



Cement fit to build a nation.

Ultracem



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For a nation that understands the
need for quality cement.



Cement type and composition

Ultracem is a general purpose Portland cement (Type GP) developed to exceed New Zealand's cement standard.

Applications

Ultracem's binding strength and outstanding consistency make it an ideal choice for a wide range of general-purpose concrete applications, including general and specialist construction, mortars, renders, grouts, precast and manufacture of concrete products.

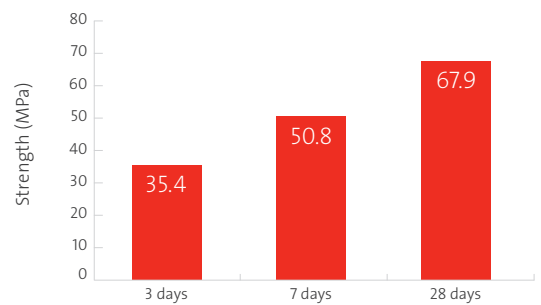
In bagged form, Ultracem also provides consistently good results for projects such as driveways, patios, paths, floors, foundations and footings. Ultracem remains the cement of choice for projects ranging from the modest to the most notable New Zealand concrete structures.

Typical Analysis (%)			
SiO ₂	19.9	Na ₂ O	0.3
Al ₂ O ₃	5.6	TiO ₂	0.3
Fe ₂ O ₃	2.9	Mn ₂ O ₃	0.1
CaO	64.4	P ₂ O ₅	0.1
MgO	1.3	Cl	0.02
SO ₃	2.4	LOI	2.2
K ₂ O	0.4	Na Eq	0.56
Compound Composition (on component)			
Tricalcium Silicate (C ₃ S)	62		
Dicalcium Silicate (C ₂ S)	10		
Tricalcium Aluminate (C ₃ A)	10		
Tetracalcium Aluminoferrite (C ₄ AF)	9		

Typical Physical Properties		
Specific Gravity		3.13g/cm³
Fineness – Specific Surface		315 - 345
Normal Consistency		27.3%
Setting Time		False Set 11mm
Initial	120 minutes	45 minutes minimum
Final	3hrs 0 min	6 hours maximum
Le Chatelier Soundness	1mm	5mm maximum
Peak Temperature Rise		31.4°C at 15.9hrs
Bulk Density		
Aerated		900 kg/m³
Packed		1400 kg/m³



Typical Compressive Strength (MPa) – ISO mortar

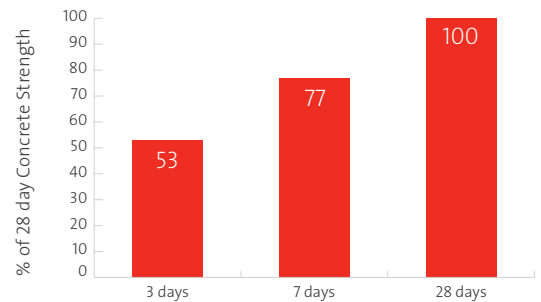


NZS 3122: 2009 Specification

7 day = 35 MPa minimum

28 day = 45 MPa minimum

Strength Development



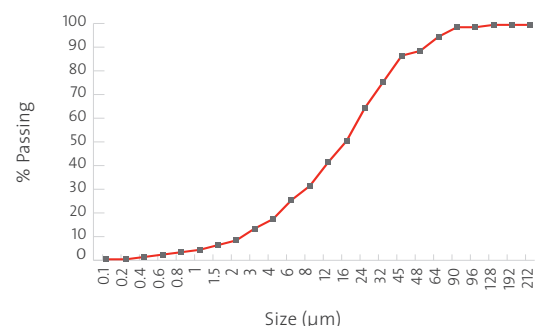
Water : cement ratio = 0.60

Cement content = 290 kg/m³

Slump = 80 - 120mm

Total water = 173 litres/m³

Particle Size Distribution



Admixtures

Ultracem is generally compatible with proprietary chemical admixtures at manufacturer's recommended dosages.

Curing Times

All concretes benefit from extended curing to prevent the concrete from drying out. This allows the full potential of cement hydration (a process taking many months) to be utilised.

Getting Results

For detail on how to get the best results from your concrete project, contact 0800 HOLCIM (Select Holcim cement).

Safety

As with all cement materials:

- > **Avoid excessive skin contact, eye contact and swallowing.**
- > Freshly mixed concrete or mortar may cause skin irritation including alkaline burning and dermatitis.
- > Avoid contact with the skin by wearing suitable clothing and gloves.
- > In the event of contact with the skin or eyes rinse thoroughly with water.
- > If swallowed, drink one to two glasses of water.
- > If irritation persists, then seek medical attention.
- > A Material Safety Data Sheet is available.

Storage

Ultracem should be kept dry at all times and clear of the ground.

Standards

Ultracem meets the following National and International Cement Standards:

New Zealand

NZS 3122: 2009 Type GP

Australia

AS 3972: 2010 Type GP

UK and Western Europe

EN 197-1: 2011 CEM1 - 52.5N

Disclaimer: The information contained in this document is current at the time of issue. Holcim (New Zealand) Ltd reserves the right to change product specification without prior notice. Where specification is reliant on specific product performance please check with Holcim New Zealand first.



For further information, please contact your local Holcim Office or visit our website at:

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