

## FLOWABLE FILL ADMIXTURE

### ADVANTAGES

- Patented water-soluble Fritz-Pak bag readily breaks down even in very fluid mixes.
- Easy handling and storage because Fill Flow is a dry powder, not a liquid.
- No problems with leakage, heat damage, or freezing.
- Produces an extremely fluid material with minimal shrinkage or segregation.
- Controlled Low Strength Material (CLSM) can be placed directly from the ready mix truck.
- Eliminates the need for compaction of layered backfill.
- Produces very stable air content.
- Significantly faster and less labor intensive than compacted soil fill.

### DESCRIPTION

Fritz-Pak Fill Flow is a dry powdered surfactant packaged in a patented, ready-to-use, water soluble bag. Fill Flow produces controlled low strength material (CLSM), also referred to as flowable fill, controlled density fill (CDF), lean mix backfill, unshrinkable fill and flowable mortar. Fill Flow is environmentally safe and compatible with all conventional CLSM materials.

### DIRECTIONS

1. Use one 1-lb (454 g) bag to produce 1 cubic yard of controlled low strength material (CLSM).
2. Fill Flow should be added to the drum with the primary mix water.
3. Remove the outer bag. Add the inner bag to the central mixer or ready mix truck drum.
4. After all ingredients are added, the drum should be turned at mixing speed for 5-7 minutes. **Improper mixing can result in poor performance.**

### RECOMMENDED DOSAGE RATE

**Use one 1-lb (454 g) bag for 1 cubic yard of CLSM.** Fill Flow will increase the material volume 20% - 35%. Allow for approximately 50% water reduction in the CLSM mix.

### RECOMMENDED MIX DESIGN

- Sand/Small Aggregate - 2200 lbs (1000 kgs)
- Water - 200 lbs (90 kgs)
- Cement - 50-150 lbs ( 25-75 kgs)
- Fill Flow - 1 lb (0.5 kg)



### COMPATIBILITY

Fill Flow is compatible with all conventional CLSM materials. Fill Flow contains no calcium chloride or other corrosive agents. Superplasticizers, water reducers and dispersants may reduce the effectiveness of Fill Flow.

### PACKAGING

- 1-lb water soluble bag, 24 bags per case, 30 cases per pallet (item #95669)
- 50-lb paper bag, 40 bags per pallet (item #95670)

### FAQs

- Q. What is the shelf life of Fill Flow?  
 A. If stored properly, about 3-6 years. **If the material ever seems hard or caked, do not use it. It will not break up in the mix.**
- Q. What kind of admixture is Fill Flow?  
 A. It is a very high strength surfactant that causes air bubbles to form in high mineral concentration solutions, such as cement pastes.
- Q. How does Fill Flow work?  
 A. It creates billions of air bubbles that serve as "ball bearings" within the flowable-fill and increase the flow properties.

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Q. What kind of unit weight can I expect with Fill Flow?

A. Unit weight is dependent on mix design and size of sands. Typically you should expect a unit weight of 90-120 lbs/cu.ft.

Q. What is the recommended addition procedure for Fill Flow?

A. It should be added at the jobsite. Fill Flow will increase the volume and flowing properties of the flowable fill. If added at the plant, the possibility of spills during transport are increased.

Q. Compared with flowable fill without any admixtures, do I need more or less water to produce flowable fill with Fill Flow?

A. You will need less water. Typically you will only use 25-30 gallons of water per cubic yard of flowable fill.

Q. Since I am increasing the air content of the flowable fill with Fill-Flow, will I also experience a reduction in strength of the flowable fill?

A. No. You are increasing the air content, but you are also reducing the water content. As you reduce the water:cement ratio, the cement paste increases enough strength to compensate for the increased air content.

Q. Can Fill Flow be used in mixes containing other cementitious materials, besides cement, such as fly ash or granulated blast furnace slag?

A. Yes.

Q. What standards does Fill Flow meet?

A. Currently there are no national standards for additives for flowable fill. Most states have specifications for the flowable fill produced, not necessarily for the type of admixture used to produce it.

### PRECAUTIONS

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.

Q. Can Fritz-Pak help me develop a flowable fill mix design?

A. Yes. You can use our recommended mix design above, or you can ask for something specific to your needs and applications.

Q. Are there any additional benefits to using Fill Flow?

A. Yes, flowable fill produced with Fill Flow is more pumpable, it discharges from the ready mix truck faster and also the truck is easier to clean.

Q. For pumping flowable fill long distances, what do you recommend?

A. Besides making the flowable fill with Fill-Flow we recommend adding one bag of Slick-Pak II for every 3 yards to improve pumpability.

### 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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