

CAC-Shotcrete AFA

Alkali Free liquid accelerator for sprayed concrete for shotcreting

CAC-Shotcrete AFA is an alkali free set accelerator available in liquid form for use with sprayed concrete for guniting, shotcreting etc.

AREA OF APPLICATION:

CAC-Shotcrete AFA is used for sprayed concrete and mortar in galleries, tunnels, retaining walls, embankments, tank lining etc. Cement mortar admixed with **CAC-Shotcrete AFA** sets rapidly; hence faster placing of higher thickness in one application is possible.

STANDARDS:

IS 9103-1999 (reaffirmed 2007)
ASTM C494/C494-08a, Type C
BS EN 934 EFNARC specification of sprayed concrete & ASTM C 1141

ADVANTAGES:

Following points are beneficial with **substantial low dosages** in comparison with silicate based.

- Alkali free so does not promote Alkali Silica Reaction in concrete & hence produces **sound concrete**.
- Proper spraying consistency of the concrete when mixed & quick setting enables to stick the concrete in substrate adequately resulting no or minimum **rebound loss & hence economic**.
- Rapid setting leads to higher builds spray (more than 100 mm thickness) at a time, contributes faster coverage & hence **more economics**.
- Quick setting ensures spraying on wet surface even with running water &

contributes **water tightness instantly**.

- Formulated in such a way that develops **high early strength & later strength** is not adversely affected obviously with prescribed dosages.
- Chloride free & does not promote **corrosion of reinforcing steel if any**.
- Non caustic leads to safer handling to workmen & **maintains safety** to the operating condition in workplace.

METHOD OF APPLICATION:

A good pumpable mix design with minimum slump is required to minimize the dosage of accelerator. The required quantity of accelerator is directly added to the concrete at the time of shotcreting. Accelerator dosage can be optimized by adjusting the air pressure, spraying distance from the tip of the nozzle, skills & operating techniques of the operator to a minimum rebound loss with higher build.

DOSAGE:

Typical Dosage should be in between 4 – 7% by weight of cementitious material depending upon the site requirement and ambient temperature. In general guideline, maximum dosage up to 8% is permissible.

Dosage beyond this limit may also be used to suit the actual requirement of the site condition provided that it should not affect the later strength of concrete adversely. An overdose of accelerator may result in quick setting of the mix before it reaches the surface to be sprayed which may results huge rebound loss & it may also result in a loss of strength of the concrete adequately those stick with the substrate. So

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proper dosage to be optimized to meet the site requirements by site trials with materials available & ambient condition. It must be stirred well before use to avoid any kind of settlement at the bottom of accelerator tank.

TECHNICAL PROPERTIES:

Appearance	Light Yellow Liquid
Specific Gravity @30°C	1.420 ± 0.020
Chloride content	0.2 (Max.)
pH	3 + 1
Air entrainment	NIL

CONSISTENCY:

CAC-Shotcrete AFA is formulated with selective alkali free ingredients and is manufactured under controlled conditions to give a consistent product.

COMPATIBILITY:

CAC-Shotcrete AFA is compatible with other CAC admixtures in same concrete mix. All admixtures should be added to the concrete separately. It is suitable to all types of OPC and cement replacement material such as PFA, GGBFS and Silica Fumes.

HANDLING:

CAC-Shotcrete AFA is formulated from chemicals which has no fire or health hazard.

STORAGE:

If stored in undamaged sealed containers in dry condition at normal ambient temperatures, a shelf life of 04 months can be expected.

PACKING:

CAC-Shotcrete AFA is available in 250 Kg drum.

SAFETY PRECAUTIONS:

CAC-Shotcrete AFA is a non-toxic and non-flammable. When in contact with the skin, it should be washed with cold water.

PRODUCT INFORMATION:

Although the basic formulation of our products generally remains unchanged production refinements arising from continuing research and evolution program may occasionally results in marginal changes in properties.

TECHNICAL SERVICE:

CAC has an advisory service on concrete mix design & application of right products at right place, can be contacted if assistance is required. CAC maintains a technical division with highly qualified Technical Personnel to investigate and to give advice on subjects.

Related to concrete and the construction Industry, the Division will advise on the correct use and selection of right products at the right place.

Disclaimer:

The product information & application details given by the company & its agents has been provided in good faith & meant to serve only as a general guideline during usage. Users are advised to carry out tests and take trials to ensure on suitability of products meeting their requirement prior to full scale usage of our products. Since the correct identification of the problems, quality of the other materials used and on-site workmanship are factors beyond our control, there are no expressed or implied guarantee / warranty as to the results obtained. The Company does not assume any liability or any consequential damage for unsatisfactory results, arising from the use of our products.