

A-Train FF

Admixture For Cellular and Pre-Foamed Lightweight Concrete

General Description

A-Train FF is a specialty solution of selected surfactants for use as an Admixture for Cellular and Pre-Foamed Lightweight Concrete and for use as a Synthetic Air Entraining Admixture for Concrete. When used with a Foam Generator and a suitable water supply, A-Train FF produces a consistent pre-foam that is stable under alkaline conditions and suitable for use in the production of foamed concrete. Foamed concrete is the industry term used for the product produced by the controlled addition of a pre-foam to a cement grout or sand/cement mortar. A range of densities can be produced, typically from 20 to 100 lb/ft³. Foamed concrete is lightweight and highly mobile, able to flow for long distances under its own hydraulic head, and is an ideal material for uses such as void filling, roof screeds and trench reinstatement.

Uses

Typical applications for foamed concrete include but are not limited to:

- Controlled low strength materials
- Trench filling for permanent, non-sink reinstatement
- Elimination of fire risks, health hazards and control of progressive collapse in areas such as underground fuel tanks, below railway platforms, old mine workings, sinkholes, industrial remediation, nuclear decommissioning and abandoned sewers
- As a lightweight thermal insulating material for roof screeds, suspended floors and basements
- As a semi-structural support in embankments, bridge abutments, tunnels and arches

Features / Advantages

- Produces a consistent, stable pre-foam when used with a Foam Generator
- Easily controlled addition of pre-foam to pre-batched mortar allows close control of finished density
- Expensive blending equipment is not required as mixing can be carried out in the drum of a ready mix truck
- Produces a highly mobile foamed concrete which is easily placed without compaction
- Foamed concrete retains its volume and does not sink during or after hardening

Specifications

- Conforms to ASTM C 869 "Standard Specification For Foaming Agents Used In Making Preformed Foam For Cellular Concrete"
- Conforms to ASTM C 260
- AASHTO M 154
- CRD C 13

All other Federal and State specifications

Dosage:

The dosage of A-Train FF depends upon the original starting materials and the desired final density of the foamed concrete. Typical dosages are in the range of 16 to 64 ounces per cubic yard of finished foamed concrete over a density range of 20 to 100 lb/ft³. The optimum dosage of A-Train FF to meet specific requirements should always be determined by trials using the materials and conditions that will be experienced in use. Dosages outside the typical range suggested on this data sheet may be used if necessary and suitable to meet particular mix requirements. Contact your local Riteks technical service representative for advice in these cases.

Packaging

55-gallon drums, 275-gallon tote tanks, and bulk tank truck

Shelf Life

12 months

Storage

A-Train FF should be stored at temperatures above 35 F (2 C) degrees. Although freezing does not harm the performance of A-Train FF, precautions should be taken to protect it from freezing. If it should happen to freeze, thaw and reconstitute with mechanical agitation. **Do Not Use Pressurized Air For Agitation.**

Health and Environmental Data

Before handling or using this product please refer to the Safety Data Sheet for complete health, safety and environmental information. Dispose of waste in accordance with local, state, and federal regulations.

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Technical Note:

A-Train FF does not contain calcium chloride or any chloride-based components. It will not promote or contribute to corrosion of reinforcing steel in concrete.

INSTRUCTIONS FOR USE:

A pre-foam is produced by feeding A-Train FF through a Foam Generator. Either a water or air foam generator may be used. No pre-dilution is required with water foam generators. Air foam generators require a pre-dilution ration of 1 part A-Train FF to 15-35 times water. Foam generators should be fitted with a proportional feeder unit set to correctly dispense A-Train FF.

Only potable water should be used for the prefoam. Concrete wash water or water from other sources containing high levels of calcium ions should not be used. Refer to the Ritek's Notes sheets on Foam Generator Operating Procedures and Suitable Mix Designs to generate desired unit weights. Instructions from the Ritek's Notes should be followed to produce the pre-foam.

YIELD:

Unless extremely tight control is exercised, the density of a foamed concrete is likely to vary by ± 20 lb/yd³. This variability should be considered when estimating the possible volume of material required. Some factors may affect density and yield. Losses will not always occur but the possibility should be considered. Possible causes of loss include:

- o Transportation of foamed concrete over long distances, such as when pre-foam is added at a batch plant instead of onsite
- o Delays in placing and pumping Foamed concrete placed against a dry substrate causing foam collapse due to the suction of water out of the foamed concrete. If this occurs, wet substrate before placing the foamed concrete to reduce the likelihood of the problem.

COMPATIBILITY:

A-Train FF is compatible with all types of Portland cement, class C and F fly ash, silica fume, calcium chloride, fibers and approved air entraining, accelerating, retarding, superplasticizing, and water-reducing admixtures. A-Train FF can be used in white, colored, and architectural concrete. For best results, each admixture must be dispensed separately into the concrete mix.

LIMITATIONS:

Trials should be made using relevant materials and conditions in order to determine the optimum mix design and admixture dosage to meet specific requirements. Compressive strength is proportional to its density and also to the cement content of the original mortar.

A number of factors, such as water to cement ratio and the materials used, can affect the unit weight and compressive strength.

A-Train FF is not intended for direct addition to the mortar and use in this manner will not produce foamed systems. A-Train FF may not be suitable for use with certain sands, in particular coarse sands. Sands containing a significant amount of particles greater than a #16 sieve should be avoided. Pre-foam should not be made using concrete wash water or water from other sources containing high levels of calcium ions.

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