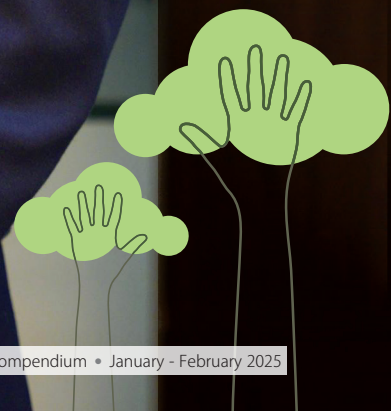


Originally published in
RECYCLING Compendium
Jan - Feb 2025



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Pioneering a Greener Tomorrow With Recycled Bulk Packaging

“The Indian market is embracing recyclates-driven products like rPET FIBCs, boosted by sustainability goals and government initiatives. Despite higher production costs, recyclates provide environmental benefits, durability and aesthetic appeal. Challenges like raw material costs and regulations exist, but opportunities arise in global demand for eco-friendly packaging. Advanced recycling processes and innovative technologies enable high-performance products,” opines Punit Gopalka, in dialogue with RECYCLING Compendium.

Q. How is the Indian market responding to products made from recyclates?

The Indian market is witnessing a significant shift towards sustainable and eco-friendly solutions, driven by growing environmental awareness and government policies, promoting circular economy practices. Products made from recyclates, such as rPET flexible intermediate bulk containers (FIBCs), are being well-received, especially in industries like agriculture, chemicals, polymers and food-grade packaging. While there is still a need to educate some sectors about the performance parity of recyclates with virgin materials, early adopters are appreciating the environmental benefits and cost efficiencies that recycled products offer. The

Significant opportunities exist in the rising demand for sustainable packaging solutions, particularly in Europe and North America, where regulations and consumer preferences increasingly favour recycled-content packaging. Advances in material science and manufacturing technologies further open doors to developing lighter, stronger and more versatile FIBCs, enabling companies to meet evolving global market demands effectively.

government's push towards sustainability through initiatives like the Plastic Waste Management (PWM) Rules and extended producer responsibility (EPR) is further encouraging the use of recycled materials in industrial applications.

Q. When comparing virgin FIBC bags with those containing recyclates, how do you perceive the differences in production costs, durability and aesthetic consistency?

Incorporating recyclates into FIBC production requires balancing environmental goals with maintaining product quality. While production costs for rPET FIBCs are comparatively higher due to advanced recycling technologies and stringent quality control processes, these costs are offset by reductions in carbon footprint, alignment with sustainability goals and technical benefits from the polymer's intrinsic properties. Durability-wise, rPET FIBCs meet or surpass the performance standards of virgin FIBCs, supported by rigorous testing and state-of-the-art manufacturing technologies. Additionally, FIBCs made from rPET offer superior UV resistance, abrasion resistance and aesthetic appeal, characterised by a smooth texture and shiny appearance.

Q. What challenges and opportunities do you foresee in the global market for FIBCs?

The global FIBC market is witnessing steady growth, fuelled by industries such as agriculture, construction, chemicals and food packaging. Key challenges include fluctuating raw material costs, stringent regulations on plastic usage and varying levels of acceptance for recycled products. However, significant opportunities exist in the

rising demand for sustainable packaging solutions, particularly in Europe and North America, where regulations and consumer preferences increasingly favour recycled-content packaging. Advances in material science and manufacturing technologies further open doors to developing lighter, stronger and more versatile FIBCs, enabling companies to meet evolving global market demands effectively.

Q. Could you explain the process of converting recycled PET bottles into high-performance FIBC bags?

The process of converting recycled PET bottles into high-performance FIBC bags begins with collecting post-consumer PET bottles from waste aggregators. These bottles are then subjected to advanced mechanical recycling to produce high-quality food-grade PET flakes. These food-grade flakes are extruded into tapes, which are woven into fabric and webbing. Finally, the fabric is cut and stitched to meet the client's specific requirements. Products must undergo rigorous quality checks to ensure compliance with respective quality and safety standards. Leveraging state-of-the-art technology, one can produce FIBCs that are both sustainable and high-performing.

Q. What are the key advantages of using 100% recycled-PET (rPET) in jumbo bags compared to traditional materials?

Using 100% rPET in jumbo bags offers multiple advantages over traditional materials.

- Sustainability: It reduces dependence on virgin plastic and lowers the carbon footprint, contributing to global sustainability efforts.
- Performance: rPET FIBCs retain excellent performance attributes, including high tensile strength, form stability and durability, making them suitable for heavy-duty applications.
- Enhanced Resistance: These bags provide superior UV and abrasion resistance, extending the product's lifespan and reliability.
- Wide Temperature Range: rPET FIBCs can withstand temperatures from -20°C to +140°C, enabling their use across a broader range of products and industries.
- Circular Economy: The closed-loop production process of rPET aligns with circular economy principles, promoting resource efficiency and waste minimisation.



This combination of environmental and performance benefits makes rPET FIBCs an innovative and sustainable choice for bulk packaging needs.

Q. Could you elaborate on the technological solutions and other investments undertaken to incorporate recyclates into your manufacturing processes?

To produce FIBCs from recyclates, we have invested in advanced recycling and extrusion technologies that ensure the highest quality output from post-consumer PET waste. Our facility is equipped with state-of-the-art machinery for tape production, weaving and coating, optimised for recycled materials. Additionally, we have implemented stringent quality control systems at every stage of production.

We continue to work with our technology partners to refine our processes and develop innovations that enhance the performance and aesthetic appeal of rPET FIBCs. Our commitment to sustainability is also reflected in investments in renewable energy sources to power our operations.

Q. What inspired the joint venture between Umasree Texplast and Brazil's Packem, and how has this partnership enhanced your capabilities?

The joint venture was inspired by a shared vision to revolutionise the bulk packaging industry with sustainable solutions. Umasree Texplast's expertise in FIBC manufacturing and Packem's experience in packaging innovation created a synergy to address the growing demand for eco-friendly packaging. Together, we have established India's first facility to

produce 100% recycled PET FIBCs, positioning us as a leader in sustainable bulk packaging.

Q. Give us an insight about India's first 100% Bottle-To-Bag Project which you are undertaking.

Our Bottle-To-Bag Project is a pioneering initiative in India that transforms post-consumer PET bottles into high-performance FIBCs. The project embodies our commitment to sustainability and innovation, addressing the dual challenges of plastic waste management and the demand for sustainable packaging solutions. By setting up this facility, we have created a closed-loop system that not only reduces environmental impact, but also adds value to waste materials. This initiative aligns with the 'Make in India' campaign, positioning India as a global hub for sustainable packaging. The project is already making waves in the industry and setting new benchmarks for environmental responsibility.

Q. What are your future plans for Packem Umasree in terms of product development and market expansion?

Looking ahead, our focus is on developing innovative sustainable bulk packaging products that cater to evolving market needs and specific applications. This will help us take the benefits of sustainable packaging across industries. We plan to expand our presence in high-growth markets, including North America and Europe where demand for sustainable packaging solutions is robust. By continually innovating and investing in cutting-edge solutions, Packem Umasree seeks to remain at the forefront of the global FIBC industry. ■■

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