



## CLOSING THE LOOP ON ALUMINIUM

### Slashing the carbon impact of aluminium on reclads

Inspired by McLaren's success in aluminium window recycling, presented at the CWCT AGM 2023, A<sup>2</sup>O Facades & RJ Facades Systems set themselves the challenge to close the loop on aluminium subgrid recycling.

On the next reclad, A<sup>2</sup>O arranged for grading tests on the existing aluminium components to be removed and took care of construction phasing and council planning to allow collections to be sorted and returned to Hydro.

#### The Input: LEC Recycle Grade Aluminium Install

RJ Facade Systems supplies Hydro LEC (Low Embodied Carbon) Recycle Grade 4.0 aluminium subgrid (rails, brackets, profiles), which is installed by A<sup>2</sup>O Facades. Grade 4.0 comprises 44% recycled aluminium and CO<sub>2</sub> emissions are only 4.0kg CO<sub>2</sub>/kg aluminium, so very low compared with:

- 6.7kg CO<sub>2</sub>/kg for the average European produced;
- 8.6kg CO<sub>2</sub>/kg for the average European consumed and
- 16.7kg CO<sub>2</sub>/kg for the average for the industry globally.

**3.67tn** of aluminium were supplied, generating **14.7tn\*** CO<sub>2</sub> @ 4kgCO<sub>2</sub>/kg for LEC Recycle Grade 4.0, compared with 24, 31 or 61 tonnes for other grades.

#### The Output: Post-Consumer Scrap Aluminium

RJ arranged on behalf of A<sup>2</sup>O Facades to collect aluminium sheet, flashings and copings, as well as aluminium 6000 extrusions. The latter are suitable for direct recycling into the billet Hydro use for their Grade 4.0 aluminium.

**3.49tn** of aluminium were recycled, which saves **13.1tn** CO<sub>2</sub> @ **3.75kg**CO<sub>2</sub>/kg, a huge offset even when based on the lowest carbon emissions for ingot.

#### Net Carbon

So net carbon for the whole aluminium subgrid is **1.6tn** CO<sub>2</sub>. With 997m<sup>2</sup> of subgrid, this is approx. 1.6kgCO<sub>2</sub>/m<sup>2</sup>.

Compared with **24.6kg**CO<sub>2</sub>/m<sup>2</sup> for average European produced aluminium without recycling, this saves 23kg CO<sub>2</sub>/m<sup>2</sup>, a **94%** reduction in the subgrid carbon footprint.

\*Note: figures are based on 100% Hydro LEC Recycle Grade 4.0 Aluminium subgrid components, which are now fully available.

#### Team



Principal  
Contractor



Aluminium  
Subgrid Partner



Aluminium  
Manufacturer

#### INPUT

LEC 44% Recycle Grade 4.0  
Aluminium



#### OUTPUT

Aluminium sheets &  
extrusions recycled

#### Closing The Loop

- Installation of Hydro LEC Recycle Grade 4.0 Aluminium
- Recycling of reclad strip extrusions & sheet aluminium
- Net Carbon emissions for aluminium subgrid reduced by >93%

Case Study Presentation >

Carbon Calculation >

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