

## Sustainable Rotor Yarn Production with the R 37: Usha Yarns is first Com4recycling-rotor licensee



Usha Yarns, a leader in the production of recycled yarn, is strengthening its commitment to sustainability with the Rieter semi-automated rotor spinning machine R 37. After experiencing the remarkable benefits of this spinning machine, Usha Yarns has placed a repeat order for six additional units. As a forerunner in recycled yarn production, Usha Yarns is the first spinner globally who receives the Com4recycling-rotor license.

The Usha Yarns plant is located in Chadigarh, North India, and is an example of modern recycling technology in compliance with social, environmental and legal responsibilities according to global standards. It has a production output of more than 1 500 tons of recycled yarns monthly. As the demand for sustainable textiles grows, Usha Yarns believes that recycled materials will become a competitive advantage for fashion brands, contributing not only to environmental protection but also to a robust net profit.

### The Challenge

Usha Yarns, faces the challenge to deliver internationally accepted, high-quality yarns at optimum cost. The company specializes in the use of pre-consumer and post-consumer waste as well as recycled polyester from PET bottles. By investing in cutting-edge technology, Usha Yarns aims to find a balance between sustainability and cost efficiency, navigating the complexity to process colored recycled raw material on a large scale. In this way, the company seeks to redefine industry norms and to prove that it is possible to meet global standards while contributing to a greener future.

### The Solution

Usha Yarns decided to install the Rieter rotor spinning machine R 37 in its spinning mill. Extensive trials at the Rieter spinning center validated the machine's efficiency and enabled the optimum selection of technological components tailored for recycling applications, such as an optimized rotor design and fiber channel. The R 37 — the perfect fit for processing raw material with a high short-fiber content — proved to be a game-changer: it increases the overall performance and production while ensuring consistent yarn quality. Notably, the R 37 achieved this with significantly reduced energy consumption compared to the existing setup. Beyond the machinery, the Rieter team played an essential role, offering unparalleled technology support.

## The Customer's Benefits

The R 37 at Usha Yarns has led to a new era of operational excellence, yielding tangible benefits across different key dimensions.

**Higher productivity:** The exceptional spinning stability of the R 37 led to a 10% increase in production volume compared to the competitor solution at Usha Yarns, which was achieved through high-speed operation. The optimized fiber flow, coupled with the reduced yarn twist, ensures outstanding spinning stability even at elevated production speeds.

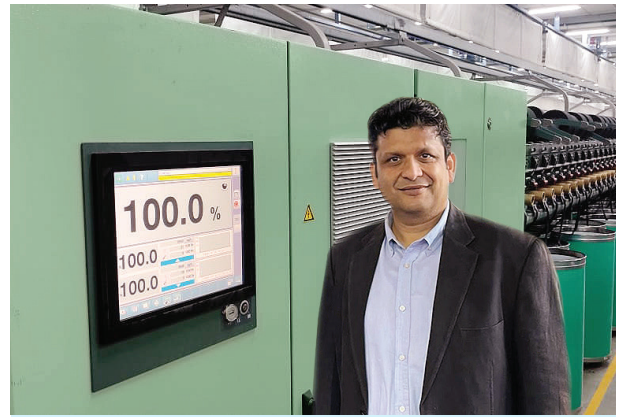
**Consistent quality:** The redesigned spinning box with its exchangeable trash channels gives Usha Yarns the option of improved trash extraction and offers flexibility in the choice of raw material. The ideal handling of fibers results in consistent CV% and IPI values and reduces ends-down rates, particularly when processing recycled material blends. The integration of the AMIspin-Pro technology raised the bar for piecing quality, boasting high success rates in piecings.

**Lower energy consumption:** The R 37's highly efficient drive system contributes to a remarkable 25% reduction in energy consumption compared to the competitor solution. The unique Quality Spinning-In process optimizes the machine startup, ensuring a rapid startup with minimal operating time and with minimized energy consumption.

**Additional benefits:** Beyond productivity and quality enhancements, the R 37 introduces a new level of flexibility with fully independent machine sides. This enables the simultaneous spinning of two lots. Two separate package conveyor belts enhance operational efficiency and guarantee maximum protection against package mix-up.

By using the R 37, Usha Yarns not only meets its environmental goals but also achieves substantial gains in productivity, quality assurance, and energy efficiency.

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## The Customer's Statement

*"Our business with a focus on recycled yarns needed some tailored changes. We opted for the Rieter rotor spinning machine R 37 including a selection of technological components tailored to our needs. Rieter approached the necessary adjustments with untiring efforts. The result? A machine that proved to be robust, energy-efficient, and capable of delivering both high-quality output and increased productivity. We are proud to be the first spinning mill globally to receive the Com4recycling-rotor license from Rieter. This underlines our commitment to sustainable and high-performance recycled yarn production."*

**Anurag Gupta,**  
Managing Director Usha Yarns Ltd.

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