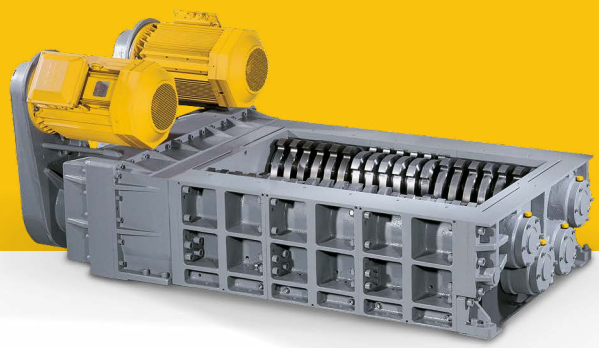
State-of-the-art shredding system boosts uPVC recycling



Oxfordshire-based M&M Waste Solutions is no stranger to the resource sector. But as it started to look ahead to the next half a century, M&M sought to further boost its approach to recycling – not to mention its material recovery rate…

Overview

Company: M&M Waste Solutions
Shredder: UNTHA RS100
Input Material: Oversized C&D waste
Output / Goal: Recycling

With a history spanning coal distribution and skip hire, M&M is a 46-year-old business that has more recently expanded into end-to-end waste collection, management and treatment, at the firm's Materials Recycling Facility (MRF) and Waste Transfer Station in Cassington. Now handling 150,000 tonnes of materials each year, this is a significant milestone for the organisation.

A specific area of focus was the team's stream of uPVC window frames – notoriously a complex material to recycle due to the variety of component parts typically 'locked' within these 'waste' glazing products. Mechanical recycling techniques have advanced significantly over the last 20 years, meaning the process has consequently become fairly straightforward.

In simple terms, old frames must be broken down, cleaned and pelletised so they can be melted and reformed into new window/door profiles or other plastic products. However, this only works – to best effect – if the material streams can be sufficiently sorted and segregated from one another, to avoid contamination. It is this sorting and separating process that remains one of the industry's biggest challenges, not least because of the perceived cost and effort of this type of operation.

Market research brought the team to UNTHA's range of machinery, designed to improve the productivity, performance and profitability of both new and established waste and recycling facilities plants throughout the country.

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UNTHA
shredding technology



With a proven track record of boosting clients' yield – as well as their recyclate quality – UNTHA led M&M through a number of shredder trials. It became clear that a four shaft RS100 shredder could comprehensively tackle the variety of materials generated at M&M's plant.

Following a commissioning exercise that took only 6 weeks, the technology soon became an integral part of the firm's facility.

The machine can now shred uPVC window frames to liberate the component materials. This process ensures maximum recovery of FE, non-FE and clean uPVC, as well as Zorba – shredded, mixed non-ferrous metals consisting primarily of aluminium generated by an eddy-current separator or other segregation techniques. Other oversized materials are also being size-reduced before being returned for greater commodity recovery.

Whilst the RS100 is currently configured to handle 3500kg of materials per hour, the robust machine with interchangeable screens can be reconfigured in as little as 30 minutes, to best-suit the input material, finished product specification and other throughput requirements, at any given time.

The UNTHA shredder can produce a range of outputs depending on the material-specific liberation strategy deployed. However, M&M can now achieve a <25mm homogenous particle size, which – when handling certain materials – satisfies confidential waste shredding requirements in line with GDPR security shredding requirements.

" Carefully considered recycling methodologies are one thing, but as we strive for even higher recovery performance it is crucial that a business like ours looks carefully at its liberation strategies.

Many of the complex materials that we're handling – particularly from the construction and demolition industry – contain valuable composite parts that we need to 'free' to further boost our recycling rates. The RS100 therefore enables us to size-reduce, liberate and produce a saleable finished product for remanufacturing.

We're striving for nothing less than complete resource recovery. Even in the case of wood waste, we've developed an approach which means we can produce a suitable biomass feedstock. This has been a very wise investment for us, to complement our new MRF and Waste Transfer Station."

Rob Fluckiger, managing director,
M&M Waste Solutions

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