



TR advances sustainable engineering with new ranges of nylon fasteners made from 100% recycled materials

By TR Fastenings



TR, part of the Trifast plc group and a global leader in engineering, manufacturing and supply chain solutions, unveils a breakthrough in sustainable materials with the development of a range of plastic fasteners and components produced using 100% recycled nylon. Following a comprehensive R&D programme, TR's new product line has demonstrated robust mechanical performance, whilst delivering up to a 90% reduction in raw material CO2 emissions compared to prime-grade counterparts.

As environmental legislation and design standards evolve, particularly in sectors such as lighting, power, data and water infrastructure, the demand for durable, eco-efficient components is rising. Yet the global sustainable plastics market remains dominated by single-use applications. TR has identified a critical gap and opportunity in engineered fasteners.

Extensive trials and testing

TR conducted detailed material research, mechanical property analysis, moulding trials, and accelerated heat ageing tests on several materials. The standout performer was a 100% recycled nylon proven to deliver processability and mechanical characteristics on par with prime materials, while offering up to a 90% reduction in raw material CO2 emissions.

Trials were conducted on a range of products, including:

- Cable Ties, Fir Tree Mount
- Push Lock Rivets

- Drive Fasteners
- Wire Saddles
- Snap Rivets
- Fir Tree Clips
- Threaded Pillars

These components are commonly used across smart infrastructure applications, from securing data cabling to fastening control systems and enclosures.

Sustainable by design

Andrew Fletcher, Head of Plastics & Rubber (Commercial & Technical) at TR, commented: "We've achieved outstanding results with our sustainable nylon products, not only matching performance requirements but also offering a credible path to net zero. This initiative sits at the heart of our strategy to support our customers with engineering-led, environmentally responsible solutions."

Commercial availability

Following successful production trials, the recycled nylon parts are now undergoing final assessments for commercial launch. TR invites design and production engineers to engage with its technical teams to explore integration options and sample testing.





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Looking ahead

TR continues to lead material innovation for the smart infrastructure sector and is actively exploring enhancement to flammability ratings and further expansion of its sustainable materials portfolio.

For further information, please see TR's Sustainable plastics video on YouTube:

<https://youtu.be/Qdw7f9lJSuU>

Further Information

If your company is exploring sustainable supply chain solutions and you would like further information please contact us: sales@trfastenings.com or andrewf@trfastenings.com

