

DARACCEL[®] 37

Set-accelerating admixture

Product Description

DARACCEL[®] 37 is a set-accelerating admixture formulated to provide accelerated set during low ambient temperatures whilst increasing early and final strengths.

DARACCEL 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.

DARACCEL 37 contains no Triethanolamine.

Advantages

- DARACCEL 37 offers significant advantages as a concrete set accelerator.
- DARACCEL 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 DARACCEL 37 is used.
- DARACCEL 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 DARACCEL 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

DARACCEL 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

DARACCEL 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

DARACCEL 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 DARACCEL 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

DARACCEL 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



Typical Applications

DARACCEL 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

DARACCEL 37 contains a moderate level of chloride ion.

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

DARACCEL 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

DARACCEL 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. DARACCEL 37 is not flammable.

Test Data

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

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