







RJ Facades, Hydro & A²O

Closing the Loop on Aluminium Recycling









A²O & RJ's Closed Loop journey started at the CWCT's AGM 2023. McLaren presented a Case Study on recycling aluminium windows After the meeting, an action plan was drawn up - and here's the result!







CLOSED LOOP ALU CASE STUDY City of London

The first Closed-Loop Aluminium Recycling Reclad piloted on an A²O Facade remediation Q1-Q2 2024

The Steps

 Identify Recycling Partners
 Develop Closed-Loop Solution replicable on other reclads
 Pre-Project Arrangements:
 Grading Tests, Skip Location & Scheduling

 Collect Reclad Strip
 Calculate Net Carbon



High performing LEC facade substructure

made from 44%* recycled, post-consumer aluminium

Hydro's Reduxa[®] LEC Recycle Grade 4.0 Aluminium pushing the boundaries for high-quality recycled aluminium

RJ Facade Systems manufacture their façade systems 100% from Hydro UK using LEC Grade 4.0 aluminium.

Using recycled, post-consumer aluminium scrap uses **only 5%** of the energy required for primary aluminium, while still offering high-quality performance.

This energy usually contributes to CO_2 levels in the atmosphere, catalysing climate change. By reducing the energy required to create the material, the carbon footprint of the facade is significantly reduced.

*Post consumer Scrap % based on latest Hydro LEC (Low Embodied Carbon) Recycle Grade 4.0 Aluminium EPD





Benefits of Hydro REDUXA 4.0

- Maximum or below 4.0 kg CO2e/kg aluminium, including all process steps
- TRACEABLE down to each individual batch
- VERIFIED by DNV-GL according to ISO 14064
- CONFIRMED by Environment Product Declarations
- Available as Aluminium Stewardship Initiative-certified aluminium













REDUXA is Hydro's brand of low carbon or LEC aluminium

Using renewable energy from water (hydro power) and wind, Hydro can produce cleaner aluminium, reducing the carbon footprint per kg of aluminium to **4.0kgCO2**, less than a **quarter** of the global average





Reduxa 3.0 and Reduxa 2.0 are currently not available in 6063 T6 aluminium required for façade systems.







Hydro

REDUXA

Low-Carbon

Aluminium

We're re-using the aluminium from a facade that has reached its end of life as a product in use, bringing it back into the facade loop via recycling.

In association with Hydro, RJ Facades test the grade of aluminium used in the existing aluminium substructure. The dismantled façade is sorted at site level and then returned into the Hydro Closed Loop recycling programme.

Once reclaimed, the aluminium is cleaned and sorted, so that only the finest, least contaminated recycled material is put back into circulation. This minimizes the energy used to recycle it.

Operating the most advanced aluminium sorting system in the industry allows Hydro to provide some of the **highest recycled content aluminium** available on the market.

The new facade will be produced from the recycling programme, completing the circle. The production process is fully audited, and the product is certified by an independent third party.

THE ALU) OUTPUT SUPERATE



















THE CARBON CALC

Generic per kg









THE CARBON CALC

Pilot Reclad Case Study



Note: Hydro 4.0 just coming into pipeline on this project. Figures represent as if project started mid-2024

THE CLOSED LOOP





Carbon and Cost Dual Accounting Reduction Win-Win for Client & Contractor

1. Slash Carbon Emissions on Aluminium, A²O Facades largest volume façade component

2. Contribute to creating LEC buildings one step closer to NZC buildings

3. Supports Carbon Calcs/Reduction Targets for Organisations & Buildings

A Replicable model

- A. Replicable, substantial carbon saving for use in reclads going forwards
- B. Application for other façade components i.e. LEC steel and glass

LEC=Low Embodied Carbon NZC = Net Zero Carbon