

# DYNAMax

The Ultimate Performance Concrete

Get **more,**  
with **less.**



Not all concrete  
is the **same.**



# Welcome to DYNAMax, high strength concrete with a difference.

DYNAMax is a high strength concrete that combines traditional strength, performance and quality properties with technical, innovation and service solutions to help you dematerialise your project. When you choose DYNAMax, you get a team of technical experts and a comprehensive service backed by Holcim's global experience in getting the job done. With less material needed, DYNAMax has the capability to help you achieve your sustainability goals.

Get more, with less. DYNAMax; the ultimate performance concrete.



## Achieve your goals

- Strength
- Performance
- Quality
- Safety



## Dematerialise your project

- Reduce resource consumption
- More efficient structures and forms
- Contribute to the circular economy
- Recyclability and reuse



## A unique service solution

- Innovative pumping tool
- Maturity testing
- Thermal modelling
- Delivery reliability
- Carbon offsets
- Environmental Product Declarations



## Experience you can rely on

- 120 years' experience
- Supplied iconic Australian projects across the country
- Trusted by architects, engineers and contractors



## Achieve your goals with DYNAMax.

DYNAMax can help you achieve your project's potential. It can help you with slender design, larger spans or simply provide you with greater design freedom.

With unrivalled technical understanding and a track record in delivering complex and challenging builds, our team of technical experts will work with you to create a DYNAMax solution specific to your needs.

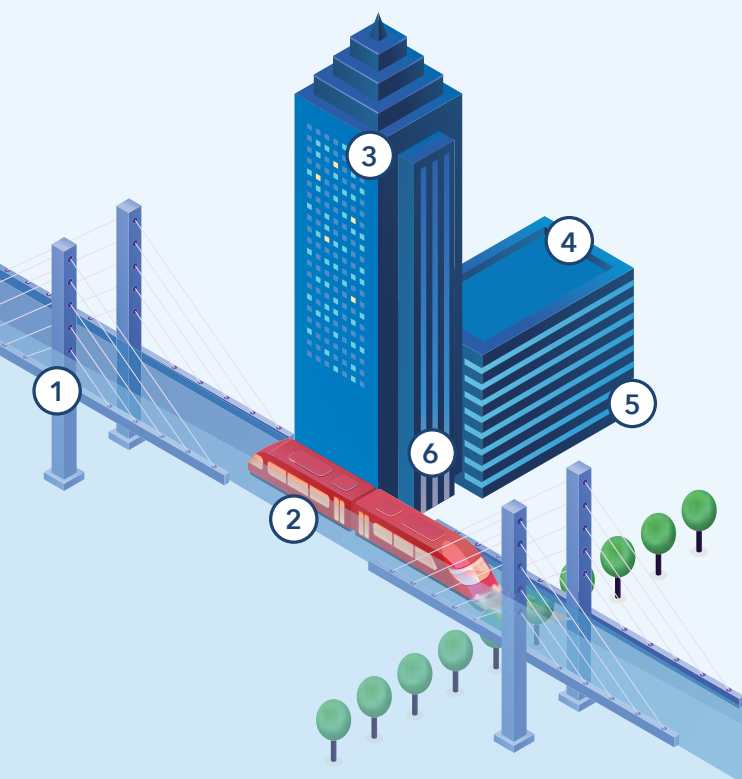
We take the time to learn about your project's ambitions and tailor a unique solution to meet those challenges, ensuring you're getting a product that suits your build. From low shrinkage, pumpability, elasticity and flexural strength, you can get the functionality and flexibility you need with DYNAMax.

### DYNAMax can be used in a range of applications such as:

- Self compacting
- Piling
- Precast
- Post tension
- Core and columns
- Foundations
- Larger spans

### DYNAMax is 60-100+MPa concrete with a range of additional extras:

- Superior rigidity - 40+ GPa
- Outstanding durability - Max 750 Coulombs
- Low shrinkage - Nominal 500 microstrains
- Super workable
- Pumpability



#### 1 Exposed components

The dense pore structure ensures extremely resistant surfaces, increases service life and reduces maintenance costs of the load bearing structure.

#### 2 Large spans

High compressive strength and rigidity enable slender concrete construction with wide spans.

#### 3 Columns and beams

Smaller cross-sections require less valuable space, thus increasing the usable area.

#### 4 Slabs

Reduced thickness allowing the separation of the supporting structure and building utilities, thus speeding up the construction process and facilitating later adjustments.

#### 5 Carparks

Slim supporting structures simplify traffic routing, increase the number of parking bays and create more room height.

#### 6 Stairwells & elevator shafts

Reduced wall thickness increases the usable area.



## Dematerialise your project with DYNAMax.

The benefits of dematerialisation are widely recognised. A study conducted by Clean Energy Finance Corporation, highlighted how reductions to embodied carbon may be realised through dematerialisation by using less material in the build<sup>1</sup>.

High strength concrete products, like DYNAMax, require significantly less concrete overall to support a given load. As a result, using high strength concrete, like DYNAMax, can lead to an overall reduction in the amount of cement required for a construction project<sup>2</sup>.

Key benefits of dematerialisation to your project	What this means for you	Example benefits
<b>Reduce resource consumption</b>	Due to its increased load-carrying strength (per cubic metre), DYNAMax can result in less material used. This means lower volumes of concrete transported to site, reduced need for reinforcing steel, and lower materials overall.	A 20% saving in cement is achievable for structures designed to bear a large load and where a significant reduction in volume is possible <sup>2</sup> .  This could equate to ~18% reduction in CO2-e emissions per m <sup>3</sup> .
<b>More efficient structures and forms</b>	Due to its high strength, DYNAMax can be used to build structural components and structures required with significantly less concrete and steel reinforcement.	If you're able to reduce reinforcing steel, for example, by 15%, you can reduce 15% of carbon emissions <sup>4</sup> .
<b>Contribute to the circular economy</b>	High strength concrete, like DYNAMax, can contribute to the circular economy through use of waste and co-products, such as blast furnace slag, silica fume and fly ash from other industries.	High strength concrete speaks to several circular economy principles such as designing out waste and pollution through the use of co-products. Studies have shown that the use of high strength concrete increases the assets longevity due to increased material durability <sup>2</sup> .
<b>Recyclability and reuse</b>	Like all concrete, DYNAMax is fully recyclable or reusable - whether for use in aggregates or by retaining a structure for the next design.	By retaining as much of a building's existing structure, projects can see a reduction in embodied carbon, carbon emissions, and construction delivery timeframe <sup>5</sup> .

<sup>1</sup> Source: Clean Energy Finance Corporation (2021). [Australian buildings and infrastructure: Opportunities for cutting embodied carbon](#).

<sup>2</sup> Source: Beyond Zero Emissions (2017). [Zero Carbon Industry Plan, Rethinking Cement](#).

<sup>3</sup> Modelling based on data from Beyond Zero Emissions (BZE) report and SimaProv v9.1 calculations for [Australian buildings and infrastructure: Opportunities for cutting embodied carbon report](#).

<sup>4</sup> Calculated by using reinforcing steel GWP factor from AusLCI (1.6013058 kg CO2 eq per kg of reinforcing steel)

<sup>5</sup> Source: AMP Capital, [Quay Quarter Tower Sydney Case Study](#).



## A unique service solution with DYNAMax.

DYNAMax is supported by a service solution designed to minimise disruptions, improve project delivery and help you achieve sustainability credentials for your building.

Holcim pairs digital advancements in construction with the industry's leading concrete expertise. Utilising Holcim's suite of digital services that enable us to tailor make solutions to build better and smarter concrete structures, DYNAMax's services ensure you're getting the best quality at each stage of the delivery process.

**Talk to your Holcim representative about the service solutions available to you.**



### Innovative pumping tool with SMARTFLOW

An industry-first digital modelling tool, SMARTFLOW determines the pumpability and flowability of concrete for even the most challenging builds. Insights from SMARTFLOW, allows Holcim to select the optimal concrete pump and mix-design for long distance horizontal and vertical pumping, resulting in improved efficiency and cost, delay and risk reduction.



### Maturity testing with SMARTCAST

Providing real-time, digital monitoring of concrete strength and temperature, SMARTCAST monitors the early strength, temperature and temperature-differentials of your concrete cast for optimal onsite control whilst allowing you to save time and reduce costs, emissions and risks.



### Thermal modelling with THERMAL

A digital simulation to help you with reliable curing without defects, THERMAL allows you to simulate the temperature of large concrete elements, to optimise concrete mixes to avoid risks from heat of hydration without real-size tests. The benefit is a reduction in costs and risks, and an optimised mix design.



### Delivery reliability

We know how important timely deliveries are. Our vast network and coverage means we can provide reliability during those crucial concrete pouring stages. Interruptions are minimised to help keep the project running on schedule.



### Environmental Product Declarations

DYNAMax is backed by transparent and third-party verified environmental data. Find out the impact of your project today.



### Carbon offsets

DYNAMax comes with the ability to offset embodied carbon using certified offsets through the Australian Government Climate Active program.

**Talk to your Holcim representative about our unique service solutions today.**



Metro Tunnel, Melbourne



WestConnex, Sydney



Australia 108, Melbourne



Royal Adelaide Hospital, Adelaide



**Experience** you can rely on with DYNAMax.

With more than 120 years' experience in the built environment, we are proud to be one of Australia's largest integrated suppliers and manufacturers of building materials and solutions. We have operations at around 250 sites across Australia including 165 plants and a fleet of over 900 concrete agitators, which means we have the size and scale to match the needs of your project.

Feel confident knowing that when you choose DYNAMax, you're gaining a build partner with the experience needed to get the job done.

## Frequently asked questions.

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### What are the key attributes of DYNAMax?

DYNAMax is available in 60MPa, 80MPa and 100+MPa, and with a range of additional extras including superior rigidity, low shrinkage, self compacting, pumpability, flowability, carbon offsets, and maturity testing.

### Can you offset the embodied carbon of DYNAMax?

With DYNAMax you have the option to use third party certified offsets under the Australian Government program, Climate Active.

### How can DYNAMax support my project's sustainability goals?

DYNAMax can enable you to dematerialise your project through its high strength and performance properties. Dematerialisation provides benefits such as a reduction in resource consumption, more efficient structures and forms, increasing the circular economy, recyclability and reuse.

Get more, with less.

Let's talk about how DYNAMax can help you.

Talk to our specification team today.

[holcim.com.au/dynamax](https://holcim.com.au/dynamax)

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