

HARDENING ACCELERATOR FOR UNREINFORCED CEMENT, CONCRETE AND MORTAR

Description

NIROSET CA is ready to use Chloride based liquid accelerating admixture for use in unreinforced concrete, mortar and portland cement. NIROSET CA reduces the setting times in general and specially under cold weather, leading to early high and ultimate increased strengths. In addition, it reduces bleed and segregation while improves workability.

NIROSET CA should be replaced by NIROSET NCA, chloride free accelerating concrete admixture, where there is embedded or prestressed steel, or where sulphate resistant cement is used or when steam curing is employed. For advice in specific situations please contact our technical staff.

Uses

To accelerate the setting and early strength gain of unreinforced Portland cement concrete and mortar mixes.

- ✓ Typical applications include:
- ✓ Precast concrete production
- ✓ Repairs of the industrial floors
- ✓ Early de-stripping in cold weather

Advantages

- ✓ Superior finishing characteristics for flatwork and cast surfaces
- ✓ Earlier finishing of slabs – reduced labor costs
- ✓ Reduced protection time in cold weather
- ✓ Earlier stripping and reuse of forms
- ✓ Earlier structural use of concrete, as in lift-slab, tilt-up, paving and floors
- ✓ Easy to disperse in concrete mixtures, as it is liquid

Characteristics

Form	: Liquid
Colour	: Brownish
Relative Density	: 1.23 ± 0.02 at 250C
pH	: Min. 6

Standard Compliance

NIROSET CA complies with BS 5075 Part 1 and with ASTM C494 as Type C.

Dosage

Optimum dosage of NIROSET CA should be determined by site trials only using the materials and temperature conditions that will be experienced in use, the dose will increase when temperature will decrease.

However, as a guide, a dosage range of 1 to 4% on cementitious material is recommended.

Dosages outside of the recommended range may be required at colder climatic conditions. In such cases, contact our local representative.

Effects of overdosing

Result in increase in initial acceleration, but will not materially alter the ultimate strength or characteristics of the cured concrete or mortar.

Direction for use

NIROSET CA is a ready-to-use liquid admixture. For maximum dispersion throughout the mix, measured quantity of NIROSET CA should be added into the mixer at the same time as the mixing water. The plasticizing effect and water reduction will be higher when the admixture will be added to the damp concrete by adding 60 to 80% of the mixing water in it.

The addition of NIROSET CA to dry aggregate or cement is not recommended

Compatibility

NIROSET CA can be used with all types of cements except high alumina cement. NIROSET CA is also compatible with slag and pozzolans such as fly ash and silica fume.

It is compatible with other admixtures of NCL but should be added separately to the mix. Reduced air content may result when NIROSET CA is used in conjunction with some air entraining agents. Consult with our local representative, if other admixtures are to be used.

Workability

The addition of NIROSET CA without reduction of the water content increases the slump and significantly improves concrete flow characteristics without decrease in concrete strength

Rate of hardening :

The temperature of the concrete mix and the ambient temperature (forms, earth, reinforcement, air, etc.) affect the hardening rate of concrete. At higher temperatures, concrete hardens more rapidly which may cause problems with placing and finishing. One of the functions of NIROSET CA admixture is to accelerate the set of concrete. Within the normal dosage range, it will generally reduce the setting times of concrete containing normal portland cement approximately by 1 hour to 3 hours compared to a plain concrete mix, depending on materials at site and temperatures. Trial mixes should be made with site materials & approximating the job site conditions to determine the dosage required.

It is strongly recommended that concrete should be properly cured particularly in windy and dry climates.

Technical support

NIRMAN CHEMICALS provides technical advisory services for on-site assistance and guidance on mix design, optimum dosage evaluation of trials.

Packaging

NIROSET CA is supplied in 20 kg, 225 kg drums or in bulk on request.

Storage and Shelf life

NIROSET CA must be stored where temperatures do not drop below +5°C. If product has frozen, thaw at +5°C or above and completely reconstitute using mild mechanical agitation. Do not use pressurized air for agitation. Store under cover, out of direct sunlight and protect from extremes of temperature.

Shelf life is 12 months when stored as above.

Failure to comply with the recommended storage conditions may result in premature deterioration of the product or packaging.

For specific storage advice consult our local NIRMAL CHEMICALS representative.

Safety precautions

NIROSET CA does not fall into the hazard classifications. However, it should not be swallowed or allowed to come into contact with the skin and eyes.

Suitable protective gloves and goggles should be worn. Splashes on the skin should be removed with water. In case of contact with the eyes it shall be rinsed immediately with plenty of water and medical advice sought immediately. If swallowed, medical attention shall be sought immediately - Vomiting should not be induced.

Fire

NIROSET CA is water based and non-flammable.

Cleaning of Tools

Clean all tools and application equipment with water immediately

Note

All Technical Data Sheets are updated on regular basis; it is the user's responsibility, to obtain the most recent issue.

Field services where provided, does not constitute supervisory responsibility, for additional information contact our local NIRMAL CHEMICALS representative.

Disclaimer

Whilst any information contained herein is true, accurate and represents our best knowledge and experience, no warranty is given or implied with any recommendations made by us, our representatives or distributors, as the conditions of use and the competence of any labor involved in the application are beyond our control.



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