ECO-CEM
High Performance, Low Carbon

BRIDGEMAN CONCRETE
ESTABLISHED 1967
OVER 55 YEARS OF SERVICE TO THE INDUSTRY

HR CEMENT Limited

ECOMAX

LOW-CARBON CONCRETE

A true replacement of embodied carbon cement

Introducing New Zealand's environmentally friendly concrete

ECOMAX

LOW-CARBON CONCRETE

Introduction to Eco-Max Concrete

Eco-Cem is made locally in the Bay of Plenty, right here in New Zealand. Eco-Max is made with a mix of Eco-Cem and Xtra-Cem (GP) cement to create a superior concrete with 20-65 percent less carbon.

Concrete mix designs can be customized allowing you to balance construction aspects such as setting time, strength gain, finishing and cost. It's not only an environmentally friendly choice, it's more durable and has an enhanced design life.

ECOMAX

LOW-CARBON CONCRETE

Proven performance worldwide

Key Benefits

High Performance
Eco-Cem cement has a creamier finish and shrinks less, therefore produce better foundations, floors and precast panels.

Durability
Eco-Max is hard wearing with a denser finish meaning a longer design life and better chemical and stain resistance.

Low Shrinkage
Concrete made with Eco-Cem has a lower shrinkage performance.

Cost Competitive
Eco-Max is a cost competitive product with standard GP Cement.

Reduced Thermal Expansion
Eco-Cem is ideal for large concrete pours as it reduces the risk of thermal cracking.

Reduced Alkali Aggregate Reaction
Eco-Cem helps to minimise the risk of alkali-silica reaction in concrete.

Superior Finish
Pozzolanic cements have a creamier and denser finish which create an overall superior finish to your concrete projects.

Lower Embodied Carbon
The SCMs (Supplementary Cementitious Materials) substitutes the cement and creates 20-65% less embodied carbon which means we are doing our part to create a sustainable future for New Zealand.

True GP Cement Replacement
Eco-Max concrete can replace up to 70% of GP cement. GP cement contains **829kgs** of embodied carbon per tonne, where Eco-Cem contains only **126kgs** per tonne.

Available SCM/Pozzolan Options

	Recycled SCM			Natural SCM
	BFS - Blast Furnace Slag *steel industry*	**Fly Ash** *power industry*	**Silica Fume** *numerous sources*	**Pumice/Volcanic ash**
Substitution rates	Up to 65%	20-30%	<10%	<25%
Availability	Not previously available	**Local:** available May-November only **Imported:** high container prices means no imports	Imported	Not commercially available. Fully investigated by HR Cement but not commercially viable
Price	We can produce this product at a cost-competitive price.	**Local:** similar price as cement **Imported:** much more expensive	to 80%)	to 80%)
NZS3101:2006 Durability	Yes	Yes	Yes	No

Specifying and Designing

- NZS3104:2021 allows for 56 day testing of concrete with SCM
- NZS3101 - durability, 65% BFS mixes
- Eco-Max % replacement can be specified on a project basis
- Cement substitutions with Eco-Max

A Change in Philosophy

With the introduction of this innovative product into the New Zealand market, the design and build process will need to adapt accordingly in line with a more sustainable product that is recognised and proven globally.

Collaboration is Key

Working together alongside engineers, architects, contractors and ready mix is key to ensure the right balance of application for various seasons and onsite demands to maximise the dose of Eco-Cem.

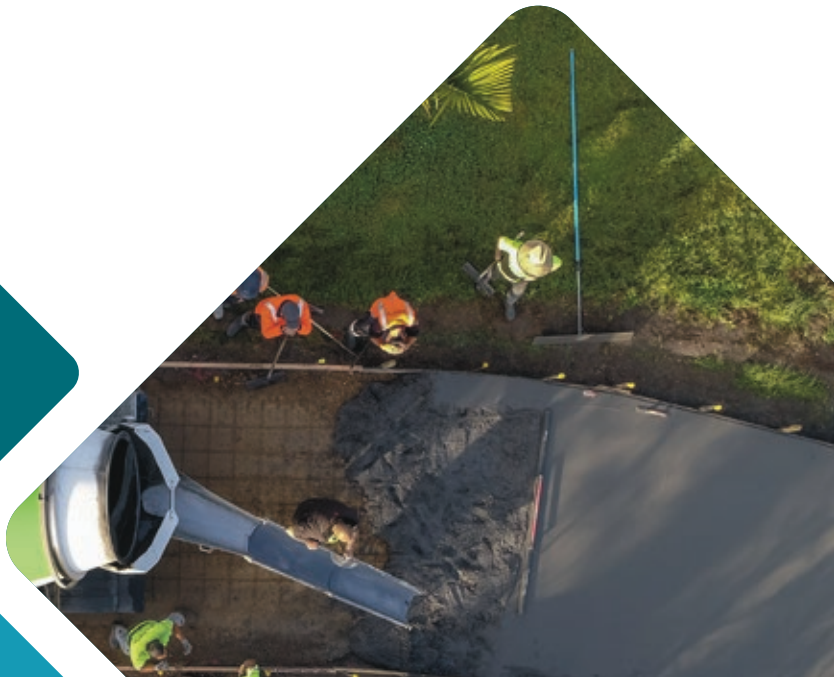
Embodied Carbon Reduction

We have developed the ratings in the graph below to give you an indication of our Embodied Carbon reductions across various products.

	20 MPa	25 MPa	30 MPa	35 MPa	40 MPa	45 MPa	50 MPa
ISC 2020 Baseline	284	313	347	391	441	495	550
ECO-MAX - 15% Replacement CO_2 Reduction	182 36%	207 34%	214 38%	257 34%	276 37%	323 35%	355 35%
ECO-MAX - 25% Replacement CO_2 Reduction	167 41%	190 39%	295 44%	235 40%	253 43%	294 41%	323 41%
ECO-MAX - 35% Replacement CO_2 Reduction	153 46%	173 45%	178 49%	213 46%	245 44%	266 46%	289 47%
ECO-MAX - 45% Replacement CO_2 Reduction	138 51%	156 50%	160 54%	190 51%	204 54%	237 52%	259 53%
ECO-MAX - 55% Replacement CO_2 Reduction	122 57%	138 56%	141 59%	169 57%	179 59%	209 58%	227 59%
ECO-MAX - 65% Replacement CO_2 Reduction	108 62%	121 61%	124 64%	146 63%	156 65%	179 64%	195 65%

Global Warming Potential (GWP)
(Embodied carbon per m^3)

ISC 2020 Baseline is from the Infrastructure Sustainability Council 2020 Baseline.
CO_2 Reduction % is calculated from the ISC 2020 Baseline.
Percentage replacement values have been calculated from our inhouse LCA Mix Calculator reviewed and verified by thinkstep Ltd.
Above values are calculated on 20mm Standard mixes for Hawkes Bay, other regions and mixes will vary slightly.
For technical information please refer to HR Cement Ltd product data sheet for Eco-Cem.
For more information on suitability and achievable CO_2 reductions please contact your local representative.



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Get in Touch

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ECO PLATFORM EPD EN 15804 VERIFIED

Environmental Product Declaration

An Environmental Product Declaration (EPD) is an independently produced report of the effects across a wide variety of criteria. The EPD for our GP Cement Xtra-cem was produced by Thinkstep, a well known and very reputable NZ based company, and published in February 2022.