

kg Autoclaved aerated concrete (AAC)

Autoclaved Aerated Concrete, also known as AAC, is a lightweight concrete product manufactured from cement, water, aluminium powder and sand. Hydrogen gas is used to create air bubbles in the mix. AAC is generally rated at 8 MPa, with up to 80% of its volume made up of air.

Its lightweight nature, which is 20% lighter than standard concrete, makes it easier to work with. AAC materials can be sanded and cut to size using standard power tools and have superior thermal properties to standard concrete.

AAC comes in a variety of product types, including blocks and panels. AAC blocks are typically used for domestic wall construction and are available as a 600 mm wide and 200 mm high block in thicknesses ranging from 50 to 300 mm. Blocks can be used for loadbearing walls up to three storeys. Panels are often used for both wall and floor construction in residential and commercial applications. They are 600 mm wide, 75 mm thick and come in lengths ranging from 1800 to 4 800 mm.

Category Concrete and Plaster Products

Type Concrete

Functional unit kg

Specific heat 880 J/(kg·K)

Density 550 kg/m³

Common uses
External walls, internal walls, floors

Process name
Autoclaved aerated concrete block, at plant/CH U/AusSD U

Input-output sector
Plaster and Concrete Product Manufacturing

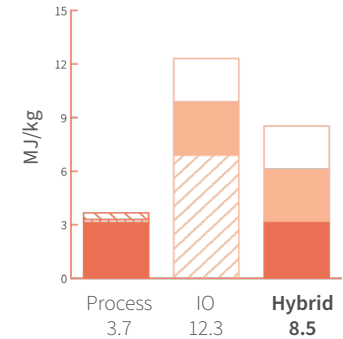
Further information
doi.org/10.26188/5da551fc254d7

Material variations

	Unit	Energy (MJ/unit)	Water (L/unit)	GHG emissions (kgCO ₂ e/unit)
Autoclaved aerated concrete (AAC)	kg	8.5	8.4	0.7
AAC block - 600 × 200 × 100 mm	no.	56.4	55.4	4.7
AAC block - 600 × 200 × 150 mm	no.	84.5	83.0	7.0
AAC block - 600 × 200 × 200 mm	no.	113	111	9.4

TOP THREE INPUTS

- 6.4% Road Transport
- 5.8% Structural Metal Product Manufacturing
- 5.4% Basic Chemical Manufacturing

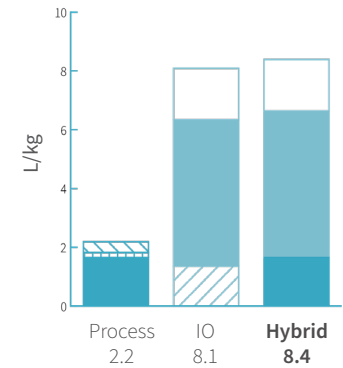


ENERGY



TOP THREE INPUTS

- 10.2% Tanned Leather, Dressed Fur and Leather Product Manufacturing
- 8.3% Sand, at mine/CH U/AusSD U
- 6.9% Structural Metal Product Manufacturing

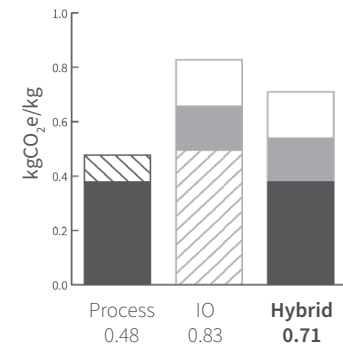


WATER



TOP THREE INPUTS

- 4.3% Structural Metal Product Manufacturing
- 3.7% Basic Chemical Manufacturing
- 2.2% Road Transport



GREENHOUSE GAS EMISSIONS

