

Waste Glass Recovery Plant for 25 t/h



Year of construction:	2011
Country:	USA
Material:	Residual heavy fraction from MRF plant
Plant capacity:	25 t/h

Starting situation

Rumpke Recycling, located in Dayton Ohio, was looking for a way to process the glass fractions found in total material recovery facilities (MRF plants). These glass fractions have a very high organic content, which amounts up to 20 percent by weight. It was intended to sell the final product to the insulation industry.

The objective was to produce two high-quality final products from the input material. On the one hand, a flint (white) and amber (brown) glass cullet to be used as secondary raw material for the hollow glassware industry, and on the other hand a glass powder product with less organic content, produced for the insulation industry.

Solution from Binder+Co AG

A pre-sorting line was installed in order to classify the material into several grain size fractions by screening (resonance screening machine) and to crush the oversize material (double roller crusher). The optimum system for organic separation was selected depending on the grain size of the material. BREEZER and ORKA, organic separators – developed by Binder+Co - which are using the air separation principle, were installed.

Another step in preparing the glass for sensor-based sorting is drying the material using the fluidised bed drying system DRYON. The CLARITY sorting machines are providing the final step in processing the input material into high-quality secondary raw material. The first two CLARITY units are used in parallel as three-way systems for colour sorting and eliminating contamination simultaneously. Another CLARITY sorting unit creates the highest-quality flint and amber cullet product. The green glass cullet is sent with the fine fraction (0-8 mm) for producing glass powder.

Benefits for the customer

- Simultaneous production of two different final products
- Efficient organics extraction through the latest state of the art pre-treatment line
- Reduction of energy costs for drying through heat recovery at the drying system DRYON
- Fully automated colour sorting with CLARITY
- Ease of maintenance
- Reduction of landfill costs
- Servicing a new market (hollow glassware industry)