Metawell
metal sandwich technology

ENVIRONMENTAL PRODUCT DECLARATION
in accordance with ISO 14025 and EN 15804

Metawall®

Metawell GmbH

Written in cooperation with:

brands & values®
sustainability consultants

Issuer and Program Holder:

Institut Bauen und Umwelt e.V.

Environmental Product Declaration acc. ISO 14025

An Environmental Product Declaration (EPD) in accordance with ISO 14025 and EN 15804 was written for Metawell GmbH and its product Metawall® curtain wall facade.

The objective was to investigate and identify the potential environmental impact of the curtain wall facade. For those purposes a Life Cycle Assessment (LCA) in accordance with ISO 14040 was conducted.

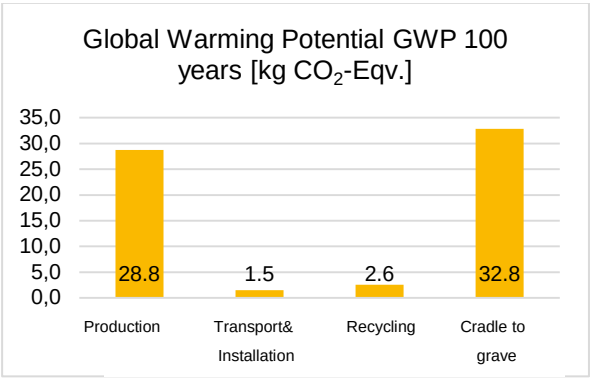
The LCA is a method to appraise product-related environmental aspects and the product-specific environmental impact from raw material extraction (cradle), through production and usage to recycling/disposal (grave).

Based on this extensive analysis of environmental impacts across the product lifecycle, an EPD serves to participate in tenders as part of sustainable building certification systems and enables external communication on the environmental performance of products.

The Metawall® LCA results at a glance

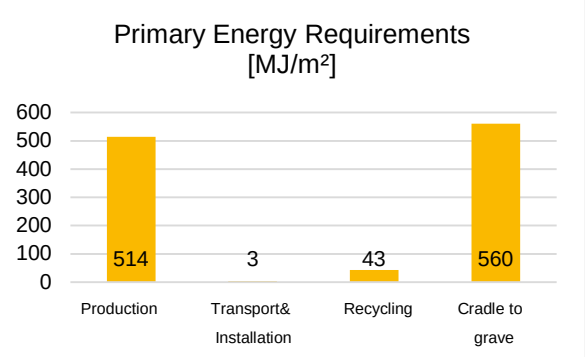
Global Warming Potential

During its life cycle the Metawall® curtain wall facade causes greenhouse gas emissions of 32.8 kg/m² CO_2 equivalents. Environmental pollution arising from raw material extraction is significant for the CO^2 footprint of the Metawall®.
As part of Metawell's manufacturing processes, credits are created through the recycling of production blends. Possible credits are also given to the product due to its high material and thermal recovery potential at the end of its useful life. These are downstream of the product life cycle and therefore not part of the evaluation below.



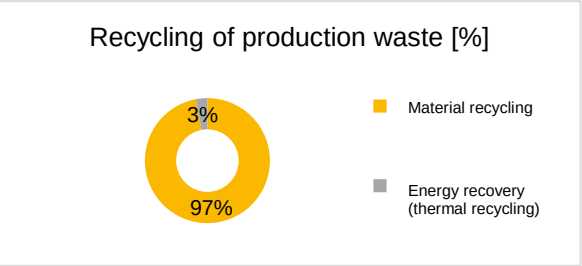
Primary Energy Requirements

The energy consumed for the manufacture, use and recycling of the Metawall® curtain wall facade totaled 560 megajoules (MJ) per square meter.
The largest energy expenditure is in the upstream chains of the primary aluminium, caused by the processing of the bauxite to aluminium. This high energy expenditure is avoided by the use of recycled or secondary material. Similarly, the targeted recycling of production waste from aluminium reduces the primary energy requirements for the product.



Recycling

Production waste: The total weight of production waste was 6% of material usage. Of the total, 97% went to material recycling.



Product at End-of-Life: At the end of the Metawall® curtain wall facade life cycle, 88% of the product goes to material recycling and 12% to energy recovery.