

m³ Concrete 40 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 40 MPa is commonly used in commercial and civil construction, for structural beams and columns, where increased durability and load-bearing capacity are required.

Category	Concrete and Plaster Products
Type	Concrete
Functional unit	m ³
Specific heat	880 J/(kg·K)
Density	2 400 kg/m ³

Common uses
Structural beams, structural columns, in situ loadbearing walls, structural piling

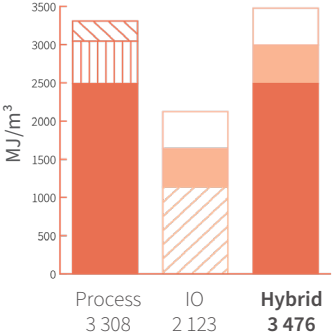
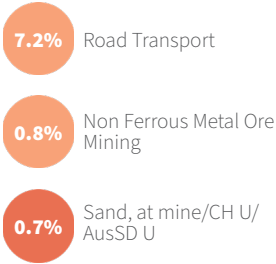
Process name
Concrete 40 MPa, at batching plant/AU U

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

Further information
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Material variations	Unit	Energy (MJ/unit)	Water (L/unit)	GHG emissions (kgCO ₂ e/unit)
Concrete 40 MPa	m ³	3 476	4 355	497
Concrete 40 MPa - 30% fly ash	m ³	2 854	4 075	373
Concrete 40 MPa - 30% GGBFS	m ³	3 106	4 120	392

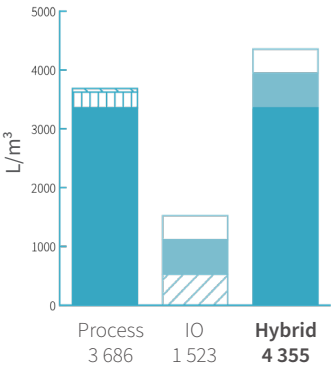
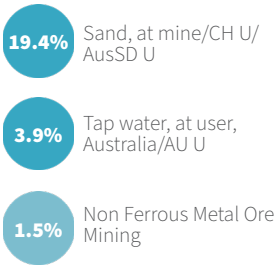
TOP THREE INPUTS



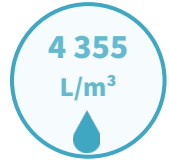
ENERGY



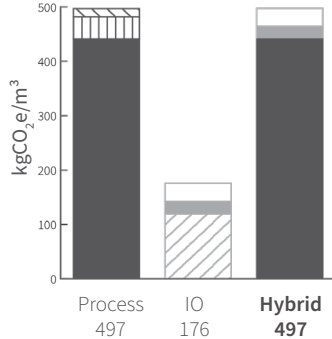
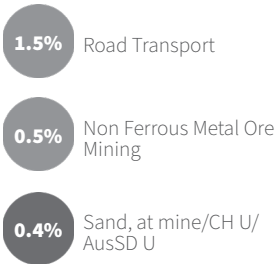
TOP THREE INPUTS



WATER



TOP THREE INPUTS



GREENHOUSE GAS EMISSIONS

