



A Bühler Case Study STF Recycling GmbH

- Flake sorting technology improves bottle-to-bottle grade rPET yield by 30%
- Removing invisible/same-colour polymer contaminants
- Two machine solution - SORTEX A ColorVision™ and SORTEX E PolyVision™

The challenge

STF, a global OEM and one of the largest recyclers in Europe, processes 130,000 tonnes of PET bottles each year, for bottle-to-bottle grade rPET flakes and pellets. The ability to achieve the highest value recyclate at the greatest possible yield – despite constantly changing input composition and contamination levels – has consistently been one of STF's main business objectives.

They needed to accurately separate valuable rPET, regardless of its contamination, which could be as little as 5 percent or as much as 30 percent, from bale to bale, depending on the recycling practices of different countries.

The solution

Following trials to evaluate multiple technologies, STF selected Bühler's breakthrough, two-machine solution to increase output quality, while minimising the loss of valuable and re-usable product. The combination of the SORTEX A ColorVision™ and the SORTEX E PolyVision™, reliably removes foreign material that can devalue rPET, such as opaque defects, wood, metals, other foreign material (FM) and non-PET.

Bühler also introduced STF to its partner, US-based National Recovery Technologies (NRT), which is now supplying them with bottle sorters, at the front end of their production line.



Benefits

- Complete solution for plastic bottle and flake sorting
- Two-machine solution delivers higher value recyclate and increased profit margins
- Accurately separates valuable rPET from baled material, with varying contamination levels
- rPET flakes now exceed minimum standards for re-use
- Increased output quality and minimal loss of valuable product in the reject stream



Feedback

“PET recycling is a very complex multistage process that requires efficiency at every point. The Bühler solution is the best on the market: first class machine results, combined with impressive customer service and a commitment to ongoing development meant it was the only optical sorting solution for us. We highly recommend Bühler’s SORTEX Technology.”

Mr Josef Söllner, Managing Director, STF, Germany

Technology highlights

- **SORTEX A ColorVision™** - advanced Inspection System uses three visible wavelengths, delivering a superior colour sort.
- **InGaAs and SmartEject technology** identify and remove challenging foreign material from clear, blue, green and jazz applications.
- **SORTEX E PolyVision™** uses transparent and reflective sorting to separate clear polymers from clear PET, based on chemical signatures.



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