

m³ Concrete 32 MPa

Concrete is a composite material combining sand or other fine aggregates, coarse aggregates, a binder and water. Portland cement is the most commonly used binder, however other binders, such as polymers, may also be used. Supplementary Cementitious Materials (SCM) such as Fly Ash and Ground, Granulated Blast Furnace Slag (GGBFS), are also commonly used as a part replacement for Portland cement. Additives, such as plasticisers can be added to the mix to control concrete properties, such as workability. Concrete is usually combined with steel reinforcement to improve tensile strength.

Concrete is one of the most commonly used construction materials. It is highly durable and is thus typically used for structural elements in buildings and infrastructure projects. Concrete can be manufactured to meet a variety of strength grades. Concrete 32 MPa is commonly used in commercial and civil construction, for structural piling, floor slabs, external walls, paths and roads, where increased durability, weather-resistance and load-bearing capacity are required.

Category Concrete and Plaster Products
Type Concrete
Functional unit m³
Specific heat 880 J/(kg·K)
Density 2 327 kg/m³

Common uses
Floor slabs, suspended slabs, precast wall panels, in situ loadbearing walls, structural piling, roads, footpaths

Process name
Concrete 32 MPa, at batching plant/AU U

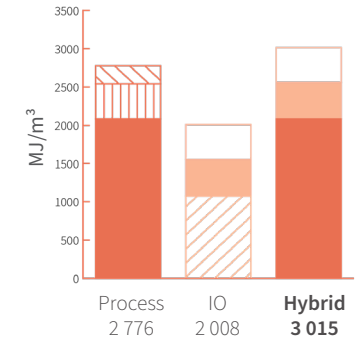
Input-output sector
Cement, Lime and Ready-Mixed Concrete Manufacturing

Further information
doi.org/10.26188/5da550538b369

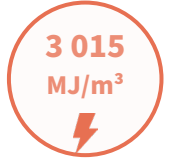
Material variations	Unit	Energy (MJ/unit)	Water (L/unit)	GHG emissions (kgCO ₂ e/unit)
Concrete 32 MPa	m ³	3 015	4 300	416
Concrete 32 MPa - 30% fly ash	m ³	2 484	4 066	314
Concrete 32 MPa - 30% GGBFS	m ³	2 704	4 103	331

TOP THREE INPUTS

- 7.9% Road Transport
- 0.9% Sand, at mine/CH U/ AusSD U
- 0.8% Non Ferrous Metal Ore Mining

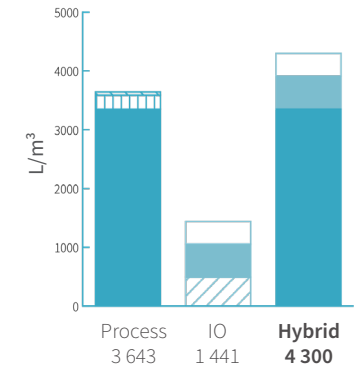


ENERGY

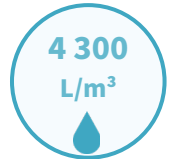


TOP THREE INPUTS

- 20.8% Sand, at mine/CH U/ AusSD U
- 3.6% Tap water, at user, Australia/AU U
- 1.4% Non Ferrous Metal Ore Mining

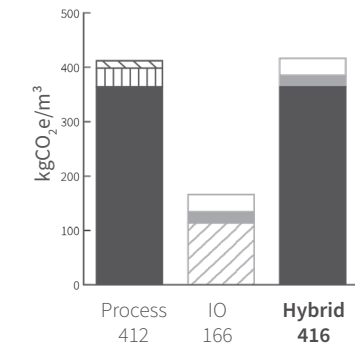


WATER



TOP THREE INPUTS

- 1.7% Road Transport
- 0.6% Sand, at mine/CH U/ AusSD U
- 0.5% Non Ferrous Metal Ore Mining



GREENHOUSE GAS EMISSIONS

