**Alutrade Ltd recovers 99% pure aluminum thanks to TOMRA’s sophisticated new X-TRACT 2.0 unit**

Alutrade, the UK’s largest independent aluminum recycling company and extrusion specialist, is the first company in the world to reap the benefits of the sophisticated new sensor-based sorting solution. The X-TRACT 2.0, TOMRA’s most advanced x-ray metals sorting unit, has enabled Alutrade to achieve 99% pure aluminum for use in secondary aluminum production.

The X-TRACT 2.0 unit was installed in March 2021 at Alutrade’s Oldbury recycling plant in Birmingham which processes 42,000 tons of waste annually. The plant’s infeed material comprises metal extrusions from different types of post-consumer construction waste, such as windows and doors, as well as aluminum cans.

**A combination of mechanical and sensor-based sorting**

When the infeed material arrives at Alutrade’s Oldbury plant it is initially pre-shredded into smaller pieces of around one to two meters in length before being further shredded by a hammer mill. Magnets and eddy current separators are then used to separate the metals into ferrous and non-ferrous metals, removing any contaminants in preparation for the next sorting stage.

Following magnetic separation, a combination of TOMRA sensor-based sorting units is used to process, sort and recover the target fraction of aluminum. Two of the earlier edition TOMRA X-TRACT units – which were installed in 2017 and 2018 respectively – are programmed to capture a larger aluminum fraction of >30mm and the new X-TRACT 2.0 targets a smaller 10-30mm aluminum fraction, removing any heavy metal content from the aluminum. Both the earlier and new edition X-TRACT units sort metals based on the difference in atomic density, separating out any heavy metals.

**Meeting industry demand for premium recycled aluminum**

Alutrade’s customers are remelts based all over the world who demand the highest purity grade of aluminum product for their remelting process as any heavy metal content affects the melt specifications.

Andrew Powell, Director at Alutrade LTD, explains: “Over the past five years, we have worked closely with TOMRA and our main customer, and have undertaken a lot of research to achieve this milestone of recovering an aluminum end fraction that meets the exceptionally high purity levels required to go straight into the remelt process. The smaller 10-30mm grain size captured by the new X-TRACT 2.0 is 99% pure aluminum which means we can sell it on at a much higher price to our customers for use in the production of new aluminum products. What’s more, the X-TRACT 2.0 has opened up new international market opportunities for Alutrade as we can now source different infeed material, as well as sell on the ejected heavy metal products.”

**X-TRACT 2.0 – a superior solution**

Although the two earlier edition TOMRA X-TRACT units at the Oldbury plant allowed Alutrade to capture the >30mm aluminum fraction, there were some restrictions on smaller fractions. However, thanks to a new x-ray sensor design, the X-TRACT 2.0 can separate fractions down to 5mm at even higher purity levels.

TOMRA’s X-TRACT 2.0 uses the same process of separating metals by atomic density as the earlier edition but offers far superior x-ray capabilities. The software-based solution can guarantee premium remelt quality recycled aluminum by ejecting the heavy metal contaminants.

The X-TRACT 2.0 unit boasts a number of new innovative features, including much faster sorting (up to 3.8 meters per second) and an increased capacity per meter width. A new high-acutance XRT sensor ensures sharper detection and shorter integration times for higher throughout, while a high-power (up to 1,000w) x-ray source is capable of processing multiple applications and grain sizes. An extended separation chamber reduces material loss by improving the trajectory of sorted objects and a new catcher hood ensures safer access and faster maintenance.

Alutrade’s X-TRACT 2.0 unit is connected to TOMRA Insight, TOMRA’s secure, nearly real-time and on-demand cloud-based data monitoring platform. The platform enables customers to turn their sorters into connected devices and to transform sorting from an operational process into a strategic management tool. Generating high value data, TOMRA Insight helps to maximize plant throughput, boost sorting performance and optimize output quality.

Reflecting on the long-standing partnership between Alutrade and TOMRA, Andrew Powell of Alutrade adds: “Alutrade has been using TOMRA X-TRACT units for the past four years to guarantee the quality of our products that we supply to our customers. This has enabled us to build up the trust between ourselves and our customers. Right from day one of operation, TOMRA has helped us improve the recovery rates of aluminum in a reliable way. By using TOMRA X-TRACT units we have been able to upgrade our material so that it could remain in the UK rather than be exported.

“Investing in the new X-TRACT 2.0 has enabled us to close the loop on the recycling process as much as possible, converting aluminum back into aluminum for use in high grade aluminum products so that in effect, a window frame can be recycled into a new window frame. With low operational costs, improved safety and superior sorting capabilities, the new X-TRACT 2.0 definitely stands out in terms of the aluminum recycling solutions available in the global metals recycling market.”

Terence Keyworth, Segment Manager Metal Recycling North/East Europe, adds: “TOMRA and Alutrade have worked together for more than ten years so Alutrade’s Oldbury plant was an ideal plant for us to test and prove the capabilities of our new X-TRACT 2.0. As the first prototype of this unit in an industrialized environment, it has been a very exciting project. We’re delighted that Alutrade has been so impressed with the sorting capabilities of this new technology and look forward to rolling out further installations over the coming months.”

**About TOMRA Recycling**

TOMRA Recycling designs and manufactures sensor-based sorting technologies for the global recycling and waste management industry. Over 7,400 systems have been installed in more than 100 countries worldwide.

Responsible for developing the world’s first high capacity Near Infrared (NIR) sensor for waste sorting applications, TOMRA Recycling remains an industry pioneer with a dedication to extracting high purity fractions from waste streams that maximize both yield and profits.

TOMRA Recycling is part of TOMRA Sorting Solutions which also develops sensor-based systems for sorting, peeling and process analytics for the food, mining and other industries.
TOMRA Sorting is owned by Norwegian company TOMRA Systems ASA, which is listed on the Oslo Stock Exchange. Founded in 1972, TOMRA Systems ASA has a turnover of around €985 million and employs ~4,300 globally.

For more information on TOMRA Sorting Recycling visit [www.tomra.com/recycling](http://www.tomra.com/recycling) or follow us on [LinkedIn](https://www.linkedin.com/company/tomra-sorting-recycling/?originalSubdomain=de), [Twitter](https://twitter.com/TOMRARecycling) or [Facebook](https://www.facebook.com/TOMRA-Sorting-Recycling-183257172165234/).

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