

m³ Concrete 25 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 25 MPa is commonly used in domestic and commercial floor construction and is considered to be a multi-purpose concrete mix. The typical mix ratio is 1:1:2 (cement, sand, coarse aggregate).

Category Concrete and Plaster Products

Type Concrete

Functional unit m³

Specific heat 880 J/(kg·K)

Density 2 409 kg/m³

Common uses
Floor slabs, suspended slabs, precast wall panels

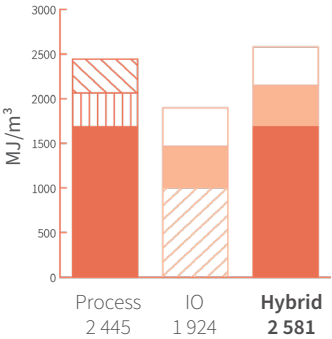
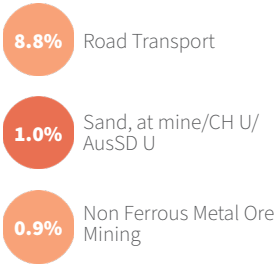
Process name
Concrete 25 MPa, at batching plant/AU U

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

Further information
doi.org/10.26188/5da54a4ae57a1

Material variations	Unit	Energy (MJ/unit)	Water (L/unit)	GHG emissions (kgCO ₂ e/unit)
Concrete 25 MPa	m³	2 581	4 196	361
Concrete 25 MPa - 30% fly ash	m³	2 241	4 028	277
Concrete 25 MPa - 30% GGBFS	m³	2 441	4 105	293

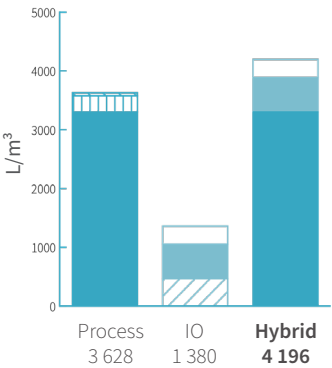
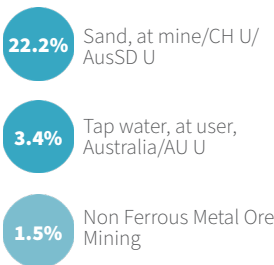
TOP THREE INPUTS



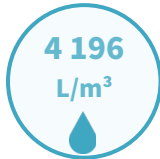
ENERGY



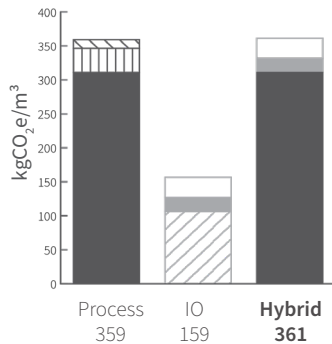
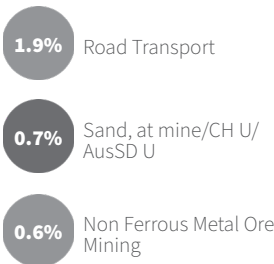
TOP THREE INPUTS



WATER



TOP THREE INPUTS



GREENHOUSE GAS EMISSIONS

