Fosroc Conplast NC

constructive solutions

Chloride free accelerating admixture

Uses

- To accelerate the stiffening and early strength gain of Portland cement concrete and mortar
- Typical applications include concrete or mortar placed in cold weather and precast concrete

Advantages

- Particularly effective in assisting to offset the delaying effect of low temperatures on setting and strength gain
- Accelerated setting gives added protection against early age frost attack
- Also provides a degree of water reduction or increased workability
- Suitable for use in bricklaying mortar
- Chloride free, safe for use in reinforced concrete

Standards compliance

Conplast NC complies with BS 5075, BS:EN934-2 and with ASTM C494 as type C.

Description

Conplast NC is a chloride free accelerating admixture. It is supplied as a straw coloured solution that instantly disperses in water.

Conplast NC accelerates the early stages of cement hydration, producing a more rapid stiffening and allowing strength gain to commence at an earlier stage. This effect is particularly noticeable at low temperatures and is most significant in the first 24 hours after mixing.

Technical support

Fosroc provides a technical advisory service for on-site assistance and advice on admixture selection, evaluation trials and dispensing equipment. Technical data and guidance can be provided for admixtures and other products for use with fresh and hardened concrete.

Typical dosage

The optimum dosage of Conplast NC to meet specific requirements should always be determined by trials using the materials and conditions that will be experienced in use. This allows the optimisation of admixture dosage and mix design and provides a complete assessment of the concrete mix. A starting point for such trials is to use a dosage within the normal typical range of 2.00 to 3.00 litres / 100 kg of cement.

Use at other dosages

Dosages outside the typical range quoted above may be used if necessary and suitable to meet particular mix requirements, provided that adequate supervision is available. Compliance with requirements must be assessed through trial mixes. Contact the Fosroc Technical Service Department for advice in these cases.

Typical Properties

Appearance	:	Straw coloured liquid
Specific gravity	:	1.26 at 25°C
Chloride content	:	Nil to BS 5075 / BS:EN934
Air entrainment	:	Less than 2% additional air is entrained at normal dosages.

Instructions for use

Compatibility

Conplast NC is compatible with other Fosroc admixtures in the same concrete mix. The admixtures must be added to the concrete separately with the mixing water and must not be directly mixed together prior to addition. The performance of concrete containing more than one admixture should be assessed by trial mixes to ensure the desired combination of effects is obtained.

Conplast NC is suitable for use with ordinary Portland cement. Contact the Fosroc Technical Service Department for advice on use with sulphate resisting cements and cement replacement materials.

Durability

Conplast NC has no detrimental effect on the protection given to embedded steel by the alkalinity of cement and is safe for use as an accelerator in situations where chloride containing admixtures cannot be used.

Dispensing

The correct quantity of Conplast NC should be measured by means of a recommended dispenser. The admixture should then be added to the concrete with the mixing water toobtain the best results.

Contact the Fosroc Technical Service Department for advice regarding dispensing suitable equipment and its installation.

Effects of overdosing

An overdose of double the intended amount of Conplast NC may result in increased acceleration. In common with other accelerators this may slightly reduce the ultimate strength of the concrete.

Testing has shown no detrimental effect on embedded steel even at four times overdose.

Curing

As with all structural concrete, good curing practice should be maintained. Water spray, wet hessian or a Concure* spray applied curing membrane should be used.

Typical performance examples with UK materials

Many variables in concreting materials and conditions can effect the selection and use of an admixture. Trials should be carried out using relevant materials and conditions in order to determine the optimum mix design and admixture dosage to meet specific requirements.

Typical performance examples from evaluation studies of Conplast NC are included on this data sheet. The values quoted are representative of results obtained and are provided as illustrations of performance. Because of the variability of concreting materials, the results should only be taken as typical of the performance to be expected. Results quoted in individual examples should not be taken as necessarily directly comparable with other examples given here or results quoted elsewhere for Conplast NC or other products.

Unless otherwise specified, all testing quoted below was carried out to relevant parts of applicable British Standards.

Example: Testing at varying temperatures to show typical effect on setting and strength gain at equal workability

Approximate mix design: 300 kg/m3 OPC, 5 to 20 mm gravel aggregate, sand Zone M to BS 882.

Curing temp.	Mix	Dosage litre / 100 kg	BS 5075 setting Initial	Final	10 hrs	18 hrs	Compressive strength N/mm² 24 hrs	3 days	7 days	28 days
5°C	Control	-	14 hr 00	19 hr 00	-	-	1.5	5.5	17.0	32.0
	Conplast NC	2.5	12 hr 00	17 hr 00	-	0.5	3.0	10.0	20.0	36.0
10°C	Control	-	4 hr 00	6 hr 00	-	-	2.5	8.0	20.0	35.0
	Conplast NC	2.5	3 hr 00	4 hr 30	-	2.0	4.5	13.0	24.0	40.0
20°C	Control	-	3 hr 00	4 hr 30	1.0	4.5	6.0	17.0	29.0	43.0
	Conplast NC	2.5	2 hr 00	3 hr 30	3.5	9.0	11.0	24.0	34.0	46.0

Limitations

Conplast NC is most effective at low temperatures and early ages. Where compressive strength gain is the major requirement, and stiffening rates are less important, a more cost effective performance may be obtained through the use of a Conplast plasticiser or superplasticiser.

Normal precautions for cold weather concreteing should be followed where Conplast NC is used.

Estimating

Supply

Conplast NC
210 litre drum, 1000 litre totes or bulk

For larger users, storage tanks can be supplied.

Storage

Conplast NC has a minimum shelf life of 12 months provided the temperature is kept within the range of 2°C to 50°C. Should the temperature of the product fall outside this range then the Fosroc Technical Service Department should be contacted for advice.

Conplast NC is an oxidising agent and should be stored away from reducing agents and combustible materials.

Freezing point: Below -16°C.

Crystallisation may occur below -1°C. If crystallisation does occur it is important that the product is reconstituted before use.

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Precautions

Health and safety

Conplast NC is toxic and should not be swallowed or allowed to come into contact with skin and eyes. Wear suitable protective gloves and goggles. Splashes on the skin should be removed with water. In case of contact with eyes rinse immediately with plenty of water and seek medical advice. If swallowed seek medical attention immediately - Do not induce vomiting.

Conplast NC is an oxidising agent and must not be mixed with acids and other admixtures. Refer to “Instructions for use”.

For further information consult the Product Safety DataSheet available for this product.

Fire

Conplast NC is water based and non-flammable but should be stored away from combustible materials.

Cleaning and disposal

Spillages of Conplast NC should be absorbed onto sand, earth or vermiculite and transferred to suitable containers.

Do not allow Conplast NC to enter rivers or drains.

The disposal of excess or waste material should be carried out in accordance with local legislation under the guidance of the local waste regulatory authority.

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† **See separate data sheet**

Important note

Fosroc products are guaranteed against defective materials and manufacture and are sold subject to its standard Conditions for the Supply of Goods and Service. **All Fosroc datasheets are updated on a regular basis. It is the user’s responsibility to obtain the latest version.**

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UAE/0543/08/B