

Calcium Chloride 37

Product Description

Calcium Chloride 37 is a set-accelerating admixture formulated to provide accelerated set during low ambient temperatures whilst increasing early and final strengths.

Calcium Chloride 37 is an aqueous liquid solution of inorganic Calcium Chloride that is manufactured under controlled conditions to produce a consistent product which ensures uniform and predictable performance when used.

Calcium Chloride 37 contains no Triethanolamine.

Advantages

- Calcium Chloride 37 offers significant advantages as a concrete set accelerator.
- Chloride 37 will reduce the setting time of concrete thus enabling earlier finishing times to be achieved, especially at low ambient temperature, when concrete temperatures are low. Finishing times can be reduced by up to 3 hours when Calcium Chloride 37 is used.
- Calcium Chloride 37 will increase early and latter age compressive strengths. Early strengths can be increased by over 25% compared to non-accelerated concrete. Increased early strengths will enable the earlier removal of form work.
- When Calcium Chloride 37 is used in concrete, that is designed with pozzolans such as fly ash and slag, acceptable finishing times and early strengths are achieved, thus optimising costs.

Product Advantages

- Accelerated set times
- Increases compressive strengths
- Mix economics

Specification Type

Calcium Chloride 37 complies to the requirements of Australian Standard as:

- 1478 Type Ac. (Appendix C4, class C (i))
- ASTM C-494 Type C

Benefits

- Controlled, predictable acceleration of set during low ambient temperatures.
- Early form removal or early use of concrete.
- Bleed reduction due to the greatly improved setting times.
- Denser, less permeable concrete.

- Effective over a wide range of cementitious contents and mix designs.
- Used in conjunction with Type GB cements (and mixes that contain fly ash) to offset slow setting times.
- Temperature of hot water used in winter mixes can be reduced to an optimum level.

Compatibility

Calcium Chloride 37 is compatible with all Portland cement systems, including fly ash, slag and limestone blends.

It is also compatible with all known admixture types currently available, but should be added to the mix separately, and not premixed prior to addition.

Addition Rates

Calcium Chloride 37 addition rate will normally range from 1,000 – 4,000mL / 100kg total cementitious, depending on mix properties required. In order to determine the optimum dose rate of Calcium Chloride 37, either on its own or in conjunction with other GCP admixtures, trials are recommended.

In general terms “1% Calcium Chloride” is achieved by using a dose of 2,000mL / 100kg total cementitious content and “2% Calcium Chloride” is achieved by using a dose of 4,000mL / 100kg total cementitious content.

Method of Use

Calcium Chloride 37 dose (mL / 100kg)	NIL	500	1000
Initial Set (20°C) (Hr Min)	6-20	5-30	4-30
Initial Set (10°C) (Hr Min)	10-10	8-30	7-00
7 day Compressive Strengths (Mpa)	12.5	15.5	16.5
28 day Compressive Strengths (Mpa)	23.0	24.5	25.5

Calcium Chloride is a liquid admixture supplied ready to use. It can be added to the mix at the same point as the mix water.



Typical Applications

Calcium Chloride 37 can be used in virtually all concrete and masonry applications to achieve economic advantage, such as:

- Flatwork and house slabs
- Pumped concrete
- Concrete floors poured inside on plastic with limited or no air flow
- Concrete roads
- Liquid Fill (DARAFILL® Applications)
- Applications using Grace MicroFibers™.
- Manufacture of concrete blocks, bricks, pavers and roof tiles

Dispensing Equipment

Please contact your local GCP representative for further information regarding the dispensing equipment for this product.

Chloride Ion

Calcium Chloride 37 contains a moderate level of chloride ion.

A dose of 1,000mL / 100kg total cementitious content will contribute 316 grams of Chloride.

Calcium Chloride 37 is not recommended in post-tensioned or pre-tensioned concrete, reinforced concrete with inadequate cover and concrete near marine environments.

DARASET®AF (a non-chloride accelerator) is available for these applications.

Packaging and Storage

Calcium Chloride 37 is delivered in 205L drums, 1,000L bulk boxes and by metered bulk tanker. Shelf life is minimum 12 months.

Safety Information

A Material Safety Data Sheet is available on request. Calcium Chloride 37 is not flammable.

Test Data

Cementitious content	310kg / m ³
Type GP/fly ash	(220/90)
Slump	80 mm

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