

Sustainable product design of Nedal aluminium lighting columns.

1. Environmental life cycle assessment.

Nedal aluminium lighting columns are designed for an extended product life of more than 50 years. After the first life cycle, the columns can be refurbished or recycled: The parts of the column can easily be separated. Nedal has the possibility to take the lighting columns back after the life cycle to be refurbished.

The environmental performance of the lighting columns is stated in the Nedal Environmental Product Declaration for lighting columns.

For refurbishing, see: <https://mastenbank.nl>

Nedal Environmental Product Declaration for lighting columns: <https://nedal.nl>

2. Product design.

2.1. Use of aluminium.

- Corrosion resistance without added coating:

Aluminium forms a natural, selfhealing oxide layer, which means a lighting column doesn't depend on a sacrificial zinc coating or repeated repainting to survive decades outdoors- reducing both maintenance visits and the chemical inputs associated with surface protection.

- High strength to weight ratio:

A lighter column means lighter transport loads, smaller cranes and simpler installation and smaller or no foundations-each of which has a downstream carbon and resource footprint of its own.



- Long service life:

Public lighting columns are typically designed for multi-decade service. A material that doesn't need replacing halfway through that period avoids the embodied-carbon "double count" of manufacturing a second product.

- Genuine closed-loop recyclability.

Lighting columns can be refurbished or recycled. Unlike some composite or coated materials, aluminium can be recycled indefinitely without downgrading-recycling primary aluminium into new products uses only a fraction of the energy (ca. 5 %) of the energy required for primary smelting.

2.2 Design.

Lighting columns are being designed according to the EN 40 standard, using the minimum of material to meet the strength-requirements.

The use of an innertube to reinforce the door section is an effective way to increase the strength, avoiding the addition of unnecessary weight to the column.

The production process is effective: The production scrap is minimized and is 100 % being recycled.

The parts of the column can easily been separated (fit for refurbishing or recycling).

Extra performance can be achieved with aluminium lighting columns, like the requirements for passive safety according to EN 12767.



2.3 Sustainable production.

The CO₂-footprint of the Nedal lighting columns is low, because a high % of recycled aluminium is used (ca. 80 %).

The CO₂-footprint is monitored by the “Carbon Activator”-program of Anthesis, and being reduced every year.

The CO₂-footprint is yearly being audited by “Preferred by Nature”.

See: Certification report Climate Activator: : <https://nedal.nl>

The remaining CO₂-footprint is being compensated by certified carbon credits.

See:

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