

Press release

Barmag and Object Carpet validate BICO BCF technology for the next generation of carpet yarns

BICO BCF yarn delivers impressive performance in field testing

Neumünster, August 6th, 2026 – In a joint development project with other partners, Barmag and Object Carpet have successfully tested BICO BCF yarn in the carpet manufacturing process. The results show that this innovative yarn technology offers significant performance advantages and opens up new possibilities for recycling-oriented carpet constructions.

These trials marked an important developmental milestone for the carpet industry. For the first time, the bicomponent technology—already known from other synthetic fiber applications—was successfully transferred to the BCF process and validated across the entire carpet value chain. The trials demonstrate the potential of a new class of yarn that combines improved performance characteristics with new possibilities for modern carpet constructions.

More volume, elasticity, and performance

“The tests show that a BICO BCF carpet offers more volume, high elasticity, and proven heavy-duty performance compared to standard carpet yarn. The PET-based material combination also enables recyclable carpet concepts,” says Product Manager Markus Reichwein, summarizing the test results.

Proven technology meets new applications

The yarn was manufactured on a Neumag S8 BCF line equipped with a BICO spinning beam. The principle of bicomponent yarn is already well-established in other synthetic fiber spinning processes—what is new, however, is its successful integration into the BCF process. Due to the differing shrinkage and elongation properties of the polymers used, the unique material combination causes the yarn to self-crimp, thereby creating its characteristic voluminous structure.

The successful trials on a Neumag S8 BCF system now demonstrate that this approach can also be implemented on an industrial scale for the carpet industry. Likewise, all subsequent process steps—from cabling and heat setting to tufting and coating—consistently yielded good results.

Impressive results throughout the entire process chain

After heat setting, the yarn exhibited pronounced bulk combined with high elasticity. The material also performed well in the tufting process: despite the increased titer, the yarn could be processed without any problems. Thanks to the yarn's elasticity, it was also possible to produce more running meters of raw fabric than initially anticipated.

Furthermore, the yarn is characterized by its good coverage of the substrate. Process reliability was further confirmed during the coating process—both woven and knitted fabrics could be processed.

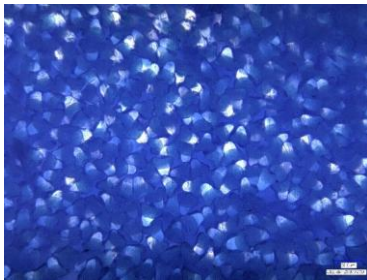
Successful quality testing for continuous use

The developed carpet constructions were extensively tested, including chair-castor and Vettermann tests in accordance with DIN EN 1307. Result: All constructions are suitable for continuous use in commercial settings and achieved a wear class of up to Class 33, depending on the carpet construction. “The results impressively demonstrate that BICO BCF technology can not only be reliably integrated into existing production processes but also offers significant advantages in product performance,” said Markus Reichwein.

A future-proof solution for a wide range of applications

The overall conclusion of the tests is clear: BICO BCF yarn impresses with its high opacity, excellent processing properties, and strong performance. The technology thus offers a promising solution with new options for developing high-performance and differentiated products for carpet manufacturers—in both the residential and commercial sectors. The successful industrial validation demonstrates that BICO BCF is not only technically feasible but also has the potential to shape future carpet constructions in a sustainable way.

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Caption: Filament cross-section of BICO BCF 70% PET / 30% PBT.



Caption: The yarn was produced on a Neumag S8 BCF system with a BICO spinning beam.

About Barmag

Since 2026, the Swiss Rieter Group has been operating its man-made fibers business as subsidiary under the traditional name Barmag. This includes the established product brands Barmag and Neumag. As a future-oriented company, the research and development of Barmag is driven by energy-efficiency and sustainable technologies (e-save).

Barmag is one of the leading providers of manmade fibers filament spinning systems, texturing machines, BCF systems, staple fibers systems and solutions for the production of nonwovens. Together with its range of polycondensation and extrusion systems and their key components, Barmag caters to the entire manufacturing process – from the monomer all the way through to the textured yarn – and supports it with customer-oriented engineering services. The product portfolio is rounded off with automation and digital solutions. In addition, Barmag offers high-precision gear metering pumps for the textile industry and other sectors, including the automotive, chemical and paint industries.

The main markets for the Barmag product portfolio are in Asia, particularly in China, India, Türkiye and the USA. Worldwide, Barmag – with round about 2,500 employees – has a presence in 120 countries with production, sales and distribution and service organizations. At the Research and Development centers in Remscheid, Neumünster (Germany), and Suzhou (China), highly qualified engineers, technologists and technicians develop innovative and technologically leading products for tomorrow's world.

For further information, please visit: www.barmag.com

Contact:

André Wissenberg
Marketing, Corporate Communications
& Public Affairs
Tel. +49 2191 67 2331
Fax +49 2191 67 1313
andre.wissenberg@barmag.com

Susanne Beyer
Marketing, Corporate Communications
& Public Affairs
Tel. +49 2191 67 1526
Fax +49 2191 67 1313
susanne.beyer@barmag.com