

DARACCEL[®] 530

Set accelerator

Product Data Sheet

DARACCEL[®]530 is a liquid admixture formulated to provide faster set acceleration and increased early strength development of concrete. DARACCEL[®]530 is a blue aqueous solution that contains calcium chloride as well as other chemicals to enhance the effect of calcium chloride.

DARACCEL[®]530 has been formulated to comply with Australian Standard AS 1478 Type Ac. The chloride ion content of DARACCEL[®]530 is 340gm / L. The TEA level, when used at maximum dose rate, will be below 0.025% mass of binder.

Uses

DARACCEL[®]530 is specifically designed for use in cold weather concreting or whenever accelerated properties of concrete are desired. DARACCEL[®]530 is a set accelerator formulated to comply with the requirements of AS 1478 Type Ac and can be used with all cements and pozzolans. The resulting shorter setting time, and higher early strengths permit earlier finishing and earlier form removal with significant job economies. Although specifically designed for cold weather concreting, DARACCEL[®]530 is not an antifreeze but will reduce the time during which concrete must be protected from freezing.

DARACCEL[®]530 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 GCP MicroFiber™

Manufacture of concrete blocks, bricks, pavers and roof tiles DARACCEL[®]530 can be used in all types of concrete except prestressed and other applications where chloride levels need to be below the requirements of concrete standards (i.e. AS 3600).

Product Advantages

- Accelerated set times
- Mix economics
- Quicker finishing time
- Faster form removal

Addition Rates

DARACCEL®530 may be used from 500 to 2,000mL / 100kg total cementitious material. The exact dosage depends on the specific job conditions, on local materials, on the degree of set acceleration required and on the type of water reducer used.

In most instances, the addition of 800 to 1,200mL of DARACCEL®530 / 100kg of total cementitious material (assume a 250kg cement mix) will reduce the setting time of a typical concrete by 2 to 3 hours (at 10°C) and will increase the three-day compressive strengths by 25 to 45%.

Trial mixes should be conducted in order to determine specific dose rates required for the desired performance.

When DARACCEL®530 is dosed at a rate of 1,000mL / 100kg total cementitious the chloride level per cubic metre (assuming a 250kg cementitious mix) is approximately 800gm per cubic metre.

Copatibility with Other Admixtures

DARACCEL®530 is compatible with all known admixture types currently available, but should be added to the mix separately and not premixed prior to addition.

DARACCEL®530 is compatible with all portland cement systems, including fly ash, slag and limestone blends.

Dispensing Equipment

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



Advantages

Accelerated Set Times

When the temperature of concrete decreases, as seen during winter, the rate of concrete hydration also decreases. This results in longer setting time for the concrete and a slower rate of strength development. DARACCEL®530 is specifically designed for use in cold concreting conditions or whenever accelerating properties are desired. DARACCEL®530 can offset the negative effects of cold temperatures on set times and strength.

Mix Economics

When DARACCEL®530 is used in a mix that is designed with pozzolans, such as fly ash and slag, acceptable finishing times are achieved during low ambient temperatures, thus optimising mix costs.

Quicker Finishing Time

With shorter set times, concrete with DARACCEL®530 allows the concrete to be finished quicker.

Faster Form Removal

DARACCEL®530 concrete develops strength faster than plain concrete, allowing concrete forms to be removed earlier.

Packaging & Storage

DARACCEL®530 is delivered in bulk or in 205L drums.

Protect from freezing. Once frozen, the product should be thawed out slowly and remixed thoroughly prior to use.

Health and Safety

See DARACCEL®530 Material Safety Data Sheet or consult GCP Applied Technologies.

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Australia 1800 855 525 New Zealand +64 9 448 1146 China Mainland +86 21 3158 2888 Hong Kong +852 2675 7898 India: Chennai +91 44 6624 2308 Delhi +91 124 402 8923 Indonesia +62 21 893 4260 Japan +81 3 5226 0231 Korea +82 32 820 0800 Malaysia +60 3 9074 6133 Philippines +63 49 549 7373 Singapore +65 6265 3033 Thailand +66 2 709 4470 Vietnam +84 8 3710 6168

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GCP Applied Technologies Inc., 2325 Lakeview Parkway, Alpharetta, GA 30009, USA

GCP Australia Pty. Ltd., 14 Colebard Street West, Archerfield, Brisbane, Queensland 4108, Australia

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