Admixtures & Surface Treatment

Armix AFA

(Formerly known as MYK Savemix AFA 160 M)

High performance Alkali-free, liquid Set accelerator for sprayed concrete

Product Description

Armix AFA is a high performance alkali - free set accelerator for sprayed concrete. It is a liquid admixture whose dosage can be varied to obtain the desired setting and hardening times.

Uses

Armix AFA is suitable for all applications, where exceptionally high early strength, good final strength and extremely thick layers are required.

- Temporary and permanent rock support in tunnels
- Rock support in mining
- In poor ground conditions
- Slope stabilization
- Also suitable for acceleration of cementitious grouts and foam concrete backfill operations.

Features and Benefits

Armix AFA is ideally suited for wet mix sprayed concrete for rock support, because:

- The quick setting property allows: rapid work progress and the ability to construct thick sprayed concrete linings via layered application during one construction sequence.
- The unique product formulation provides extremely fast setting coupled witch continual early-age strength development. Good long- term strength and durability are also achieved.
- Since the product is non-aggressive it provides improved working safety, reduced environmental impact and lower handling costs.
- Very low dust production and therefore a good working environment.
- Possibility of low rebound applications when using the correct nozzle angle and distance.

Application Methodology

Step no.1: Surface preparation

The substrate should be clean and free from loose particles and preferably damp.

It is recommended to use only fresh cement as the age of the cement can have a negative influence on the setting characteristics of the mix.

Armix AFA can be sensitive to the type of cement. With some cements the setting characteristics can be too slow. We recommend the use of Portland cements (PC/HPC), which normally give faster setting than blended or sulphate resistant cement types. However, Armix AFA also works well with composite cements types (blended cements, flyash/slag). In all cases, it is strongly recommended to do preliminary tests to check setting and the 24 h strength of the cements planned for use in a project. Evaluation of setting and 24 h strength (without addition of slump killing system), Should be carried out on a test mortar in accordance with EFNARC European Specification for Sprayed Concrete (1996), Appendix 1, Clause 6.3.





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Step no.2: Dispensing and Mixing:

When Armix AFA is used for wet mix spraying, the w/c +b ratio should be below 0.5 and preferably <0.45. When targeting extremely high early strength, 0.40 or lower. The lower w/c+b ratios provide faster setting, higher early strength, better durability, lower accelerator dosage and thicker layers can be applied overhead.

Step no.3: Typical dosage:

Armix AFA is added in the nozzle. To ensure a constant and accurate dosage to ensure quality sprayed concrete, it is very crucial to follow the pump selection guideline given below:

Effect of overdosing

Overdosing (>10%) may result in decreased final strength.

Works very well with:

- Mono pumps (screw pumps)
- Squeeze pumps (Bredel)

Should not to be used with:

- Piston pumps
- All pumps with ball and seat valves
- Pressure tanks
- Gear pumps

Do not use a filter on the suction hose as this causes obstructions. Preferably draw the material off the bottom of the drum/container.

Step no.4: Application instructions:

Armix AFA can be interchanged with most of MYK's alkalifree accelerators. For advice please contact your local MYK representative.

Do not mix or interchange Armix AFA with any type of accelerator produced by another manufacturer, as this can cause immediate clogging of dosing pumps and hoses.

Note: Over a period of time and subject to ambient condition, Armix AFA has tendency to turn hazy and may appear as white emulsion, which is purely chemical nature of the product, and does not affect the properties and performance of the product.



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Technical Data

Form	Liquid Suspension	
Color	Off White color	
Density (+27°C)	1.4 ± 0.03g/ml	
pH value	2.5±0.5	
[Na2O] EQV. (%bw)	<1.0%	
Chloride	<0.10%	

Typical setting time As per ASTM C 1102 (Depending on Cement and w/c ratio)

Dosage	Initial Set	Final Set
7 %	< 3 min	< 12 min
8%	< 3 min	< 10 min

Consumption/Dosage

The consumption of Armix AFA also depends on the w/c+b ratio, temperature conditions (concrete and ambient), cement reactivity and on required layer thickness, setting time and early strength development. The consumption is normally in the range of 3 to10% of binder weight.

Cleaning of dosing pump:

Prior to the use of Armix AFA the dosing pump and other parts of the system must be thoroughly cleaned with plenty of water, Failure to do so provokes blockages in the dosing system. Make sure that all operators involved in testing and application are fully informed.

Thoroughly cleaned: with plenty of water. Failure e to do so provokes blockages in the dosing system. Make sure that all operators involved in testing and application are fully informed.



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Packaging

Armix AFA is supplied in 250 Kg HDPE drums.

Storage and Shelf Life

Armix AFA must be stored in its original container as supplied at minimum $+5^{\circ}$ C and maximum $+35^{\circ}$ C. (Optimum temperature for storage and performance is $+20^{\circ}$ C).

If required for storing of Armix AFA should be stored in closed containers, made of plastic, glass fiber plastic.

Armix AFA must not be stored in normal steel containers as the pH can cause corrosion that might affect the performance of the product.

After prolonged storage we recommend that Armix AFA be always fully agitated prior to use by mechanical stirring or re-circulation pumping.

If stored in tightly closed original containers under the above given conditions, Armix AFA has a shelf life of 6 months.

It is recommended to consult our local MYK Arment representative prior to the use of any product that has been frozen.

Performance testing should always be carried out before use



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Health & Safety

ArmixAFA does not fall into the hazard classifications of current regulations. However, it should not be swallowed or allowed to come into contact with skin or eyes. Suitable protective gloves and goggles should be worn. 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.

Fire

Armix AFA is water based and non-flammable

Product Categories Available



Legal Note

The information, and, in particular, the recommendations relating to the application and end-use of MYK Arment products, are given in good faith based on MYK Arment current knowledge and experience of the products when properly stored, handled and applied under normal conditions in accordance with MYK Arment's recommendations. In practice, the difference in materials, substrates and actual site conditions are such that no warranty in respect of merchant ability or of fitness for a particular purpose, nor any liability arising out of any legal relationship whatsoever, can be inferred either from this information, or from any written recommendations, or from any other advice offered. The user of the product must test the product's suitability for the intended application & purpose. MYK Arment reserves the right to change the properties of its products. The proprietary rights of third parties must be observed. All orders are accepted subject to our current terms of sale and delivery. Users must always refer to the most recent issue of the local product data sheet for the product concerned, copies of which will be supplied on request.

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