

## CEMENT AND CONCRETE DEFOAMER AND AIR-DETRAINER

### ADVANTAGES

- Reduces the amount of concrete rejected due to high entrained air content.
- Increases unit weight of concrete.
- Recommended for the production of heavyweight concrete.
- Allows high speed mixing of cement and fly ash without foaming.
- May increase compressive strength of concrete.
- Counteracts entrained air caused by the new generation of superplasticizers.
- Maintains slurry densities.
- Air-Minus is available in bulk or in a patented water-soluble Fritz-Pak inner bag for convenient use at the plant or job site.

### DESCRIPTION

Fritz-Pak Air-Minus is a dry powdered defoamer for use in dry blended materials, or for wet/plastic concrete. It decreases foaming and minimizes air entrainment in cement slurries, grouts, concrete and mortars. It can also be used to counteract the air entrainment caused by water reducers and plasticizers.

### DIRECTIONS

Air-Minus may be added to dry or wet mixes.

#### **Dry Mixes:**

1. Determine the amount of Air-Minus required. See Recommended Dosage Rate.
2. Blend thoroughly as a dry powder into dry mixes.

#### **For Ready-Mix Concrete:**

1. Determine the amount of Air-Minus required. See Recommended Dosage Rate.
2. Each 1.1-lb (500 g) package is double-bagged. Remove the protective outer bag and add the entire inner water-soluble Fritz-Pak bag and contents to the plastic/wet concrete. The entire inner bag will easily dissolve.
3. Mix at high speed for 5 to 7 minutes to insure that the Air-Minus is uniformly dispersed throughout the mix.
4. Concrete containing Air-Minus may be redosed to achieve the desired level of air entrainment.

### RECOMMENDED DOSAGE RATE

#### **Dry Mixes:**

Recommended Dosage is 0.1% to 0.5% by weight of the cement for dry-blended materials. Since many factors may affect air entrained and entrapped in concrete, extensive testing with your specific materials is



recommended to determine the optimum dosage rate. Contact Fritz-Pak for technical assistance with your dry mix designs.

#### **Ready-Mix Concrete:**

**Mix Design:** Use one bag of 1.1 lbs (500 g) for every 1-4 yards (1-3 cubic meters) of concrete to reduce 1-2% air entrained. For best results, add Air-Minus at the beginning of the load cycle to prevent air from being entrained during mixing. Due to the high variability of causes of air entrained and entrapped in concrete, extensive testing is recommended to determine the best mix design for your specific materials. Contact your distributor or Fritz-Pak if you need technical assistance.

**Job Site Corrections:** If corrections need to be made on the job site because air content is too high, begin by adding two 1.1-lb (500 g) bags of Air-Minus per truckload. Recheck air content. If any change can be measured, continue to add Air-Minus until air content is in the desired range. If no change is measured after the first or second addition, Air-Minus may not be able to correct the problem.

### COMPATIBILITY

Air-Minus is compatible with most admixtures. Adding salt, surfactants, superplasticizers, air entrainers or latex to the mix can cause increased foaming or reduce the effectiveness of Air-Minus. When used with other admixtures, each admixture must be dispensed separately into the mix.

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### **PROPERTIES**

Specific Gravity: 1.35  
Bulk Density: 25.2 lb/cu. ft, (0.4 kg/liter)  
Absolute Volume: 0.0889 gal/lb (0.73 liter/kg)  
Color and Odor: Off-white powder with slight odor  
Water Requirements: None

### **PACKAGING**

- 1.1-lb (500-g) water soluble bag, 24 bags per case, 42 cases per pallet (item #95996)
- 50-lb (22.7-kg) paper bag, 40 bags per pallet (item #95997)

### **FAQs**

- Q. What is the mode of action of Air-Minus?  
A. Air-Minus reduces the water tension thus reducing the ability of water to form bubbles.
- Q. What happens to the air after I add Air-Minus?  
A. As concrete is exposed to the air, the entrained bubbles break and the air is released back to the atmosphere. That is why it is important to mix the concrete after Air-Minus has been added.
- Q. What is the main component of Air-Minus?  
A. It is a medium chain, branched glycol.
- Q. Is Air-Minus soluble in water?  
A. No.
- Q. Will Air-Minus effect the strength of the concrete?  
A. No. It may increase compressive strength.
- Q. When is the best time to add Air-Minus?  
A. Prior to mixing. This can prevent the formation of bubbles thus reducing entrained air.
- Q. Can you knock out all air content with Air-Minus?  
A. No. The lowest air content you can realistically expect is around 1.0%
- Q. Can loads containing Air-Minus be redosed?  
A. Yes. However, the air content may or may not decrease further.
- Q. Can Air-Minus counteract high dosages of air entraining admixtures?  
A. No. Air entraining admixtures are very strong materials. If concrete is accidentally dosed with

high doses of air entrainers, Air-Minus may not effectively lower the air content.

- Q. Can Air-Minus be used with latex and other polymers?  
A. Yes.
- Q. Can Air-Minus be used to produce heavyweight concrete, such as for radiation shielding?  
A. Yes. It helps to maintain stable air contents and may be more effective than adding heavy weight aggregates or minerals.
- Q. Can Air-Minus be used in cement slurries and low viscosity grouts?  
A. Yes. Air-Minus is very effective in those products.
- Q. Can Air-Minus be used to counteract the air entraining effects of poly carboxylate superplasticizers or high dosages of conventional superplasticizers?  
A. Yes.

### **PRECAUTIONS**

Avoid contact with skin and eyes. Avoid inhaling dust. Flush exposed areas with plenty of water. Standard safety equipment; such as impervious gloves, safety glasses and coveralls, should be worn when handling. Consult the Material Safety Data Sheet for further information before using this product.

All Fritz-Pak Concrete Admixtures should be stored in a dry location, protected from breakage, deterioration and contamination. They are not subject to damage from freezing temperatures.

### **WARRANTY**

The information and recommendations in this publication are, to the best of our knowledge, reliable. Suggestions made concerning uses or applications are only the opinion of Fritz-Pak Corporation and users should make their own tests to determine the suitability of these products for their own particular purposes. Because of numerous factors affecting results, Fritz-Pak Corporation makes no warranty of any kind, expressed or implied, including those of merchantability and fitness for purpose. Statements herein, therefore, should not be construed as representations or warranties. The responsibility of Fritz-Pak Corporation for claims arising out of breach of warranty, negligence, strict liability, or otherwise are limited to the purchase price of the materials.

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