

POZZOLITH[®] CRP4

High performance retarding plasticiser for concrete

Description

POZZOLITH CRP4 is a high performance plasticising retarder, beneficial in maintaining workability especially in high ambient temperatures.

Uses

- Of particular value for ready-mix concrete where high workability retention and retardation are of prime importance.
- Hot weather concreting
- Reduction in permeability, reducing effect of groundwater salts on concrete and steel.
- To improve cohesion, workability and compaction in concretes using poorly graded/shaped fine aggregates.

Typical applications include:

Hot weather concreting where delays to initial and final set are important and where maximum slump retention is of concern - such as site batched, pre-cast, and ready mixed concretes.

Advantages

- Considerably improves the cohesion of concrete, reducing segregation and bleed water.
- Of particular use where fine aggregates of poor grading and particle shape are evident.
- Reduces placing problems in hot weather by improved workability and workability retention in conjunction with extended setting times.
- Improved surface finish.
- Improved trowellability.
- Reduces honeycombing / cold joint effects.
- Improves pumpability of concrete.
- Reduces effects of various modes of attack on concrete and embedded steel by considerable reduction in permeability.

Typical Properties

Aspect	: Dark brown free flowing liquid
Relative Density	: 1.18 ± 0.02 at 25°C
pH	: ≥ 6
Chloride ion content	: $< 0.2\%$

Standards

- ASTM C-494 Type B and D.
- EN 934-2: T10
- IS 9103: 1999

Direction for use

POZZOLITH CRP4 is a ready-to-use liquid which is dispensed into the concrete together with the mixing water. The plasticising effect and water reduction are higher if the admixture is added to the damp concrete

after 50 to 70% of the mixing water has been added. The addition of POZZOLITH CRP4 to dry aggregate or cement is not recommended. Automatic dispensers are available.

Dosage

Field trials should be conducted to determine the optimum addition rates of POZZOLITH CRP4. As a general guide to these trials, a dosage range of 200ml to 560ml per 100kg of cementitious material is recommended as a starting point. Depending on the desired properties, a dosage of up to 1000ml per 100kg of cementitious material can be used. Because of variations in concrete materials, job site conditions, and/or applications, dosages outside of the recommended range may be required. In such cases, contact your local BASF representative.

For addition information on POZZOLITH CRP4 admixture or on its use in developing concrete mixes with special performance characteristics, contact your local BASF representative.

Effects of over dosage

A severe over-dosage of POZZOLITH CRP4 can result in the following:

- Long extension of initial and final set
- Increase in air entrainment
- Bleed/segregation of mix, quick loss of workability
- Increased plastic shrinkage

A slight overdosing may not adversely affect the ultimate strength of the concrete and can achieve higher strengths than normal concrete, provided it is properly compacted and cured. Due allowance should be made for the effect of fluid concrete pressure on form work, and stripping times should be monitored. The retarding effects of very high dosages will be exaggerated with Sulphate resistant cement.

In the event of over dosage, consult your local BASF representative immediately.

Compatibility

POZZOLITH CRP4 can be used with all types of Portland cement including Sulphate Resisting. For use with other special cements, please consult your local BASF representative. POZZOLITH CRP4 should not be pre-mixed with other admixtures. If other admixtures are to be used in concrete containing POZZOLITH CRP4, they must be dispensed separately. POZZOLITH CRP4 is also compatible with slag and pozzolans such as fly ash and silica fume.

Corrosivity – Non Corrosive

POZZOLITH CRP4 admixture will neither initiate nor promote corrosion of reinforcing steel embedded in concrete, prestressed concrete or concrete placed on galvanized steel floor and roof systems. Neither calcium chloride nor any calcium chloride-based ingredients are used in the manufacture of POZZOLITH CRP4 admixture. In all concrete application, POZZOLITH CRP4 admixture will conform to the most stringent or minimum chloride ion limits currently suggested by construction industry standards and practices.

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 POZZOLITH CRP4 admixture is to retard the set of concrete. Within the normal dosage range, it will generally extend the working and setting times of concrete containing normal portland cement approximately 1 hour to 5 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.

Workability

POZZOLITH CRP4 ensures that concrete remains workable in excess of 3 hours at +25°C. Workability loss is dependent on temperature, and on the type of cement, the nature of aggregates, the method of transport and initial workability.

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

The use of MASTERKURE111CF, evaporation reducer to prevent quick moisture loss from the surface of the flat works such as pavements in the dry, windy and hot climates is highly recommended.

Packaging

POZZOLITH CRP4 is supplied in 20kgs, 245 kg drums or in bulk on request.

Storage and Shelf life

POZZOLITH CRP4 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 your local BASF representative.

Safety precautions

As with all chemical products, care should be taken during use and storage to avoid contact with eyes, mouth, skin and foodstuffs (which can also be tainted with vapour until product fully cured or dried). Treat splashes to eyes and skin immediately. If accidentally ingested, seek immediate medical attention. Keep away from children and animals. Reseal containers after use. Do not reuse containers for storage of consumable item. For further information refer to the material safety data sheet. MSDS available on demand or on BASF construction chemicals web site.

Note

All BASF 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 your local BASF 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 labour involved in the application are beyond our control.

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