

Case Study

Efficient Ferrous and Non-Ferrous metal recovery



Customer

DAY
AGGREGATES

Location

United Kingdom

Background

Day Aggregates processes 600,000 tons of Incinerator Bottom Ash (IBA) annually in the UK. The process involves recovering metals and producing Incinerator Bottom Ash Aggregate (IBAA), which requires separating the feedstock into different fractions for metal extraction. Ferrous metals are recovered through traditional magnetic separation, while non-ferrous metals are separated using specifically sized Eddy Current Separators (ECS). Prior to non-ferrous recovery, removal of ferric material is necessary. This ferric material, comprising fused ferrous, non-ferrous, and ash fractions, constitutes approximately 6% of the annual throughput. Liberating the Ferrous and Non-Ferrous material from the fused Ferric material is crucial for efficient recovery.

Solution

The fused Ferric material is isolated from the material flow and transferred to a surge bin for campaign crushing using a MAG'Impact 2100. This process releases ferrous and non-ferrous materials. The MAG'Impact's open table design reduces the likelihood of crushing chamber blockages, particularly when processing IBA fractions containing wire pieces. After careful analysis, Day Aggregates chose the MAG'Impact due to its effectiveness, professional support from Magotteaux, and timely delivery of the unit and wear part spares.

Results

The crushed material is conveyed back to the start of the recovery process, resulting in a significant increase in ferrous and non-ferrous recovery. The additional revenue generated from recovered metals yields a Return on Investment (ROI) of less than 12 months.



ROI
<12
month



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Non-ferrous
recovery**



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