knew our strong working relationship and shared core values would bring this project to fruition quickly and efficiently. As always, Huntsman did not disappoint. The team has come up with a very special product that satisfies all of our requirements. We see numerous novel applications for this versatile, recyclable material within footwear, and beyond."

For footwear applications, Shincell produces expanded foam sheets that its customers then cut into the shapes and sizes they want. Because this particular grade of IROGRAN® TPU is recyclable, Shincell can collect any excess or scrap material from its customers for reuse. Upon collection the scraps are ground down and reformulated. They can also be sold on to other customers.

Yi Li, Business Development Manager at Huntsman, said: "Shincell came to us with a really clear vision and set of technical requirements. It was great to work together on this project and create such a novel material. The fact that it can be expanded, without the use of chemicals, and easily recycled is a game changer. We are sure news of its development will generate lots of interest from material specifiers in different parts of the footwear sector."

Shincell is currently testing the new grade of IROGRAN® TPU for other consumer applications and is exploring the potential to use the material in the automotive industry. Other softer grades of the material are also in the development pipeline.

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For more information about Shincell New Material Company Ltd, visit [www.shincell.com](http://www.shincell.com).

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