







A true replacement of embodied carbon cement

Introducing New Zealand's environmentally friendly concrete



Introduction to Eco-Max Concrete

Eco-Cem is made locally, right here in Mount Maunganui, 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.





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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-Max 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 **812kgs** of embodied carbon per tonne, where Eco-Cem contains only **109kgs** per tonne.

Proven performance worldwide

Available SCM/Pozzolan Options

		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

Hardworking concrete that's easy on the planet

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	o—
ECO-MAX - 15% Replacement	215	242	267	285	305	326	357	
CO ₂ Reduction	24%	23%	23%	27%	31%	34%	35%	
ECO-MAX - 25% Replacement	197	221	244	257	279	297	325	Potential (GWP)
CO ₂ Reduction	31%	29%	30%	34%	37%	40%	41%	rbon per m^3)
ECO-MAX - 35% Replacement	179	201	221	232	251	268	292	ming Potential
CO ₂ Reduction	37%	36%	36%	41%	43%	46%	47%	ed carbon per
ECO-MAX - 45% Replacement	161	180	198	207	224	238	260	Global Warming
CO ₂ Reduction	43%	42%	43%	47%	49%	52%	53%	(Embodied ca
ECO-MAX - 55% Replacement	143	159	175	183	197	209	228	
CO ₂ Reduction	50%	49%	50%	53%	55%	58%	59%	
ECO-MAX - 65% Replacement	125	138	152	158	170	180	195	
CO ₂ Reduction	56%	56%	56%	60%	61%	64%	64%	

ISC 2020 Baseline is from the Infrastructure Sustainability Council 2020 Baseline.

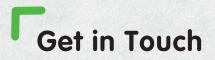
CO2 Reduction % is calculated from the ISC 2020 Baseline.

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 from the Bay of Plenty, 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 CO2 reductions please contact your local representative.







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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.

Up to a 65% reduction in our carbon footprint when compared with standard GP cement.