



HUDSON

CIVIL PRODUCTS

Precast Concrete – Environmentally Aware

How Green is my Concrete?

Even when it's grey, concrete is green.

Precast concrete's environmentally friendly features make it a building material of choice for sustainability.... meeting present needs without compromising the ability of future generations to meet their own needs. Whilst the manufacture of cement and concrete materials can contribute to greenhouse gas emissions, concrete is recognised as a material that is around for the long haul – tens if not potentially hundreds of years. Whilst it may have an “upfront” cost in carbon, over a longer life when other materials may get pulled down and rebuilt several times (and be sent to waste/landfill), concrete just keeps on keeping on. We also strive to make sure your precast concrete is made as efficiently as possible, locally and with minimal waste in the process, and with environmental and efficiency benefits realized wherever possible.

Hudson Civil Products embrace the use of local products to minimize transport, undertakes various recycling and reuse projects as part of our waste stream management process, and have found solutions in a variety of other potential waste products being re-used and diverted for our use.

Hudson Civil are continually looking for ways to improve the efficiency of our processes, recycle materials and even use industrial waste to produce eco-friendly concrete, including:

1. Source and use of appropriate local aggregates and materials to create suitable local-benefit concrete
2. Use local materials wherever possible, minimizing mixes with a minimum of “travel miles” to lower carbon emissions through reduced transport inputs, or both components and finished products.
3. Recycled concrete and aggregates can be used to make eco-friendly concrete.
4. Waste and wash water from the mixing process can be re-used to make concrete or for other site purposes like wash-down and dust mitigation, reducing the drain on potable water supplies
5. Collection of rainwater from site for reuse in the manufacturing process to be pursued where available
6. Reduction in cement input and use of supplementary cementitious materials including industrial waste products such as fly ash and silica fume where available. Fly ash is a waste material produced by coal-burning power plants. It usually ends up in landfills, but can be used to make concrete as a supplementary cementitious material. Blast furnace slag or silica fume are also waste materials. Concrete containing silica fume can have very high strength and can be very durable.
7. Complete energy audits & pursue renewable energy where possible, including solar generation on HCP sites



PRECAST CONCRETE FAST FACTS

Concrete is fully recyclable, through the use of reclaimers and by being broken into its constituent parts at the end of life

Unlike many inferior building materials, concrete is non-toxic and as a waste stream is generally inert

Concrete goes the distance – when other products are being pulled down or taken out, concrete is likely to still be around for years to come, durable and in service for decades or more

Hudson Civil manufactures precast concrete locally in Tasmania with a minimum of travel miles for components and our finished products - no long distance imports of finished products from the mainland or overseas and the associated carbon emissions.

HCP concrete batching uses some of the latest technology in Tasmania, with maximum efficiency, reusing materials - pursuing best practise sustainable principles wherever possible



Concrete can be considered a sustainable building material with regard to the energy consumption during its production compared to its characteristics during its useful life – thermally efficient, strong and durable, and here for the long haul.

Concrete is a natural building material and 100% recyclable

Concrete consists of water, sand, gravel and cement. Water, sand and gravel naturally exist in our environment. For the production of cement, the raw materials limestone, clay, sand and iron ore are kilned, gypsum is added and afterwards the mixture is finely ground.

At the production of precast concrete in the plant, the recycling of the fresh concrete which has not been used is a big priority. Fresh concrete is concrete which is not yet cured. The fresh concrete which has not been used is returned into the production cycle and can therefore be recycled to almost 100% or diverted into other waiting moulds.

Reduced consumption of energy, water and building material

Modern precast concrete plants are controlled and monitored by a master computer. The master computer exactly calculates the necessary amounts of cement, construction steel, water etc. and therefore allows for an optimal utilization of materials with little waste generated additionally. On site elements are designed to size and shape, and there is limited wastage during installation through cutting, shutting and modification.

Not only during the production of precast concrete elements are savings possible. The positive characteristics of the building material also take effect during the utilization of a precast concrete building, structure or precast element.

Minimum waste output in the production process and reduction of packaging material

Very little waste is produced in the production process of precast concrete elements because all the materials are optimally used due to the computer-operated production. In addition to that, the amount of packaging material is reduced because precast concrete elements are stored and transported to the building site without packaging, wrapping, minimal binders, strapping and so on.

Re-use of precast concrete elements after the demolition of a building

After the demolition of a precast concrete building, the concrete and the reinforcement can be recycled and used for the construction of a new building or for road construction.

Environmental safety of precast concrete

Precast concrete elements are absolutely safe for the construction of housing, any other building or in the field of water storage. Concrete does not dispense any harmful substances to the surrounding air or water. In addition to that, precast concrete elements can be used for the storage or transport of toxic substances because they cannot get out through the precast concrete elements.

Compare your concrete supplier or other building materials.....

RECYCLED CONTENT & WASTE DIVERSION:

Very little waste is produced in the production process of precast concrete elements because all the materials are optimally used due to the computer-operated production. Fresh concrete which has not been used is returned into the production cycle to almost 100%, or diverted to other nearby waiting moulds – no dumping like on site concrete,. In addition to that, the amount of packaging material can be reduced because precast concrete elements are stored and transported to the building site without packaging, wrapping or covers.

LOCAL MATERIALS INCLUDE:

- Sand from Beauty Point Tasmania (47km)
- Aggregates from BIS at Breadalbane, Tasmania (12km)
- Australian cement from BORAL CEMENT
- Australian reinforcing
- Local potable water from TasWater plant at Prospect, Tasmania, rainwater harvested on site, and recycled content recovered from wash-down and process



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