

PRODUCT CATALOG







Fritz-Pak Corporation manufactures a complete line of concrete admixtures and pump primers in powdered form. We have distributors and dealers throughout the world. Fritz-Pak Corporation was established in 1998. The Fritz-Pak line of products has been in use since 1988. Our products are packaged in patented water-soluble bags, a unique method that no other company can offer. Fritz-Pak Corporation is a member of the following associations: the American Concrete Institute, the American Concrete Pumping Association, the American Society of Concrete Contractors, the Decorative Concrete Council, the International Packaged Concrete Manufacturer's Association, the National Ready-Mix Concrete Association and the National Pool Plasterer's Council.

FRITZ-PAK PRODUCTS

Save Money. Our admixtures are pre-measured for quick dosing; there's no need to buy expensive dispensing equipment. Powdered admixtures are 100% active so you never pay to ship water. They are not subject to freezing, and they have a long shelf-life.

Save time. Our products are easily added at the job site, with no need to re-weigh or measure bulky liquids. You can extend your delivery times when the unexpected happens.

Make the job easier. Just open the outer bag and add the inner bag to fresh concrete right in your truck. The products are easily carried by operators/drivers, whose risk of on-the-job injuries is reduced. Simple field corrections of concrete mixes are possible.

Award Winning. Two time winner of Most Innovative Product at the World of Concrete.



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SET ACCELERATORS

FRITZ-PAK NCA

(ASTM C 494 TYPE "C" and "E" ADMIXTURE)

Non-chloride set accelerator in powdered form. It is packaged in water soluble bags for easy addition to concrete ready mix trucks. It shortens set times while increasing early compressive strength. Fritz-Pak NCA does not contain calcium chloride or any other materials that promote corrosion in steel or efflorescence in concrete.

MORTAR SET ACCELERATOR

(ASTM C 494 TYPE "C" and "E" ADMIXTURE)

Non-chloride set accelerator packaged especially for masons and contractors who use pre-packaged concrete or mortar. It speeds up mortar or concrete set time while providing high early strengths. It contains no chlorides, so it will not promote efflorescence or corrosion, and it will not affect colored concrete. Excellent for use in polymer modified mixes.

NON-CHLORIDE ACCELERATOR

ADVANTAGES

- Speeds up concrete set-time.
- Provides higher early strength.
- Does not promote steel corrosion.
- Dosage can be increased for faster acceleration.
- Can be easily stored for use as needed.
- Can be used in all weather.
- The need for protection and heating of concrete in cold climates is reduced or eliminated.
- Allows faster reuse and stripping of forms.
- Suitable for all types of concrete.
- Packaged in a patented water-soluble Fritz-Pak inner bag for convenient use at the plant or job site.

DESCRIPTION

Fritz-Pak NCA is a non-chloride accelerator in powdered form. It is packaged in water soluble bags for easy addition to concrete ready mix trucks. It shortens set times while increasing early compressive strength. Fritz-Pak NCA does not contain calcium chloride or any other materials that promote corrosion in steel or efflorescence in concrete. Unlike some other non-chloride accelerators, such as those containing calcium nitrite, Fritz-Pak NCA is not hazardous. No special handling, storage or transportation expense is required.

DIRECTIONS

1. Determine the amount of NCA required. See Recommended Dosage Rate.
2. Each NCA package is double bagged. Remove the protective outer bag and add the entire water-soluble Fritz-Pak inner bag and contents to the wet concrete mix. The inner bag will easily dissolve.
3. Mix thoroughly for at least 5 minutes at high speed (15 revolutions per minute) to ensure proper dispersion throughout the mix. **Improper mixing can lead to poor performance.**
4. When working at low temperatures, users should follow the ACI Guidelines and Specifications for Cold Weather Concreting (ACI 306R-88 and ACI 306.1-90).

RECOMMENDED DOSAGE RATE

Dosage rate varies depending on temperature



and the amount of acceleration desired. Increased dosages provide higher acceleration rates. Recommended dosage is 1-3 bags per cubic yard of concrete (1-3 lbs/cwt or 1-3% by weight of cement). Higher dosages may be used for faster acceleration. Dosage percentages are percent of Fritz-Pak NCA by weight of cement.

COMPATIBILITY

Fritz-Pak NCA is compatible with most concrete admixtures. When used with other admixtures, each one should be dispensed separately into the mix. Effectiveness of NCA is dependent on the proportion of C3A to SO3 in the cement. Higher acceleration will be obtained in cements with ratios greater than 4.0. In general, higher accelerations will be obtained in mixes with Type I, III or white cement.

APPLICABLE STANDARDS

ASTM C-494 Types C and E
AASHTO M-154 CRD C-87

PACKAGING

- 5-lb (2.27-kg) water soluble bag
8 bags per case
48 cases per pallet (item #98450)
- 50-lb paper bag, 40 bags per pallet

continued...

NON-CHLORIDE ACCELERATOR

FAQs

- Q. What other effects will this product have on my concrete?
- A. You may notice a slight increase in slump, since the product has some water reducing properties as well.
- Q. Can I use less than one bag per yard?
- A. Yes, you just need to experiment to get the right dosage for your particular needs.
- Q. Can I use more than three bags per yard?
- A. There's no point. More than 3 bags per yard will not give any faster acceleration.
- Q. What standards does it meet?
- A. It meets ASTM standards C-494 Type C and Type E.
- Q. Will it change the final strength of my concrete?
- A. No. Initial strength will be higher, but ultimate strength will be the same.
- Q. Will NCA promote the corrosion of steel in concrete?
- A. No, unlike the commonly-used calcium chloride, Fritz-Pak NCA will not promote corrosion or efflorescence.
- Q. When I use powdered calcium chloride I notice that the water or the calcium chloride gets hot, but it does not happen with NCA. Why?
- A. The heat released by calcium chloride when it dissolves in solution is called heat of solution and is not related to the concrete setting up faster. The heat of solution of NCA is much less than the heat of solution of calcium chloride. That is why it is also a safer product.

- Q. Will Fritz-Pak NCA have any affect on colored concrete?
- A. No. NCA will not cause colors to segregate, the way calcium chloride tends to do in concrete containing integral color.

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. However, the inner bag may become somewhat brittle at very low temperatures and should be handled carefully.

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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SET ACCELERATOR FOR CONCRETE OR MORTAR

ADVANTAGES

- Designed for masons and contractors who use bagged concrete or mortar.
- Speeds up set time by 1-3 hours.
- Non-chloride set accelerator.
- Provides higher early strength.
- Will not promote steel corrosion or efflorescence in concrete.
- Will not affect colors in concrete.
- Dosage can be increased for faster acceleration.
- Can be used in all weather.
- Suitable for all types of concrete.
- Excellent for use in polymer modified mixes.
- Easy directions in both English and Spanish.

DESCRIPTION

Fritz-Pak's Mortar Set Accelerator is a dry, white, powdered set accelerator packaged for use in pre-packaged mortar or concrete. It speeds up set times while increasing early compressive strength. Mortar Set Accelerator contains calcium, but no chlorides. Chlorides, such as the commonly used calcium chloride, promote corrosion in steel, promote efflorescence, and disturb color dispersion in colored concrete or plaster.

Unlike other non-chloride accelerators, such as those containing calcium nitrite, Mortar Set Accelerator is not hazardous. No special handling, storage or transportation expense is required.

DIRECTIONS

1. Determine the amount of Mortar Set Accelerator required.
2. Tear or cut open the plastic bag.
3. Pour powdered contents into the wet mortar or concrete mix.
4. Mix thoroughly for 5 minutes to ensure complete dispersion of the Mortar Set Accelerator throughout the mix. **Improper mixing can lead to poor performance.**

RECOMMENDED DOSAGE RATE

Start with one bag of Mortar Set Accelerator (5.6 oz) for each sack of concrete or mortar (usually 60-80 lbs). This equals about 1% calcium. Up to 3 bags per sack (about 3% calcium) may be used for faster acceleration. It will not hurt concrete to dose at higher rates, but you will probably not



get additional benefit. You will usually get about 1-3 hours reduction in set time depending on temperature.

Factors that affect set acceleration time:

- **Percent of cement in your mix.** The calcium in Mortar Set Accelerator reacts only with cement, so rich mixes will require higher doses.
- **Temperature.** The acceleration effects are faster at lower temperatures. For example, a 2% dose will give about 1 hr set time reduction at 85°F, and 3 hr set time reduction at 40°F.
- **Number of bags used.** Higher doses give faster set times.

To calculate dosage based on precise weight of cement:

- 3 bags of Mortar Set Accelerator per 100 lbs of cement = 1%.

APPLICABLE STANDARDS

ASTM C-494 Types C and E
AASHTO M-154 CRD C-87

PACKAGING

continued...

SET ACCELERATOR FOR CONCRETE OR MORTAR

- 5.6 oz Mortar Set Accelerator per bag
24 bags/display box
6 display boxes per case
32 cases per pallet (item #98454)

FAQs

- Q. What does Mortar Set Accelerator do?
- A. It speeds up the set time of your mortar or concrete by 1-3 hours.
- Q. What standard does Mortar Set Accelerator meet?
- A. It meets ASTM C-494, Type C and E.
- Q. Will Mortar Set Accelerator change the strength of my concrete?
- A. It will produce higher early strength, and it will increase durability.
- Q. Will Mortar Set Accelerator increase efflorescence in mortar?
- A. No. Efflorescence is promoted by the chlorides in some accelerators. Mortar Set Accelerator does not contain any chlorides.
- Q. Can it be used in polymer modified mixes?
- A. Yes, one bag of Mortar Set Accelerator treats about one bag of polymer modified mix.

Q. Will Fritz-Pak NCA have any affect on colored concrete?

A. No. NCA will not cause colors to segregate, the way calcium chloride tends to do in concrete containing integral color.

PRECAUTIONS AND STORAGE

Avoid contact with eyes or skin, flush with water if contact occurs. Store in a dry location, protected from breakage, deterioration and contamination. Mortar Set Accelerator is 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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SET RETARDERS

MINI DELAYED SET

(ASTM C 494 TYPE "D" ADMIXTURE)

Small bag of retarder for emergencies, small concrete batches, concrete pump hoppers or for wash water stabilization. Normally one bag will delay the set of 1 yard of concrete for 1 hour. For wash water stabilization one bag is used for overnight stabilization.

STANDARD DELAYED SET

(ASTM C 494 TYPE "D" ADMIXTURE)

For concrete set retardation with minimal effect on concrete early strength development. May be redosed in the field to prolong the life of fresh concrete.

GYPSUM RETARDER

Set retarder for use in anhydrate, hemihydrate and gypsum-based materials. It is a synthetic amino acid with no unpleasant odor. Packaged in triple-layered paper bags with inner polyethylene liner. For industrial use only.

MORTAR SET RETARDER

Set retarder packaged especially for masons and contractors who use pre-packaged concrete or mortar. It slows down mortar or concrete set time without affecting compressive strength. It is white and will not affect colored concrete.

WASH WATER STABILIZATION AND DELAYED SET ADMIXTURE

ADVANTAGES

- One bag typically retards the set of one yard of concrete for one hour.
- Concrete may be kept in a plastic state for reuse or extended delivery times.
- Saves labor, equipment and freight costs by eliminating disposal of waste concrete.
- No need for expensive reclaimer/recycler units and their high maintenance costs.
- Reduces labor costs required for chipping set concrete out of mixer drums when used after each load.
- Reduces the amount of water required for wash down.
- Decreases environmental problems due to the disposal of waste concrete and residual concrete wash water.
- No need for admixture dispensers because Mini Delayed Set is packaged in a patented water-soluble Fritz-Pak inner bag for convenient use at the plant or job site.

DESCRIPTION

Fritz-Pak Mini Delayed Set is a dry powdered admixture, packaged in a ready-to-use water soluble bag. Mini Delayed Set is designed for stabilizing residual concrete wash water or extending the setting time of concrete while improving concrete quality. Wash water or concrete treated with the Mini Delayed Set will be stabilized and may be reused after extended time periods. Concrete produced with stabilized wash water will result in performance characteristics equal to or superior to reference concrete. Mini Delayed Set does not contain calcium chloride, nitrates, nitrites or other potentially corrosive materials and is compatible with all standard concrete admixtures.

APPLICATIONS AND DIRECTIONS

There are many ways to use Mini Delayed Set in concrete operations. Directions for varied applications are listed below.

A. USE OF MINI DELAYED SET AS A CONCRETE SET RETARDER.

1. Determine how much Mini Delayed Set is needed. See Recommended Dosage Rate.
2. Each 8-oz package is double bagged. Remove the protective outer bag and add the water soluble Fritz-Pak inner bag to the



concrete mix. The entire inner bag will easily dissolve.

3. Agitate at high speed (15 revolutions per minute) for 5-7 minutes to insure that the Mini Delayed Set is dispersed throughout the mix. **Improper mixing can lead to poor performance.**

Mini Delayed Set concrete may be used with or without the addition of fresh concrete.

If delayed set concrete must be used earlier than planned, mix concrete at high speed or add additional fresh concrete to compensate for the remaining set delay.

If delayed set concrete must be used later than planned and concrete has not returned to its original slump, more Mini Delayed Set may be added.

B. STABILIZATION AND REUSE OF RESIDUAL CONCRETE WASH WATER.

1. After discharging all concrete, wash down rear drum fins and chutes.
2. Remove protective outer bag and add one Fritz-Pak Mini Delayed Set for each 16 hours of wash water stabilization required.
3. Add 50 to 75 gallons (200 to 300 liters) of water to the mixer.
4. Mix wash water and Mini Delayed Set at high speed for 2½ minutes.
5. Reverse drum to coat rear fin assembly. **DO NOT DISCHARGE WASH WATER.**
6. Mix wash water at high speed for an additional 2½ minutes (5 minutes total).

continued...

WASH WATER STABILIZATION AND DELAYED SET ADMIXTURE

7. If the mixer drum is truck mounted, park the truck and cover the drum opening in order to prevent rain water from coming in.
8. The next time concrete is batched, subtract the added wash water and continue with normal mixing procedures.
9. Maintain a Mixer Batch Log Sheet.

C. USE IN CONCRETE PUMPS.

During concrete pumping operations there are often interruptions in the concrete supply. Mini Delayed Set can be added to the concrete in the pump hopper to allow pumps to wait.

1. To retard the concrete for one hour in small pumps with booms shorter than 42 meters use one bag of Mini Delayed Set. For larger pumps, hot weather (>90°F or 32°C) or pumps with booms painted a dark color, use two bags.
2. Remove the protective outer bag and place the inner water soluble bag into the concrete in the hopper. Turn the agitator and allow the Mini Delayed Set to mix completely for 5-7 minutes.
3. Position the boom of the pump so it can discharge into the hopper. Start pumping to allow the retarded concrete to be circulated throughout the complete boom. Recirculate every 5-10 minutes. Check the concrete continuously and if any signs of setting occur, repeat the dosage of Mini Delayed Set or discharge the concrete.
4. Notify the contractor or concrete workers that some of the concrete will be retarded and to adjust their finishing and placing requirements if necessary.

D. FOR USE IN STAMPED CONCRETE.

The process of stamping concrete may be slow and contractors may not have enough time to finish all the concrete properly from the initial concrete discharged to the final concrete discharged. We recommend retarding the second half of the load.

1. Discharge the first half of the concrete load normally.
2. Add 3-5 bags of Mini Delayed Set to the second half of the mix still in the drum and mix for 5-7 minutes (see Section A 1-3).

3. Place the second half of the concrete, which is now delayed.
4. Remind the contractor to keep the surface moist to avoid excessive drying of the retarded concrete.

E. FOR USE IN DRY-BATCH PLANTS.

These batch plant facilities provide a difficult

The easy to use, easy to dose
Concrete Set Retarder

**ONE BAG
ONE YARD
ONE HOUR***

*For a typical mix with 500 lbs of cement per yard at 60-80 °F.

problem for the producer. During batching cement dust clings to the inner fins. This cement dust hardens rapidly, particularly in hot temperatures. We recommend that Mini Delayed Set be dissolved in water and sprayed on these surfaces to maintain a high level of inner fin cleanliness.

1. Remove the outer bag and introduce the inner water soluble bag into a sprayer container with 2-3 gallons (8-12 liters) of water.
2. Agitate for 5-7 minutes to insure that Mini Delayed Set goes into solution.
3. Apply a thin coat of solution to the rear of the drum and the discharge chute before batching the concrete. The coat of solution will be even more effective if allowed to dry, but it is not necessary.

F. LOW SLUMP/SLIP-FORMED/SLOWLY DISCHARGED CONCRETE.

These mixes are not totally discharged for 1 to 2 hours after batching and often leave a heavy residue of mortar on the interior of the drum and fins. The use of Mini Delayed Set at the mid-point of discharge will retard the remaining concrete and reduce the heavy build-up. (See Section A for complete instructions). Also, the addition of Mini Delayed Set with 30-50 gallons

continued...

WASH WATER STABILIZATION AND DELAYED SET ADMIXTURE

of water after discharging at the site, will retard the mortar lining the inner surfaces of the drum making it easier to remove.

G. NO CLEAN-UP DISCHARGE AT THE JOB SITE ALLOWED.

Add one bag of Mini Delayed Set to the drum together with 25-30 gallons (100-120 liters) of water. Mix for 5 minutes and then rotate the drum in reverse to coat the upper part of the drum without discharging the solution of Mini Delayed Set. Proceed to the plant or designated discharge area. At the plant it is not necessary to discharge the contents. Notify the batchman to reduce the same volume of water in the next concrete load.

H. LEFTOVER CONCRETE IN DRUM.

When not all concrete is discharged at the jobsite, the leftover concrete may be retarded to allow for a safe return to the plant or re-route to another jobsite. Use the dosage recommended above for retarded concrete and proceed as directed by qualified quality control personnel.

RECOMMENDED DOSAGE RATE

Typically one bag of Mini Delayed Set will retard the set of one cubic yard for one hour. Double the dosage to get a 2-hour delay, triple it for three hours. See Table 1 for typical dosages. See Table 2 to change dosage rates depending on temperature and variations in cement content of mix. More detailed information is available in Product Bulletin Standard Delayed Set.

COMPATIBILITY

Mini Delayed Set is compatible with all other admixtures. When used with other admixtures, each one must be dispensed separately into the mix.

APPLICABLE STANDARDS

ASTM C-494 Type D, AASHTO M-194 & CRD C-87

PACKAGING

- 8-oz (227-g) water soluble bag, 60 bags per case, 30 cases per pallet (item #95050)

FAQs

- Q. What is the shelf life of Mini Delayed Set?
A. If stored properly, about 1-3 years. **If the material ever seems hard or caked, do not use it. It will not break up in the mix.**
- Q. Will Mini Delayed Set affect my color?
A. No, it will not affect color of gray concrete. If using white concrete, use Fritz-Pak Plaster Delay Set.
- Q. Can I re-dose?
A. Yes. You can add more Mini Delayed Set if the initial concrete set has not started. You may re-dose up to three times.
- Q. What happens if I overdose the concrete?
A. Set time will be longer, but set will still occur.
- Q. Will it change the strength of my concrete?
A. No.
- Q. Will it react with other admixtures?
A. No, Mini Delayed Set is compatible with most other admixtures.
- Q. Is it possible to mix for shorter times?
A. No. Mini Delayed Set needs to dissolve and be distributed evenly throughout the concrete. Short mixing times or mixing at slow speed may produce concrete with brown spots.
- Q. The concrete already has a retarder in it; will Mini Delayed Set still work?
A. Yes. Mini Delayed Set is compatible with other admixtures.
- Q. If the concrete has started to set, can I use Mini Delayed Set to stop and reverse the setting?
A. No. Mini Delayed Set is used to delay the initial set. If setting has already begun, Mini Delayed Set will not work.
- Q. How do I know when setting has begun?
A. If you notice an increase in concrete temperature or a reduction in slump, concrete has started to set and Mini Delayed Set may

continued...

WASH WATER STABILIZATION AND DELAYED SET ADMIXTURE

not be able to stop the setting process.

- Q. What is the difference between Mini and Standard Delayed Set?
- A. The chemical used is exactly the same. The only difference is the size of the bag. Mini Delayed Set is an 8 oz (1/2 lb) bag, while Standard Delayed Set is a 2 lb bag.

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.

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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Table 1. Determine the number of bags of Mini Delayed Set to use for 1, 2 or 3 hours of set retardation for 1-10 yards of concrete with a typical 500 lbs. cement per yard.

Yards of Concrete	Hours of Set Retardation Required		
	1 hour	2 hours	3 hours
1	1 bag	2 bags	3 bags
2	2	4	6
3	3	6	9
4	4	8	12
5	5	10	15
6	6	12	18
7	7	14	21
8	8	16	24
9	9	18	27
10	10	20	30

Table 2. Dosage rate for each hour of set retardation at different temperatures.

Temperature (°F/°C)	Dosage Rate oz/cwt (ounces of Mini Delayed Set per hundred lbs of cement)	Dosage Rate Grams of Mini Delayed Set per kg of cement
Cold Weather (less than 60°F or 15°C)	1.0	0.62
Normal Weather (60-80°F / 15-27°C)	1.3	0.83
Hot Weather (higher than 80°F or 27°C)	1.7	1.03

DELAYED SET ADMIXTURE

ADVANTAGES

- Keeps concrete in a plastic state for reuse or extended delivery time requirements.
- Fewer environmental problems associated with the disposal of waste concrete.
- Saves labor, equipment and freight cost by eliminating disposal of waste concrete.
- Eliminates the need for expensive reclaiming or recycler units with high maintenance costs.
- Improves concrete workability.
- Allows wash water stabilization for extended periods of time.
- No need for admixture dispensers because Standard Delayed Set is packaged in water-soluble bags for convenient use at the plant or job site.

DESCRIPTION

Fritz-Pak Standard Delayed Set is a dry powdered admixture, packaged in a ready-to-use water soluble bag. Standard Delayed Set is formulated to extend the setting time of concrete while improving concrete quality. It does not contain any calcium chloride or other potentially corrosive materials and is compatible with all standard concrete admixtures.

DIRECTIONS

Standard Delayed Set should be added to plastic concrete as soon as job site conditions permit. Review cement and fly ash content from batch ticket and check actual concrete temperature. As with all admixtures, the effectiveness of Standard Delayed Set is reduced as concrete age and temperature increase.

1. Calculate how much Standard Delayed Set is required. See Recommended Dosage Rate.
2. Each Standard Delayed Set package is double bagged. Remove the protective outer bag and add the water-soluble Fritz-Pak inner bag to water or concrete mix. The entire bag will easily dissolve.
3. Agitate at high speed (15 revolutions per minute) for 5 to 7 minutes to insure that the Standard Delayed Set is uniformly dispersed throughout the mix. **Improper mixing can lead to poor performance.**
4. Concrete will gain from 2 to 6 inches (5 to 15 centimeters) in slump. Air content may increase



slightly, depending on dosage rate and mix design. The concrete will gradually return to the original slump and air content when the set delay is completed.

5. Standard Delayed Set concrete may be used with or without the addition of fresh concrete.
6. If delayed set concrete must be used earlier than planned, mix concrete at high speed or add additional fresh concrete to compensate for the remaining set delay.
7. If delayed set concrete must be used later than planned and concrete has not returned to its original slump, more Standard Delayed Set may be added.

RECOMMENDED DOSAGE RATE

A good rule of thumb is 1 bag will delay 4 yards of concrete for 1 hour. For precise measurements, use 1.0-1.67 ounces per 100 pounds (0.67-1.0 grams per kilogram) of total cementitious materials for every hour of set delay required. Refer to the Standard Delayed Set dosage rates presented in Table 1. For extended or shorter delays, increase or decrease dosage proportionately. Concrete temperature, air temperature or concrete mixes containing accelerators, retarders, or special admixtures such as silica fume may require dosage rates outside the recommended range. Contact your Fritz-Pak distributor with any questions concerning the dosage rates for this product. We recommend that testing be done to determine the suitability of Standard Delayed Set to your mix designs.

COMPATIBILITY

Standard Delayed Set is compatible with all air-entraining admixtures, calcium chloride and other
continued...

DELAYED SET ADMIXTURE

admixtures. When used with other admixtures, each one must be dispensed separately into the mix.

APPLICABLE STANDARDS

ASTM C-494 Type D, AASHTO M-194 & CRD C-87

PACKAGING

- 2-lb (908-g) water soluble bag, 18 bags per case, 24 cases per pallet (item #95200)
- 1360-g water soluble bag, 10 bags per case, 24 cases per pallet (item #95300)
- 50-lb bag, 40 bags per pallet (item #95250)

FAQs

- Q. What is the shelf life of Standard Delayed Set?
- A. If stored properly, about 1-3 years. **If the material ever seems hard or caked, do not use it. It will not break up in the mix.**
- Q. Will Standard Delayed Set affect my color?
- A. No, it will not affect color of gray concrete. If using white concrete, use Fritz-Pak Plaster Delay Set Delay Set.
- Q. Can I re-dose?
- A. Yes. If the initial concrete set has not started, you may re-dose up to three times.
- Q. What happens if I overdose the concrete?
- A. Set time will be longer, but set will still occur.
- Q. Will it change the strength of my concrete?
- A. No.
- Q. Will it react with other admixtures?
- A. No, it is compatible with most other admixtures.
- Q. Is it possible to mix for shorter times?
- A. No. Standard Delayed Set must be distributed

evenly throughout the concrete. **Short mixing times or mixing at slow speed may produce concrete with brown spots.**

- Q. The concrete already has a retarder in it; will Standard Delayed Set still work?
- A. Yes. It is compatible with other admixtures.
- Q. If the concrete has started to set, can I use Standard Delayed Set to stop and reverse the setting?
- A. No. Standard Delayed Set is only used to delay the initial set.
- Q. How do I know when setting has started?
- A. If you notice an increase in concrete temperature or a reduction in slump, concrete has started to set and Standard Delayed Set may not be able to stop the setting process.
- Q. What is the difference between Mini and Standard Delayed Set?
- A. The chemical used is exactly the same. The only difference is the size of the bag.

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.

WARRANTY

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Table 1. Dosage rate for each hour of set retardation at different temperatures.

Temperature (°F/°C)	Dosage Rate oz/cwt (ounces of Standard Delayed Set per hundred lbs of cement)	Dosage Rate Grams of Standard Delayed Set per kg of cement
Cold Weather (less than 60°F or 15°C)	1.0	0.62
Normal Weather (60-80°F / 15-27°C)	1.3	0.83
Hot Weather (higher than 80°F or 27°C)	1.7	1.03

HIGH STRENGTH SET RETARDER

ADVANTAGES

- Slows the set time of gypsum and gypsum-containing materials.
- It is a high-strength retarder that is effective at low dosages.
- Purified material with no offensive odors.
- Dose-response is linear, making the determination of effective dosage easy.
- Can be used in cement-gypsum blends.
- Effective over wide range of pH.
- Efficacy does not diminish during storage.

DESCRIPTION

Fritz-Pak Gypsum Retarder is a dry powdered admixture used for extending the set time of gypsum or gypsum-containing blended materials. It is an organic synthetic poly-oxy-methylene amino acid of high purity. It does not contain any carriers or extenders.

Gypsum Retarder does not contain any materials that interfere with Portland cement or Calcium Aluminate cements. It can be used in blends of gypsum with these type of cements to prevent the early stiffening caused by gypsum. Recommended for industrial use only.

DIRECTIONS

1. Determine the estimated dosage required for set retardation from Figure 1.
2. Validate the dosage required from field trials.
3. For batch blending add the Gypsum Retarder to each batch of gypsum and blend for approximately 5 minutes to insure proper dispersion. Minimum blending time needs to be validated by taking samples from different locations of the blender at different blending times.
4. For in-line or continuous blending it might be better to dilute the retarder to insure proper addition. Use calcium carbonate or hydrated gypsum as the filler in proportions of 9 parts filler to 1 part Gypsum Retarder for 10% active ingredient. Or use 1 part Gypsum Retarder to 99 parts filler for a 1% active ingredient.

PACKAGING

- 44-lb (20-kg) bag. Packed in triple layered paper bags with inner polyethylene liner. 40 bags per pallet. Item # 99419



- Custom packaging available on request.

FAQs

- Q. Does Gypsum Retarder have a strong or offensive odor?
- A. No. Gypsum Retarder is a synthetic amino acid that does not have any odor.
- Q. Is Gypsum Retarder available in water soluble bags?
- A. No. Gypsum Retarder is for industrial use, and it is only available in 44 lb bags.
- Q. Will Gypsum Retarder retard portland cement or calcium aluminate cement?
- A. No. Gypsum Retarder is specific for gypsum.
- Q. Can Gypsum Retarder be used in blends of cement and gypsum?
- A. Yes. However you may have to increase the dosage of Gypsum Retarder.
- Q. The dosage rate of Gypsum Retarder is too low for effective plant addition. Can Fritz-Pak blend it with inert materials?
- A. Yes. Diluted blends for easier plant addition can be made.

PRECAUTIONS

Fritz-Pak Gypsum Retarder should be stored in a dry location protected from breakage, deterioration and contamination. It is not subject to damage from freezing temperatures.

continued...

HIGH STRENGTH SET RETARDER

WARRANTY

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**Gypsum Retarder
Effect on Set-time**

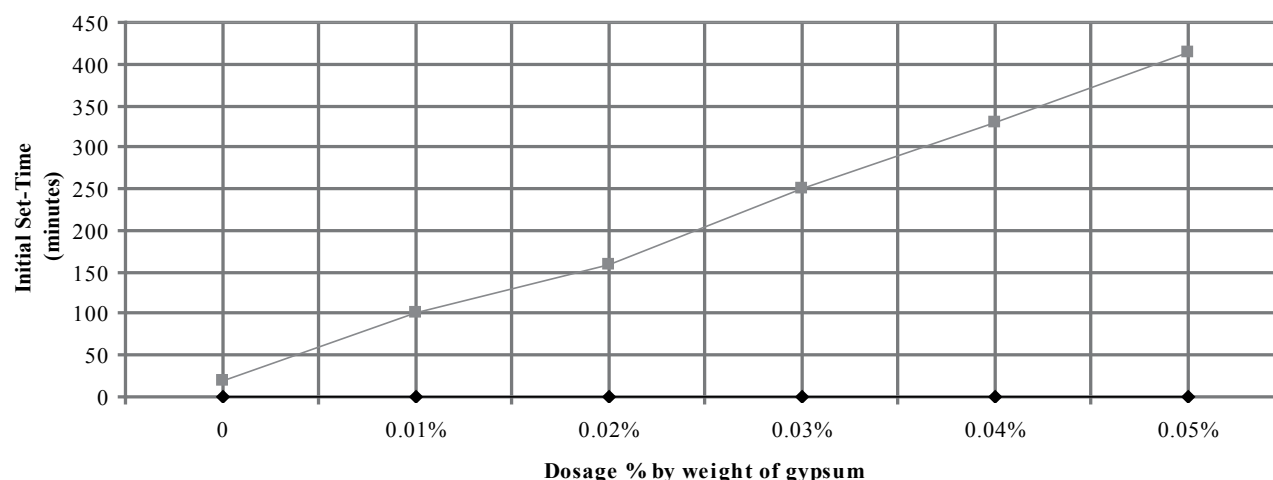


Figure 1. Typical retardation effect of Fritz-Pak Gypsum Retarder as a function of dosage. Actual results will vary by differences in test conditions and gypsum composition. Tests are highly recommended to determine actual dosage for your applications. Note: 0.01% is equivalent to 100 grams per metric ton or 0.2 lbs per short ton.

pH	Fritz-Pak Gypsum Retarder 0.2%	Fritz-Pak Gypsum Retarder 0.02%	Citric Acid 0.2%	Tri-sodium Citrate 0.2%	Calcium Tartrate 0.2%	Tartaric Acid (L+) 0.2%	Mono- Sodium Phosphate 0.2%
6	18	5	15	12	1	2	3
7	>20	6	15	12	1	2	3
8	>20	6	15	12	1	2	2
9	>20	6	15	12	1	2	2
10	>20	6	15	12	1	2	1
11	>20	6	15	10	3	4	1
12	18	6	12	8	8	5	<1

Table 1. Comparison of relative gypsum retardation effect of Fritz-Pak Gypsum Retarder and other common chemicals used and their efficacy at different pH. Higher numbers indicate higher retardation effect. For example Gypsum Retarder at 0.2% is more than 20 times more effective than Calcium Tartrate at the same concentration at a pH of 6-10.

FOR CONCRETE OR MORTAR

ADVANTAGES

- Designed for masons and contractors who use bagged concrete or mortar.
- Slows down set time of pre-packaged mortar or concrete.
- Easy to use. One bag extends set time about one hour.
- Dosage can be increased for longer retardation, as long as 3 hours.
- Improves mortar or concrete workability.
- Does not affect strength.
- Excellent for use in hot summer months.
- Will not affect colors in concrete.
- Allows for prolonged decorative work.
- Can be easily stored for use as needed.
- Suitable for all types of concrete.

DESCRIPTION

Fritz-Pak's Mortar Set Retarder is a white powdered set retarder packaged for use in pre-packaged mortar or concrete. It slows down set times without affecting compressive strength. It is ready for easy dosing; no premixing is required. Since Mortar Set Retarder is white, it will not affect colors in concrete, so it is ideal for decorative concrete work.

No special handling, storage or transportation expense is required.

RECOMMENDED DOSAGE RATE

One 5.3 oz (150 gram) bag of Mortar Set Retarder will retard one 60-80 lbs bag of pre-packaged mortar or concrete for about one hour. You may redose for longer periods of retardation, without exceeding 3 bags of Mortar Set Retarder per bag of mortar or concrete.



For Portland cement use 4 bags per 100 lbs of cement for one hour set retardation. Do not exceed 12 bags per 100 lbs of cement.

At higher air temperatures, the retardation effect is reduced.

APPLICABLE STANDARDS

ASTM C-494 Type B.

PACKAGING

- 5.6 oz (158 gram) Mortar Set Retarder per bag
- 24 bags / display box
- 6 display boxes per case (item #98453)

DIRECTIONS FOR USE

1. Tear or cut open the plastic bag.
2. Pour powdered contents into the wet mortar or concrete mix.
3. Mix thoroughly for 5 minutes to ensure complete dispersion of the Mortar Set Retarder throughout the mix. **Improper mixing can lead to poor performance.**
4. Use concrete as you normally would.

FAQs

- Q. Will Mortar Set Retarder harm the concrete?
A. No.
- Q. Can I redose?
A. Yes. You can add more Mortar Set Retarder if the initial concrete set has not started. You may redose up to three times.

continued...

FOR CONCRETE OR MORTAR

- Q. What happens if you overdose the concrete?
A. Set time will be longer, but set will still occur.

- Q. Will it change the color of concrete or mortar?
A. No.

PRECAUTIONS AND STORAGE

Avoid contact with eyes or skin, flush with water if contact occurs. Store in a dry location, protected from breakage, deterioration and contamination. Mortar Set Retarder is not subject to damage from freezing temperatures.

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SUPER-
PLASTICIZERS



SUPERPLASTICIZERS

SUPERCIZER 1

(ASTM C 494 TYPE "F" ADMIXTURE)

Provides up to 20% water reduction. Maintains slump 30-60 minutes depending on temperature. The product of choice for slump increase for easier placement of concrete in slabs, walls and mid-strength precast.

SUPERCIZER 2

(ASTM C 494 TYPE "D" ADMIXTURE)

Extended Slump Plasticizer. Maintains slump 45-90 minutes. Excellent for warm and hot weather applications. Due to increased retardation, it is not recommended for cold weather use.

SUPERCIZER 5

(ASTM C 494 TYPE "F" ADMIXTURE)

Provides up to 35% water reduction. Excellent choice for precast, and high early strength development. Used extensively in bagged materials for high strength products or self-leveling materials.

SUPERCIZER 7

(ASTM C 494 TYPE "G" ADMIXTURE)

Up to 40% water reduction. Provides excellent finishing characteristics in flatwork and precast. Extensively used in statuary and stonework for precast pieces with high detail. Provides high early strength and high ultimate strengths. Recommended for "quick-dry" concretes. Will not affect color of concrete.

SUPERCIZER PCE

(ASTM C 494 TYPE "G" ADMIXTURE)

Up to 40% water reduction. Based on the latest chemistry, this polycarboxylate ether based admixture is the best performing product in the category. For high early and high ultimate strengths, this is the best product to use.

MID RANGE SUPERPLASTICIZER

ADVANTAGES

- Up to 20% water reduction or 6" slump increase.
- Slump control at the job site without adding water.
- Higher early and ultimate strengths.
- Improves workability with no loss in strength.
- Addition of Supercizer 1 will not affect the water-cement ratio.
- Higher strengths may be achieved more economically.
- Improves cohesiveness and reduces segregation.
- Produces concrete with lower permeability.
- Concrete achieves higher durability.
- Allows concrete placement in difficult access or heavily reinforced areas.
- No need for admixture dispensers because Supercizer 1 is packaged in a patented water soluble Fritz-Pak inner bag for convenient use at the plant or job site.

DESCRIPTION

Fritz-Pak Supercizer 1 is a dry powdered admixture, packaged in a patented ready-to-use, water soluble bag. Supercizer 1 is formulated to produce stronger, more durable concrete. As a slump enhancer, Supercizer 1 may be added with the normal amount of mix water to produce more flowable concrete with up to a 6 inch (15 centimeter) slump increase. When used as a mid range water reducer, Supercizer 1 will increase concrete compressive strength at all ages, reduce permeability and increase durability. Supercizer 1 does not contain calcium chloride, nitrates, nitrites or other potentially corrosive materials and is compatible with all standard concrete admixtures.

DIRECTIONS

1. Determine the amount of Supercizer 1 required. See Recommended Dosage Rate.
2. Each 1.75-lb or 1.1-kg Supercizer 1 package is double bagged. Remove the protective outer bag and add the water-soluble Fritz-Pak inner bag to the concrete mix. The entire inner bag will easily dissolve.
3. Mix at high speed for 5 to 7 minutes to insure that the Supercizer 1 is uniformly dispersed throughout the mix. **Improper mixing can lead to poor performance.**



4. Concrete containing Supercizer 1 may be redosed if necessary.

RECOMMENDED DOSAGE RATE

Use a dosage rate equal to 5 to 7 ounces per 100 pounds (3 to 4.5 grams per kilogram) of total cementitious materials (0.30 to 0.45%). **One 1.75 pound bag (1.1 kilogram) of Supercizer 1 is recommended for each cubic yard (cubic meter) of concrete to increase the slump up to 6 inches (15 centimeters) or to achieve up to 20% water reduction.** The slump gain will remain in effect for 30 to 45 minutes. The concrete will then gradually return to the original slump. Concrete temperature, ambient temperature or concrete mixes containing accelerators, retarders, or special admixtures such as silica fume may require dosage rates outside the recommended range. Contact your Fritz-Pak distributor with any questions concerning the dosage rates for this product. We recommend that testing be done to determine the suitability of Supercizer 1 to your mix designs.

COMPATIBILITY

Supercizer 1 is compatible with all air-entraining admixtures, calcium chloride and other admixtures. When used with other admixtures, each one must be dispensed separately into the mix.

continued...

APPLICABLE STANDARDS

ASTM C-494 Type F, AASHTO M-194 & CRD C-87

PACKAGING

- 1.75-lb water soluble bag, 24 bags per case, 24 cases per pallet (item #95575)

continued...

MID RANGE SUPERPLASTICIZER

- 1.1-kg water soluble bag, 20 bags per case, 24 cases per pallet (item #95577)
- 50-lb paper bag, 40 bags per pallet (item #95576)

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.

FAQs

- Q. What is the shelf life of Supercizer 1?
A. If stored properly, about 1-3 years. **If the material ever seems hard or caked, do not use it. It will not break up in the mix.**
- Q. How long will the slump change last?
A. 30-45 minutes. The concrete will gradually return to the original slump. Time will be shorter in warm weather.
- Q. What standards does it meet?
A. It meets ASTM C-494, type F, AASHTO M-194 and CRD C-87 standards.
- Q. Will it change the set time?
A. Supercizer 1 is a slight retarder. In temperatures between 50° and 70°F you may see up to an hour of set retardation.
- Q. Will it affect the air content?
A. In most mixes it will not, but in some cases, it may increase air content 1-2%. If air content is critical in your application eliminate the addition of air entrainment admixture at the plant and correct the air content at the jobsite using Super Air Plus if needed.

- Q. Will it change my concrete strength?
A. If water is reduced during the batching, you should expect an increase in strength. If water content is not changed, you will not see any changes in concrete strength.
- Q. Do you recommend Supercizer 1 for use in the winter?
A. No. Supercizer 3 or Supercizer 5 should be used in the winter.
- Q. Can the concrete be redosed if slump starts to change?
A. Yes. You may redose to maintain your slump.
- Q. Is Supercizer 1 compatible with other superplasticizers?
A. Supercizer 1 is compatible with most other superplasticizers. However, due to the constant change in formulations by other manufacturers, we strongly recommend testing for compatibility with other superplasticizers. For specific applications, contact Fritz-Pak Corporation.

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EXTENDED LIFE SUPERPLASTICIZER (WARM WEATHER)

ADVANTAGES

- Specifically designed for warm weather.
- Water reduction of up to 20% or slump increase up to 7".
- Slump control at the job site without adding water.
- Long lasting slump life facilitates extended delivery and placement requirements.
- Higher early and ultimate strengths.
- Improves concrete workability with no loss in strength.
- Addition of Supercizer 2 will not affect the water-cement ratio.
- Higher strengths may be achieved more economically.
- Improves cohesiveness and reduces concrete segregation.
- Produces concrete with lower permeability.
- Concrete achieves higher durability.
- Allows concrete placement in difficult access or heavily reinforced areas.
- No need for admixture dispensers because Supercizer 2 is packaged in a patented water-soluble Fritz-Pak inner bag for convenient use at the plant or job site.

DESCRIPTION

Fritz-Pak Supercizer 2 is a dry powdered admixture, packaged in a patented, ready-to-use, water-soluble bag. Supercizer 2 is formulated to produce stronger more durable concrete. It is similar to Fritz-Pak Supercizer 1, but designed for warmer weather. As an extended life slump enhancer, Supercizer 2 may be added with the normal amount of mix water to produce more flowable concrete with up to a 7 inch (18 centimeter) slump increase. When used as a high range water reducer, Supercizer 2 will increase concrete compressive strength at all ages, reduce permeability and increase durability. Supercizer 2 does not contain calcium chloride, nitrates, nitrites or other potentially corrosive materials and is compatible with all standard concrete admixtures.

DIRECTIONS

1. Determine the amount of Supercizer 2 required. See Recommended Dosage Rate.
2. Each 1.75-lb or 1.1-kg Supercizer 2 package is double bagged. Remove the protective outer bag and add the water-soluble Fritz-Pak inner



bag to the concrete mix. The entire inner bag will easily dissolve.

3. Mix at high speed for 5 to 7 minutes at high speed (15 revolutions per minute) to insure that the Supercizer 2 is uniformly dispersed throughout the mix. **Improper mixing can result in poor performance.**
4. Concrete containing Supercizer 2 may be redosed if necessary.

RECOMMENDED DOSAGE RATE

Use a dosage rate equal to 5 to 7 ounces per 100 pounds (3 to 4.5 grams per kilogram) of total cementitious materials (0.30 to 0.45%). **One bag of Supercizer 2 is recommended for each cubic yard (cubic meter) of concrete to increase the slump up to 7 inches (18 centimeters) or to achieve up to 20% water reduction.** The slump gain will remain in effect for 60 to 90 minutes. The concrete will then gradually return to the original slump. Concrete temperature, ambient temperature or concrete mixes containing accelerators, retarders, or special admixtures such as silica fume may require dosage rates outside the recommended range. Contact your Fritz-Pak distributor with any questions concerning the dosage rates for this product. We recommend that testing be done to determine the suitability of Supercizer 2 to your mix designs.

COMPATIBILITY

Supercizer 2 is compatible with all air-entraining admixtures, calcium chloride and other admixtures. When used with other admixtures, each one must be dispensed separately into the mix.

continued...

EXTENDED LIFE SUPERPLASTICIZER (WARM WEATHER)

APPLICABLE STANDARDS

ASTM C-494 Type D, AASHTO M-194 & CRD C-87

PACKAGING

- 1.75-lb water soluble bag, 20 bags per case, 30 cases per pallet (item #95590)
- 1.1-kg water soluble bag, 18 bags per case, 24 cases per pallet (item #95596)
- 50-lb paper bag, 40 bags per pallet (item #95591)

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.

FAQs

- Q. What is the shelf life of Supercizer 2?
- A. If stored properly, about 1-3 years. **If the material ever seems hard or caked, do not use it. It will not break up in the mix.**
- Q. What standards does it meet?
- A. It meets ASTM C-494, type D, AASHTO M-194 and CRD C-87 standards.
- Q. How long will the slump gain last?
- A. Slump gain will remain in effect for 60-90 minutes.
- Q. Will it change the set time?
- A. Supercizer 2 is a slight retarder. In temperatures between 50 and 70 F you may see up to an hour of set retardation.
- Q. Will it affect the air content?
- A. In most mixes it won't, but in some it may increase air content 1-2%. If air content is critical in your application eliminate the addition of air entrainment admixture at the plant and correct the air content at the jobsite using Super Air Plus if needed.

- Q. Will it change my concrete strength?
- A. If water is reduced during the batching, you should expect an increase in strength. If water content is not changed, you will not see any changes in concrete strength.
- Q. Do you recommend Supercizer 2 for use in the winter?
- A. No. Supercizer 3 or Supercizer 5 should be used in the winter.
- Q. Can the concrete be redosed if slump starts to change?
- A. Yes. You may redose to maintain your slump.
- Q. Is Supercizer 2 compatible with other superplasticizers?
- A. Supercizer 2 is compatible with most other superplasticizers. However, due to the constant change in formulations by other manufacturers, we strongly recommend testing for compatibility with other superplasticizers. For specific applications, contact Fritz-Pak Corporation.

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HIGH PERFORMANCE SUPERPLASTICIZER

ADVANTAGES

- Slump control at the job site without additional water.
- Higher early and ultimate strengths.
- Improves concrete workability with no loss in strength.
- Addition of Supercizer 5 will not affect the water-cement ratio.
- Higher strengths may be achieved more economically.
- Improves cohesiveness and reduces concrete segregation.
- Produces concrete with lower permeability.
- Concrete achieves higher durability.
- Allows concrete placement in difficult access or heavily reinforced areas.
- Concrete produced with Supercizer 5 can be used in the ready mix or prestressed/precast concrete industry.
- Reduced shrinkage cracks and creep.
- Higher modulus of elasticity.
- Supercizer 5 is packaged in a water-soluble Fritz-Pak inner bag for convenient use at plant or job site, eliminating the need for admixture dispensers.

DESCRIPTION

Fritz-Pak Supercizer 5 is a dry powdered admixture, packaged in a ready-to-use water-soluble bag. Supercizer 5 is formulated to produce stronger more durable concrete. As a superplasticizer, Supercizer 5 may be added with the normal amount of mix water to produce more flowable concrete with up to a 6-inch (15 centimeter) slump increase. When used as a high-range water reducer, Supercizer 5 will reduce water requirements up to 25%, increase concrete compressive strength at all ages, reduce permeability and increase durability. Supercizer 5 does not contain calcium chloride, nitrates, nitrites or other potentially corrosive materials and is compatible with all standard concrete admixtures.

DIRECTIONS

1. Determine the amount of Supercizer 5 required. See Recommended Dosage Rate.
2. Each Supercizer 5 package is double bagged. Remove the protective outer bag and add the water-soluble, Fritz-Pak inner bag to the concrete mix. The entire inner bag will easily



dissolve.

3. Mix at high speed for 5 to 7 minutes to insure that the Supercizer 5 is uniformly dispersed throughout the mix. **Improper mixing can result in poor performance.**
4. Concrete containing Supercizer 5 may be redosed if necessary.

RECOMMENDED DOSAGE RATE

Use a dosage rate equal to 1 to 7 ounces per 100 pounds (0.6 to 4.5 grams per kilogram) of total cementitious materials (0.06 to 0.45%). **One 1.75-pound (1.1-kilogram) bag of Supercizer 5 is recommended for each cubic yard (cubic meter) of concrete to increase the slump up to 6 inches (15 centimeters) or to achieve up to 25% water reduction.** The slump gain will remain in effect for 30 to 45 minutes. The concrete will then gradually return to the original slump. Concrete temperature, ambient temperature or concrete mixes containing accelerators, retarders, or special admixtures such as silica fume may require dosage rates outside the recommended range. It is recommended that testing be done to determine the suitability of Supercizer 5 to your mix designs.

COMPATIBILITY

Supercizer 5 is compatible with all air-entraining admixtures, calcium chloride and other admixtures. When used with other admixtures, each admixture must be dispensed separately into the mix.

continued...

HIGH PERFORMANCE SUPERPLASTICIZER

PACKAGING

- 1.75-lb water soluble bag, 24 bags per case, 24 cases per pallet (item #95600)
- 1.1-kg water soluble bag, 20 bags per case, 24 cases per pallet (item #95650)
- 50-lb paper bag, 40 bags per pallet (item #95652)

APPLICABLE STANDARDS

ASTM C-494 Type F, AASHTO M-194 & CRD C-87

PRECAUTIONS

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

FAQs

- Q. What is the shelf life of Supercizer 5?
- A. If stored properly, about 1-3 years. **If the material ever seems hard or caked, do not use it. It will not break up in the mix.**
- Q. Will it discolor the concrete?
- A. No. In fact, adding Supercizer 5 before adding color will improve the mixing of color into the concrete.
- Q. Will it change the set time?
- A. No, it will not speed or slow the set.
- Q. Will Supercizer 5 change the air content of my concrete?

- A. No, at the recommended dosage rate, no change in entrained air content should occur.

- Q. Will it change my concrete strength?

- A. If you use less water when adding Supercizer 5, your concrete will be stronger. If your water content is not changed, strength may only improve minimally.

- Q. What standards does it meet?

- A. It meets ASTM C-494 type F, AASHTO M-194 and CRD C-87 standards.

- Q. Do you recommend Supercizer 5 for shotcrete?

- A. Yes. Supercizer 5 is the most indicated product for shotcrete applications.

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U.S. Patents No. 4,961,790 No. 5,120,367 Other Patents pending in U.S. and selected foreign countries.

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HIGH-PERFORMANCE SUPERPLASTICIZER

ADVANTAGES

- Designed for very high early and ultimate strength with smoothest possible finish.
- Excellent for Precast/Prestressed Concrete.
- Steam curing may be reduced or eliminated.
- Up to 40% water reduction.
- Improves concrete workability.
- Higher strengths may be achieved more economically.
- Improves cohesiveness and reduces concrete segregation.
- Easily adaptable to fast track paving applications.
- Beneficial in all types of high strength concrete applications.
- Allows concrete placement in difficult access or heavily reinforced areas.
- Produces concrete with lower permeability.
- Concrete achieves higher durability.
- Reduced shrinkage cracks and creep.
- Higher modulus of elasticity.
- Type I cement may be substituted for Type III cement.
- No need for admixture dispensers because Supercizer 7 is packaged in a patented water-soluble Fritz-Pak inner bag for convenient use at the plant or job site.

DESCRIPTION

Fritz-Pak Supercizer 7 is a dry powdered admixture, packaged in a patented, ready-to-use, water-soluble bag. Supercizer 7 is a superplasticizer, uniquely formulated to provide maximum water reduction for high early strengths while producing stronger, more durable concrete. When used as a high range water reducer, Supercizer 7 will reduce water requirements up to 40% and increase concrete compressive strength at all ages, reduce permeability and increase durability. Supercizer 7 is recommended for all types of concrete where improved concrete performance with a lower water-cement ratio, ultra-high early strengths and improved slump characteristics are desired. Supercizer 7 does not contain calcium chloride, nitrates, nitrites or other potentially corrosive materials and is compatible with all standard concrete admixtures.

DIRECTIONS

1. Determine the amount of Supercizer 7 required. See Recommended Dosage Rate.
2. Each 2.5-lb or 1.5-kg Supercizer 7 package is



double bagged. Remove the protective outer bag and add the water-soluble Fritz-Pak inner bag to the concrete mix. The entire inner bag will easily dissolve.

3. Mix at high speed for 5 to 7 minutes to insure that the Supercizer 7 is uniformly dispersed throughout the mix. **Improper mixing can result in poor performance.**

RECOMMENDED DOSAGE RATE

Use a dosage rate equal to 4 to 12 ounces per 100 pounds (2.5 to 7.5 grams per kilogram) of total cementitious materials (0.25 to 0.75 %). **One bag of Supercizer 7 is recommended for each cubic yard (cubic meter) of concrete.** Due to the high level of water reduction (up to 40%), concrete produced with Supercizer 7 should have a water-cement ratio less than 0.4. Concrete temperature, ambient temperature or concrete mixes containing accelerators, retarders, or special admixtures such as silica fume may require dosage rates outside the recommended range. It is recommended that testing be done to determine the suitability of Supercizer 7 to your mix designs.

COMPATIBILITY

Supercizer 7 is compatible with all air-entraining admixtures, calcium chloride and other admixtures. When used with other admixtures, each one must be dispensed separately into the mix.

APPLICABLE STANDARDS

ASTM C-494 Type G, AASHTO M-194 & CRD C-87

continued...

HIGH-PERFORMANCE SUPERPLASTICIZER

PACKAGING

- 2.5-lb water soluble bag, 18 bags per case, 24 cases per pallet (item #97140)
- 50-lb paper bag, 40 bags per pallet (item #97142)

FAQs

- Q. What is the shelf life of Supercizer 7?
- A. If stored properly, about 1-3 years. **If the material ever seems hard or caked, do not use it. It will not break up in the mix.**
- Q. Will it discolor the concrete?
- A. No. In fact, adding Supercizer 7 before adding color will improve the mixing of color into the concrete.
- Q. Will it change the set time?
- A. Yes. Supercizer 7 is a retarding superplasticizer.
- Q. Will Supercizer 7 affect the air content of my concrete?
- A. No, at the recommended dosage rate, no change in entrained air content should occur.
- Q. Will it change my concrete strength?
- A. If you use less water when adding Supercizer 7, your concrete will be stronger. If your water content is not changed, strength is not

changed.

- Q. What standards does it meet?

A. It meets ASTM C-494, type G, AASHTO M-194 and CRD C-87 standards.

- Q. Is Supercizer 7 good for shotcrete?

A. No. For shotcrete we recommend the use of Supercizer 5.

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.

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.

U.S. Patents No. 4,961,790 and No. 5,120,367.

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POLYCARBOXYLATE SUPERPLASTICIZER

ADVANTAGES

- Based on the latest chemistry for superplasticizing concrete.
- Excellent for Precast/Prestressed Concrete.
- Steam curing may be reduced or eliminated.
- Up to 40% water reduction.
- Improves concrete workability.
- Higher strengths may be achieved more economically.
- Improves cohesiveness and reduces concrete segregation.
- Easily adaptable to fast track paving applications.
- Beneficial in all types of high strength concrete applications.
- Allows concrete placement in difficult access or heavily reinforced areas.
- Produces concrete with lower permeability.
- Concrete achieves higher durability.
- Reduced shrinkage cracks and creep.
- Higher flexural strength.
- No need for admixture dispensers because Supercizer PCE is packaged in a patented water-soluble Fritz-Pak inner bag for convenient use at the plant or job site.

DESCRIPTION

Fritz-Pak Supercizer PCE is designed to give the greatest possible water reduction using the most modern chemistry available today. Fritz-Pak Supercizer PCE is a dry powdered admixture, packaged in a patented, ready-to-use, water-soluble bag.

When used as a high range water reducer, Supercizer PCE will reduce water requirements up to 40% and increase concrete compressive strength at all ages, reduce permeability and increase durability. When used to increase slump, typically 1 bag per yard of concrete will increase slump by 6-8 inches.

Supercizer PCE is recommended for all types of concrete where improved concrete performance with a lower water-cement ratio, ultra-high early strengths and improved slump characteristics are desired. Supercizer PCE does not contain calcium chloride, nitrates, nitrites or other potentially corrosive materials and is compatible with all standard concrete admixtures.

DIRECTIONS



1. Determine the amount of Supercizer PCE required. See Recommended Dosage Rate.
2. Each 1-lb Supercizer PCE package is double bagged. Remove the protective outer bag and add the water-soluble Fritz-Pak inner bag to the concrete mix. The entire inner bag will easily dissolve.
3. Mix at high speed for 5 to 7 minutes to insure that the Supercizer PCE is uniformly dispersed throughout the mix. **Improper mixing can result in poor performance.**

RECOMMENDED DOSAGE RATE

To achieve up to 40% water reduction, we recommend using one to two 1-lb bags of Supercizer PCE per yard/meter of high performance concrete, where the cementitious content is greater than 600 lbs/yard or 400 kg/meter. At the recommended dosage, it is equivalent to 0.17% - 0.35% by weight of total cementitious material.

continued...

Concrete temperature, ambient temperature or concrete mixes containing accelerators, retarders, or special admixtures such as silica fume may require dosage rates outside the recommended range. Contact your Fritz-Pak distributor with any questions concerning the dosage rates for this product. It is recommended that testing be done to determine the suitability of Supercizer PCE to your mix designs.

COMPATIBILITY

Supercizer PCE is compatible with all air-entraining admixtures, calcium chloride and other admixtures. When used with other admixtures, each one must be dispensed separately into the mix.

continued...

POLYCARBOXYLATE SUPERPLASTICIZER

APPLICABLE STANDARDS

Currently under testing for the following:
ASTM C-494 Type F, AASHTO M-194 & CRD C-87

PACKAGING

- 1-lb water soluble bag, 30 bags per case, 35 cases per pallet (item #97190)
- 50-lb paper bag, 40 bags per pallet (item #97191)

FAQs

- Q. What is the shelf life of Supercizer PCE?
A. If stored properly, about 2-5 years. **If the material ever seems hard or caked, do not use it. It will not break up in the mix.**
- Q. Will it discolor the concrete?
A. No. In fact, adding Supercizer PCE before adding color will improve the mixing of color into the concrete.
- Q. Will it change the set time?
A. No. Supercizer PCE is a non-retarding superplasticizer.
- Q. Will Supercizer PCE affect the air content of my concrete?
A. No. While most PCEs in liquid form do have air entraining properties, we have blended in a defoamer to make our product 'air neutral', meaning there should be no affect on air content.
- Q. Will it change my concrete strength?
A. If you use less water when adding Supercizer PCE, your concrete will be stronger. If your water content is not changed, strength will increase minimally.
- Q. What standards does it meet?
A. The product is currently under testing for ASTM C-494, type G, AASHTO M-194 and

CRD C-87 standards.

- Q. Is Supercizer PCE good for shotcrete?
A. No. For shotcrete we recommend the use of Supercizer 5.
- Q. What makes Supercizer PCE different from your other admixtures?
A. Supercizer PCE was designed using the most recently developed chemistry for water reduction in concrete (polycarboxylate ether). Many of our customers who use liquid PCE in their ready-mix operations asked us to make a powdered version for on-site dosing, much like our other products.

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.

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.

U.S. Patents No. 4,961,790 and No. 5,120,367.

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WATER
REDUCERS



WATER REDUCERS

FR-1

(ASTM C 494 TYPE "D" ADMIXTURE)

Water reducer with set-retarding properties.

WATER REDUCING AND SET RETARDING ADMIXTURE

ADVANTAGES

- Increases compressive and flexural strengths.
- Higher strengths may be achieved more economically.
- Higher durability.
- Decreases segregation.
- Improved workability.
- Extended set times may be achieved.
- Reduced water content for a given slump.
- FR-1 is packaged in water-soluble Fritz-Pak inner bag for convenient use at plant or job site, eliminating the need for admixture dispensers.

DESCRIPTION

Fritz-Pak FR-1 is a dry powdered admixture packaged in a patented ready-to-use water-soluble bag. FR-1 is formulated to produce a more uniform and workable mix with less water that yields stronger more durable concrete. FR-1 is recommended for all types of concrete where improved concrete performance with a lower water-cement ratio and/or set retardation is desired. FR-1 does not contain calcium chloride or other potentially corrosive materials and is compatible with all standard concrete admixtures.

DIRECTIONS

1. Determine the amount of FR-1 required. See Recommended Dosage Rate.
2. Each FR-1 package is double bagged. Remove the protective outer bag and add the water-soluble Fritz-Pak inner bag to the concrete mix. The entire inner bag will easily dissolve.
3. Mix at high speed for 5 to 7 minutes to insure that the FR-1 is uniformly dispersed throughout the mix. **Improper mixing can result in poor performance.**

RECOMMENDED DOSAGE RATE

Use a dosage rate equal to 1.5 to 2.0 ounces per 100 pounds (1.0 to 1.2 grams per kilogram) of total cementitious materials (0.10 to 0.12%). Using FR-1 at the recommended dosage rate, 5 to 7 percent water reduction can be achieved. Concrete temperature, ambient temperature or concrete mixes containing accelerators, retarders, or special admixtures such as silica fume may



require dosage rates outside the recommended range. Contact your Fritz-Pak distributor with any questions concerning the dosage rates for this product. It is recommended that testing be done to determine the suitability of FR-1 to your mix designs.

COMPATIBILITY

FR-1 is compatible with all air-entraining admixtures, calcium chloride and other admixtures. When used with other admixtures, each admixture must be dispensed separately into the mix.

APPLICABLE STANDARDS

ASTM C-494 Type D, AASHTO M-194 & CRD C-87

PACKAGING

- 1-lb water soluble bag, 30 bags per case, 24 cases per pallet (item #95910)
- 2.5-lb water soluble bag, 10 bags per case, 24 cases per pallet (item #95300)
- 50-lb paper bag, 40 bags per pallet (item #95913)

FAQs

- Q. What is the shelf life of FR-1?
- A. If stored properly, about 1-2 years. **If the material ever seems hard or caked, do not use it. It will not break up in the mix.**

continued...

WATER REDUCING AND SET RETARDING ADMIXTURE

Q. What is the difference between a water reducer and a superplasticizer?

A. Both have the ability to chemically disperse cement, without the addition of water. That is why they are called water reducers. A water reducer has a limited capability in dispersion or water reduction, usually no more than 10% water reduction. A superplasticizer is a much stronger material and can reduce water content up to 40 %.

Q. Will FR-1 discolor the concrete?

A. No, at the recommend dosage rate FR-1 will not discolor the concrete

Q. Does FR-1 affect the strength of the concrete?

A. Yes, if you use less water when adding FR-1, your concrete will be stronger. If your water content is not changed, strength is not changed.

Q. Will it change the set time?

A. Yes. It is a slight retarder.

Q. Will FR-1 effect the air content?

A. No.

Q. What standards does it meet?

A. Meets ASTM C-494 Type D, AASHTO M-194 & CRD C-87.

Q. Can I lower my cement content?

A. Yes. By lowering the water:cement ratio you can expect higher strengths. You can lower your cement content to lower your strength to

meet your specification.

Q. What are the best applications of FR-1?

A. FR-1 is extensively used as an ingredient in the manufacture of stuccos, bagged concrete, mortars, color hardeners and other cement based materials. Besides water reduction, it can also be used as a retarder for products used in warm weather conditions.

PRECAUTIONS

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

WARRANTY

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U.S. Patents No. 4,961,790 and No. 5,120,367.

Other Patents pending in U.S. and selected foreign countries.

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AIR
ENTRAINERS
DETRAINERS



AIR ENTRAINERS AND DETRAINERS

AIR PLUS

(ASTM C 260 ADMIXTURE)

For small corrections (0.5-1.0%) of air entrained in concrete use at the rate of one bag per truckload of concrete.

SUPER AIR PLUS

(ASTM C 260 ADMIXTURE)

For corrections of 1-2% of air entrained concrete use at the rate of 1 bag per truckload. May be used as the primary air-entraining admixture.

AIR-MINUS

Specialty admixture to reduce the amount of air entrained in concrete and cement based materials. Recommended for high strength grouts, high-density concrete and high strength concrete. To reduce the air entrained and entrapped in statuary and small precast pieces. To allow reduction of air in grouts mixed with high shear rates or in self-leveling materials. If Air-Minus is to be used for field correction of concrete with high air entrained content, prior testing is required. This is due to the great variety of conditions that can cause air content to increase in a specific mix.

AIR ENTRAINING ADMIXTURE

ADVANTAGES

- Reduces amount of concrete rejected due to low entrained air content
- Air Plus is a premeasured, dry material and will not freeze
- Easily transported and dispensed
- Improves concrete workability
- Addition of Air Plus will not affect the water/cement ratio
- Entrained air content may be easily adjusted prior to job site testing
- Air Plus is packaged in water-soluble Fritz-Pak inner bags for convenient use at plant or job site.

DESCRIPTION

Fritz-Pak Air Plus is a dry powdered admixtures, packaged in patented ready-to-use water-soluble bags. Air Plus is recommended for all types of air entrained concrete when an increase in entrained air content is necessary. Air Plus may also be used as a primary air-entraining admixture. Air Plus is compatible with all standard concrete admixtures.

DIRECTIONS

1. If entrained air content is below the specified level, determine which Air Plus product is required. (See Recommended Dosage Rate).
2. Each Air Plus package is double bagged. Remove the protective outer bag and add the water-soluble Fritz-Pak inner bag to plastic concrete. The entire inner bag will easily dissolve.
3. Mix at high speed for 5 to 7 minutes to insure that the Air Plus is uniformly dispersed throughout the mix. **Improper mixing can result in poor performance.**
4. If entrained air content remains below specified levels, more Air Plus may be added.

RECOMMENDED DOSAGE RATE

FOR CONCRETE:

Air Plus. One 8-oz bag (227 g) of Air Plus should increase the entrained air content for a full load (8 to 12 cubic yards or 6 to 9 cubic meters) of concrete by ¼ to 1%.

Cementitious content, concrete temperature, ambient temperature or concrete mixes containing



accelerators, retarders, or special admixtures such as superplasticizers or silica fume may require dosage rates outside the recommended range. Contact your Fritz-Pak distributor with any questions concerning the dosage rates for these products. It is recommended that testing be done to determine the suitability of Air Plus to your mix designs.

FOR ONE YARD TRAILER MIXERS:

Use specially packaged product in 4 oz. water-soluble bags. (Item #95661).

COMPATIBILITY

Air Plus is compatible with all air-entraining admixtures, calcium chloride and other admixtures. When used with other admixtures, each one must be dispensed separately into the mix.

APPLICABLE STANDARDS

Air Plus meets ASTM C-260, AASHTO M-154 & CRD C-13 specifications.

PACKAGING

- 8-oz. (227 grams) water soluble bag, 60 bags per case, 35 cases per pallet (Item #95660)
- 4-oz. water soluble bag, 60 bags per case, 35 cases per pallet (item #95661)

FAQs

Q. What is the shelf life of Air Plus?

A. If stored properly, about 3-6 years. **If the**

continued...

AIR ENTRAINING ADMIXTURE

material ever seems hard or caked, do not use it. It will not break up in the mix.

- Q. What does increased air content do to concrete?
- A. It increases its durability by making it more resistant to damage from freezing.
- Q. Can I use Air Plus in dry mixes for the production of mortars and stuccos?
- A. Yes, Air Plus can be used for those applications. However, we recommend the use of Super Air Plus for the production of dry blended materials. (Item #95664)
- Q. Will it change the set time?
- A. No, it will not speed or slow the set.
- Q. What standards does Air Plus meet?
- A. They meet ASTM C-260, AASHTO M-154 and CRD C-13 standards.
- Q. Will these products affect the strength of my concrete?
- A. They will not significantly change strength, and they will increase durability.
- Q. What is the difference between Super Air Plus and Air Plus?
- A. Super Air Plus has twice the concentration of the active ingredient of Air Plus.
- Q. Which product should I use, Air Plus or Super Air Plus?
- A. Air Plus should be used by concrete producers who have very consistent quality in their supply of raw materials, thus only needing small corrections of air. Concrete producers that have variation in their quality of raw materials normally experience wider fluctuations in air content and should consider using Super Air Plus.
- Q. What is the raw material used in the production of Super Air Plus?
- A. Vinsol Resin, a natural air entrainer.
- Q. Are these products compatible with synthetic air entrainers?
- A. Yes. Additionally the spacing and size of

air bubbles is improved when natural air entrainers are used to correct synthetic air entrainers.

- Q. Can they be used in dry-blended materials like mortars and stuccos?
- A. Yes. See the recommended dosage rate chart.
- Q. Are Super Air Plus and Air Plus effective in concrete with fly ash containing high levels of organic compounds (i.e. high LOI)?
- A. Yes. Natural air entrainers are more effective than synthetic air entrainers.
- Q. Can I add Super Air Plus or Air Plus to water to make a liquid admixture?
- A. No. Some of the components will only dissolve under special conditions of temperature and pH.
- Q. How long have the products been in the market?
- A. Since 1992.

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.

WARRANTY

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U.S. Patents No. 4,961,790 and No. 5,120,367.

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AIR ENTRAINING ADMIXTURE

ADVANTAGES

- Reduces amount of concrete rejected due to low entrained air content
- Super Air Plus is a premeasured dry material and will not freeze
- Easily transported and dispensed
- Improves concrete workability
- Addition of Super Air Plus will not affect the water/cement ratio
- Entrained air content may be easily adjusted prior to job site testing
- Super Air Plus is packaged in water-soluble Fritz-Pak inner bags for convenient use at plant or job site.

DESCRIPTION

Fritz-Pak Super Air Plus is a dry powdered admixture, packaged in patented ready-to-use water-soluble bags or in bulk (50 lb bags). Super Air Plus is recommended for all types of air entrained concrete when an increase in entrained air content is necessary. Super Air Plus may also be used as a primary air-entraining admixture. Super Air Plus is compatible with all standard concrete admixtures.

DIRECTIONS

1. If entrained air content is below the specified level, determine which Air Plus product is required. (See Recommended Dosage Rate).
2. Each Super Air Plus package is double bagged. Remove the protective outer bag and add the water-soluble Fritz-Pak inner bag to plastic concrete. The entire inner bag will easily dissolve.
3. Mix at high speed for 5 to 7 minutes to insure that the Super Air Plus is uniformly dispersed throughout the mix. **Improper mixing can result in poor performance.**
4. If entrained air content remains below specified levels, more Super Air Plus may be added.

RECOMMENDED DOSAGE RATE

FOR CONCRETE:

Super Air Plus. For larger increases in entrained air content, use one 8-oz bag (227 g) of Super Air Plus to increase the entrained air content for a full load of concrete by $\frac{3}{4}$ to 2%. For use as a primary air-entraining admixture, a dosage rate of 0.25 to 1.25 oz./cwt. (0.15 to 0.80 g/kg) is



recommended to achieve 5 to 7% entrained air content.

Cementitious content, concrete temperature, ambient temperature or concrete mixes containing accelerators, retarders, or special admixtures such as superplasticizers or silica fume may require dosage rates outside the recommended range. Contact your Fritz-Pak distributor with any questions concerning the dosage rates for these products. It is recommended that testing be done to determine the suitability of Super Air Plus to your mix designs.

FOR ONE YARD TRAILER MIXERS:

Use specially packaged product in 4 oz. water-soluble bags. Air Plus (Item #95661).

FOR MORTARS AND DRY BLENDED PRODUCTS:

Super Air Plus can be used as an air entraining agent for the production of mortars and other dry blended materials. Up to 16% air entrainment can be obtained with Super Air Plus. Air contents vary considerably depending on the materials used. Use the following table as a guideline:

Desired Air Content	Dosage of Super Air Plus By weight of cement	By total weight of blend
5-7%	0.25-1.25 oz/cwt 0.15-0.80 g/kg	0.9-4.5 oz/ton 28-141 g/MT
7-10%	1.0-4.0 oz/cwt 0.63-2.5 g/kg	5.0-12.0 oz/ton 156-375 g/MT

continued...

AIR ENTRAINING ADMIXTURE

10-15%	4.0-6.0 oz/cwt 2.5-3.75 g/kg	14.0-22.0 oz/ton 438-688 g/MT
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COMPATIBILITY

Super Air Plus is compatible with all air-entraining admixtures, calcium chloride and other admixtures. When used with other admixtures, each one must be dispensed separately into the mix.

APPLICABLE STANDARDS

Super Air Plus meets ASTM C-260, AASHTO M-154 & CRD C-13 specifications.

PACKAGING

- 8-oz. (227 grams) water soluble bag, 60 bags per case, 35 cases per pallet (item #95664)
- 50-lb paper bag, 40 bags per pallet (item #95667)

FAQs

- Q. What is the shelf life of Super Air Plus?
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 does increased air content do to concrete?
A. It increases its durability by making it more resistant to damage from freezing.
- Q. Will it change the set time?
A. No, it will not speed or slow the set.
- Q. What standards does Super Air Plus meet?
A. They meet ASTM C-260, AASHTO M-154 and CRD C-13 standards.
- Q. Will it affect the strength of my concrete?
A. It will not significantly change strength, and it will increase durability.
- Q. What is the difference between Super Air Plus and Air Plus?
A. Super Air Plus has twice the concentration of the active ingredient of Air Plus.
- Q. Which product should I use, Air Plus or Super Air Plus?
A. Air Plus should be used by concrete producers who have very consistent quality in their supply of raw materials, thus only needing small corrections of air. Concrete producers that have variation in their quality of raw materials normally

experience wider fluctuations in air content and should consider using Super Air Plus.

- Q. What is the raw material used in the production of Super Air Plus?
A. Vinsol Resin, a natural air entrainer.
- Q. Are these products compatible with synthetic air entrainers?
A. Yes. Additionally the spacing and size of air bubbles is improved when natural air entrainers are used to correct synthetic air entrainers.
- Q. Can they be used in dry-blended materials like mortars and stuccos?
A. Yes. See the recommended dosage rate chart.
- Q. Are Super Air Plus and Air Plus effective in concrete with fly ash containing high levels of organic compounds (i.e. high LOI)?
A. Yes. Natural air entrainers are more effective than synthetic air entrainers.
- Q. Can I add Super Air Plus or Air Plus to water to make a liquid admixture?
A. No. Some of the components will only dissolve under special conditions of temperature and pH.

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.

WARRANTY

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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 should be used to counteract the air entrainment caused by water reducers and plasticizers.

DIRECTIONS

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. **Improper mixing can result in poor performance.**
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.

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.

PACKAGING

- 1.1-lb (500-g) water soluble bag, 24 bags per

continued...

CEMENT AND CONCRETE DEFOAMER AND AIR-DETRAINER

- case, 24 cases per pallet (item #95996)
- 50-lb (22.7-kg) paper bag, 40 bags per pallet (item #95997)

FAQs

- Q. What is the shelf life of Air Minus?
- 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. 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. 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 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.

U.S. Patents No. 4,961,790 and No. 5,120,367.

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C O N C R E T E
A D M I X T U R E S

PUMP
PRIMERS
PUMP AIDS

PUMP PRIMERS & PUMPING AIDS

SLICK-PAK

The Patented Polymer-Based Concrete Pump Primer. Used worldwide, it is now the standard for priming concrete pumps. This product eliminates problems associated with the use of bentonite or similar materials for pump priming. It reduces wear on equipment when starting a job.

SLICK-PAK II

Similar in composition to Slick-Pak but with higher amounts of thickening and lubricating agents to help in pumping harsh mixes, lean concrete, lightweight concrete and flowable fill. It can be used as a fluid loss additive when grouting into sandy soils.

SLICK-PAK II TWIN PAKS

Similar in composition to Slick-Pak but with higher amounts of thickening and lubricating agents to help in pumping harsh mixes, lean concrete, lightweight concrete and flowable fill. It can be used as a fluid loss additive when grouting into sandy soils. This special packaging includes two 4 oz. bags.

SLICK-PAK LIQUID

Our patented formula now comes in a liquid form! The liquid mixes into a solution more quickly than its powdered counterparts. Packaged in easy to handle 3-ounce bottles, and all cases come with a convenient carrying handle.

CONCRETE PUMP PRIMER & PUMPING AID

ADVANTAGES

- The original patented pump primer.
- No need for expensive ready-mixed priming grout.
- Eliminates the need for carrying bagged cement.
- Packaged in easy to handle 8 ounce bags.
- Increases ease and range of pumpability.
- Decreases wear on equipment.
- Easily introduced into pumping equipment.
- Decreases horsepower required for pumping.
- Reduces friction and line pressure.
- Packaged in water-soluble Fritz-Pak inner bags.

DESCRIPTION

Slick-Pak is a dry powdered pump primer and pumping aid packaged in a patented, ready-to-use, water-soluble bag. Slick-Pak is uniquely formulated to provide the concrete pumper with a cost-effective replacement for premium priced grout, primer slurries or bagged cement primers. Additionally, Slick-Pak functions as a concrete pumping aid by reducing line pressure, which enables the placement of hard to pump mixes and increasing the range of pumpability. Slick-Pak is also environmentally safe and compatible with all conventional concrete materials. Slick-Pak contains no bentonite, cementitious materials, soaps or air entraining agents.

DIRECTIONS FOR PUMP PRIMING

Use the following directions to prime one hundred feet of five inch pump line:

CASE 1 - FOR PUMPS WITH PRIMING PORTS:

1. Each 8-oz Slick-Pak is double bagged. Remove the outer bag and add the patented water-soluble Fritz-Pak inner bag to a five gallon bucket of water.
2. Stir or mix for 1-2 minutes.
3. Allow the mixture to set for at least five minutes. (Slick oily texture should develop.)
4. Remix for one minute and pour into the primer port just prior to pumping.

CASE 2 - FOR PUMPS TO BE PRIMED VIA HOPPER:

- A. WITH INTAKE PORTS VERTICAL TO GROUND (gate, rock or swing tube type valves, etc...)
 1. Mix Slick-Pak as described in CASE 1.
 2. Center the pumping valve if possible.
 3. Fill water in the hopper as normal for priming



(i.e. to the bottom of the intake ports).

4. Pour the Slick-Pak slurry into the hopper to allow the prime to be charged in the system ahead of the concrete.

B. WITH INTAKE PORTS HORIZONTAL TO GROUND (ball valves, flapper valves, etc.)

1. Mix Slick-Pak as described in CASE 1.
2. Fill water in the hopper as normal for priming.
3. Pour Slick-Pak slurry directly into the intake port just prior to pumping.

CASE 3 - FOR PRIMING DIRECTLY IN THE HOPPER:

1. Remove the protective outer bag and place the 8-ounce water-soluble inner bag of Slick-Pak in the corner of the hopper.
2. Spray Slick-Pak with water until the bag dissolves and all material is washed down into the bottom of the hopper.
3. Fill water in the hopper as normal for priming (at least 10 to 15 gallons).

PUMP PRIMING NOTES

Remember, as with any pump priming material, the first few gallons of concrete will have a higher water content than the mix behind, which may affect certain pours, such as slabs and columns. To avoid potential problems discard the first few gallons.

When the concrete contains superplasticizers, we recommend doubling the amount of water used to prepare the Slick-Pak solution for pump priming.

continued...

CONCRETE PUMP PRIMER & PUMPING AID

USE AS A PUMPING AID

Slick-Pak is a lubricant agent for pipe and hose. It is compatible with all conventional concrete materials and can also be used as any standard concrete pumping aid. As a pumping aid, Slick-Pak should be added at a dosage of 1 to 3 bags per load of concrete. Slick-Pak may be added directly to the ready-mix concrete and should be mixed for 5 to 7 minutes to ensure that the material is uniformly dispersed. Slick-Pak will have no deleterious effects on the structural integrity of the concrete. Contact your local Fritz-Pak distributor with any questions concerning the usage of this product. It is recommended that testing be done to determine the suitability of Slick-Pak to your



particular application.

PACKAGING

- 8-oz (227-g) water soluble bag, 60 bags per case, 42 cases per pallet (item #97134)

FAQ

- Q. How does Slick-Pak work?
- A. It contains water thickeners and lubricating

agents. As it goes through the pipes and hoses it leaves a coat of water and lubricating agents and effectively wets all surfaces. As concrete comes behind the Slick-Pak it does not lose water and the lubrication allows it to slip through the pipe.

- Q. What is the difference between Slick-Pak and Slick-Pak II?
- A. Both products have water thickeners and lubricating agents. Slick-Pak has a higher proportion of lubricating agents, thus it is better used as a pump primer. Slick-Pak II has a higher proportion of thickeners, so is better suited as a pump aid, and is also an excellent pump primer.
- Q. Does Slick-Pak have fluid loss properties?
- A. Yes. The thickeners used in Slick-Pak work as fluid loss additives in the concrete.
- Q. If I have a long run of hose or pipe, should I increase the Slick-Pak concentration to make it more effective?
- A. No. A too-high concentration may thicken the concrete excessively and produce a plug in the line. It is better to increase the volume of Slick-Pak used to insure complete coverage and wetting of the line.
- Q. What is the best way to prime horizontal lines?
- A. Slick-Pak will tend to run on the lower part of the line, so we recommend using a rubber ball in front of the priming solution to avoid only wetting the bottom of the line.
- Q. Why do I get plugs when priming for concrete containing superplasticizers?
- A. Slick-Pak requires water to hydrate. When Slick-Pak is made with too little water it will absorb water from the concrete in order to hydrate. Concrete with superplasticizers tends to have a low water content, so if the Slick-Pak absorbs any water from the plasticized concrete, it will have a tendency to plug. For priming concrete with superplasticizers, we recommend increasing the amount of water used to prepare the priming solution.
- Q. If I do not have a bucket available, can I prepare the priming solution in the hopper?
- A. Yes. Most operators do it that way. Be sure that the bag dissolves completely by directing the water stream over it.
- Q. How long in advance do I need to prepare my priming solution?
- A. You need at least 5-10 minutes for the product to dissolve. Once it dissolves, it will

continued...

CONCRETE PUMP PRIMER & PUMPING AID

stay stable for several hours. So you can prepare your priming solution way before the concrete arrives.

- Q. Will Slick-Pak build-up in the pipes and hoses of the pump?
- A. No.
- Q. Can Slick-Pak be added directly into the Ready Mix truck?
- A. Yes. It will make the concrete more pumpable.
- Q. Does Slick-Pak contain bentonite clay?
- A. No. Neither bentonite nor any other type of clay.

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.

WARNING

Do not use less than the recommended amounts of water to mix Slick-Pak.

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.

U.S. Patents No. 4,961,790 and No. 5,120,367, No. 5,443,636 and No. 5,587,012.

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CONCRETE PUMPING AID & PUMP PRIMER

ADVANTAGES

- Increases ease and range of pumpability.
- Decreases wear on equipment.
- Decreases horsepower required for pumping.
- Reduces friction and line pressure.
- Improves mobility and consolidation.
- Minimizes slump and air loss through pump lines.
- Reduces dewatering of concrete.
- Slick-Pak II is packaged in ready-to-use water soluble Fritz-Pak inner bags for convenient use at the plant or job site.

DESCRIPTION

Slick-Pak II is a dry powdered concrete pumping aid packaged in a patented, ready-to-use, water soluble bag. Slick-Pak II is uniquely formulated to provide the concrete pumper with a cost effective method for improving the pumpability of hard to pump and/or harsh concrete and grout mixes. Additionally, Slick-Pak II reduces line pressure, improves flow properties and increases the rate and range of pumpability. Slick-Pak II does not contain calcium chloride, nitrates, nitrites or other potentially corrosive materials and is compatible with all standard concrete admixtures. In addition, Slick-Pak II contains no bentonite, cementitious materials, soaps or air entraining agents.

DIRECTIONS

AS A PUMPING AID

1. Determine the amount of Slick-Pak II required. See Recommend Dosage Rate.
2. Each Slick-Pak II is double bagged. Remove the protective outer bag and add the patented water soluble Fritz-Pak inner bag directly to the concrete or grout mix in the ready-mix truck. The entire inner bag will easily dissolve.
3. Mix at high speed for 7 to 10 minutes to insure that the Slick-Pak II is uniformly dispersed throughout the mix.
4. Additional Slick-Pak II may be added if necessary.

AS A CONCRETE PUMP PRIMER

Use one water soluble inner bag in 5-15 gallons (20-60 liters) of water to prime 100 ft of 5 inch pump line. Double the water if the concrete contains superplasticizers. Remove the protective outer bag and add the water soluble inner bag



directly into water. Mix for 1-2 minutes and allow the mixture to set for at least 5 minutes. Pour into the priming port or hopper just prior to pumping. It is possible to mix the product directly in the hopper.

PUMP PRIMING NOTES

Remember, as with any pump priming material, the first few gallons of concrete will have a higher water content than the mix behind, which may affect certain pours, such as slabs and columns. To avoid potential problems discard the first few gallons.

When the concrete contains superplasticizers, we recommend doubling the amount of water used to prepare the Slick-Pak II solution for pump priming.

RECOMMENDED DOSAGE RATE

Use a dosage rate equal to 1.5 to 2.5 ounces per cubic yard (50-100 grams per cubic meter) of concrete or grout. Typically, one 8 ounce (227 gram) bag will treat 4-5 cubic yards (3-4 cubic meters). This dosage of Slick-Pak II is recommended to increase the pumpability of harsh mixes, hard to pump mixes and concrete mixes with a potential problem from gap-graded aggregates. Concrete temperature, ambient temperature or concrete mixes containing accelerators, retarders or special admixtures such as silicafume may require dosage rates outside of the recommended range. Contact your local Fritz-Pak representative or distributor with any questions concerning the usage of this product. It is recommended that testing be done

continued...

CONCRETE PUMPING AID & PUMP PRIMER

to determine the suitability of Slick-Pak II to your particular application. As an additive to concrete, Slick-Pak II has no deleterious effects on the structural integrity of the concrete.

COMPATIBILITY

Slick-Pak II is compatible with all standard concrete materials as well as other concrete admixtures. When used with other admixtures, each one must be dispensed separately into the mix.

PACKAGING

- 8-oz (227-g) water soluble bag, 60 bags per case, 42 cases per pallet (item #97136)

FAQs

- Q. How does Slick-Pak II work?
- A. It contains water thickeners and lubricating agents. As Slick-Pak II goes through the pipes and hoses it leaves a coat of water and lubricating agents and effectively wets all surfaces. As the concrete comes behind the Slick-Pak II it does not lose water and the lubrication allows it to slip through the pipe.
- Q. What is the difference between Slick-Pak and Slick-Pak II?
- A. Both products have water thickeners and lubricating agents. Slick-Pak has a higher proportion of lubricating agents than Slick-Pak II, thus it is better used as a pump primer. Slick-Pak II has a higher proportion of thickeners, thus it is better suited as a pumping aid, as well as being an excellent pump primer
- Q. Does Slick-Pak II have fluid loss properties?
- A. Yes. The thickeners used in Slick-Pak II work as fluid loss additives in the concrete.
- Q. If I have a long run of hose or pipe, should I increase the Slick-Pak II concentration to make it more effective?
- A. No. A too-high concentration may thicken the concrete excessively and produce a plug in the line. It is better to increase the volume of Slick-Pak II used to insure complete coverage and wetting of the line.
- Q. What is the best way to prime horizontal lines?
- A. Slick-Pak II will tend to run on the lower part

of the line, it is recommended to use a rubber ball in front of the priming solution to avoid only wetting the bottom of the line.

- Q. Why do I get plugs when priming for concrete with superplasticizers?
- A. Slick-Pak II requires water to hydrate, so when Slick-Pak II is made with too little water it will absorb water from the concrete in order to hydrate. Concrete with superplasticizers tends to have a low water content, so if the Slick-Pak II absorbs any water from the plasticized concrete, it will have a tendency to plug. For priming for concrete with superplasticizers, we recommend increasing water content be used to prepare the priming solution.



- Q. If I do not have a bucket available, can I prepare the priming solution in the hopper?
- A. Yes. Most operators do it that way. Be sure that the bag dissolves completely by directing the water stream over it.
- Q. How long in advance do I need to prepare my priming solution?
- A. You need at least 5-10 minutes for the product to dissolve. Once it dissolves, it will stay stable for several hours, so you can prepare your priming solution well before the concrete arrives.

continued...

CONCRETE PUMPING AID & PUMP PRIMER

- Q. Can Slick-Pak II be added directly into the Ready Mix truck?
- A. Yes. It will make the concrete more pumpable.
- Q. Does Slick-Pak II contain bentonite clay?
- A. No. Slick-Pak II does not contain bentonite or any other type of clay.

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.

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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CONCRETE PUMPING AID & PUMP PRIMER

ADVANTAGES

- Increases ease and range of pumpability.
- Decreases wear on equipment.
- Decreases horsepower required for pumping.
- Reduces friction and line pressure.
- Improves mobility and consolidation.
- Minimizes slump and air loss through pump lines.
- Reduces dewatering of concrete.
- Slick-Pak II is packaged in ready-to-use water soluble Fritz-Pak inner bags for convenient use at the plant or job site.

DESCRIPTION

Slick-Pak II Twin Pak is a dry powdered concrete pumping aid packaged in two 4 oz. patented, ready-to-use, water soluble bags. Slick-Pak II is uniquely formulated to provide the concrete pumper with a cost effective method for improving the pumpability of hard to pump and/or harsh concrete and grout mixes. Additionally, Slick-Pak II reduces line pressure, improves flow properties and increases the rate and range of pumpability. Slick-Pak II does not contain calcium chloride, nitrates, nitrites or other potentially corrosive materials and is compatible with all standard concrete admixtures. In addition, Slick-Pak II contains no bentonite, cementitious materials, soaps or air entraining agents.

DIRECTIONS

AS A PUMPING AID

1. Use two 4 oz. (114g) bags for every 4-6 cubic yards (3-5 cubic meters) of concrete.
2. Each Slick-Pak II is double bagged. Remove the protective outer bag and add the patented water soluble Fritz-Pak inner bag directly to the concrete or grout mix in the ready-mix truck. The entire inner bag will easily dissolve.
3. Mix at high speed for five minutes to ensure that the Slick-Pak II is uniformly dispersed throughout the mix.
4. Additional Slick-Pak II may be added if necessary.

AS A CONCRETE PUMP PRIMER

1. Use on 4 oz. (114g) bag in 5 gal. (20 liters) of water to prime up to 75 ft. (30 meters) of 5 in. pipe.
2. Remove the outer bag and add the water-soluble inner bag to your mix water.



3. Mix for one minute and then allow the mixture to set for five minutes. If the job allows you can mix directly in the hopper.
4. Pour the mixture into the priming port or hopper just prior to pumping.
5. For concrete mixtures with superplasticizers, double the mix water content to reduce line blockages.

PUMP PRIMING NOTES

Remember, as with any pump priming material, the first few gallons of concrete will have a higher water content than the mix behind, which may affect certain pours, such as slabs and columns. To avoid potential problems discard the first few gallons.

When the concrete contains superplasticizers, we recommend doubling the amount of water used to prepare the Slick-Pak II solution for pump priming.

RECOMMENDED DOSAGE RATE

Use a dosage rate equal to 1.5 to 2.5 ounces per cubic yard (50-100 grams per cubic meter) of concrete or grout. Typically, one 8 ounce (227 gram) bag will treat 4-5 cubic yards (3-4 cubic meters). This dosage of Slick-Pak II is recommended to increase the pumpability of harsh mixes, hard to pump mixes and concrete mixes with a potential problem from gap-graded aggregates. Concrete temperature, ambient temperature or concrete mixes containing accelerators, retarders or special admixtures such as silicafume may require dosage

continued...

CONCRETE PUMPING AID & PUMP PRIMER

rates outside of the recommended range. Contact your local Fritz-Pak representative or distributor with any questions concerning the usage of this product. It is recommended that testing be done to determine the suitability of Slick-Pak II to your particular application. As an additive to concrete, Slick-Pak II has no deleterious effects on the structural integrity of the concrete.

COMPATIBILITY

Slick-Pak II is compatible with all standard concrete materials as well as other concrete admixtures. When used with other admixtures, each one must be dispensed separately into the mix.

PACKAGING

- Two 4-oz (113-g) water soluble bag, 60 bags per case, 42 cases per pallet (item #97139)

FAQs

- Q. How does Slick-Pak II work?
- A. It contains water thickeners and lubricating agents. As Slick-Pak II goes through the pipes and hoses it leaves a coat of water and lubricating agents and effectively wets all surfaces. As the concrete comes behind the Slick-Pak II it does not lose water and the lubrication allows it to slip through the pipe.
- Q. What is the difference between Slick-Pak and Slick-Pak II?
- A. Both products have water thickeners and lubricating agents. Slick-Pak has a higher proportion of lubricating agents than Slick-Pak II, thus it is better used as a pump primer. Slick-Pak II has a higher proportion of thickeners, thus it is better suited as a pumping aid, as well as being an excellent pump primer
- Q. Does Slick-Pak II have fluid loss properties?
- A. Yes. The thickeners used in Slick-Pak II work as fluid loss additives in the concrete.
- Q. If I have a long run of hose or pipe, should I increase the Slick-Pak II concentration to make it more effective?
- A. No. A too-high concentration may thicken the concrete excessively and produce a plug in the line. It is better to increase the volume of Slick-Pak II used to insure complete coverage

and wetting of the line.

- Q. What is the best way to prime horizontal lines?
- A. Slick-Pak II will tend to run on the lower part of the line, it is recommended to use a rubber ball in front of the priming solution to avoid only wetting the bottom of the line.
- Q. Why do I get plugs when priming for concrete with superplasticizers?
- A. Slick-Pak II requires water to hydrate, so when Slick-Pak II is made with too little water it will absorb water from the concrete in order to hydrate. Concrete with superplasticizers tends to have a low water content, so if the Slick-Pak II absorbs any water from the plasticized concrete, it will have a tendency to plug. For priming for concrete with superplasticizers, we recommend increasing



water content be used to prepare the priming solution.

- Q. If I do not have a bucket available, can I prepare the priming solution in the hopper?
- A. Yes. Most operators do it that way. Be sure that the bag dissolves completely by directing the water stream over it.
- Q. How long in advance do I need to prepare my priming solution?
- A. You need at least 5-10 minutes for the product to dissolve. Once it dissolves, it will stay stable for several hours, so you can prepare your priming solution well before the

continued...

CONCRETE PUMPING AID & PUMP PRIMER

concrete arrives.

- Q. Can Slick-Pak II be added directly into the Ready Mix truck?
- A. Yes. It will make the concrete more pumpable.
- Q. Does Slick-Pak II contain bentonite clay?
- A. No. Slick-Pak II does not contain bentonite or any other type of clay.

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.

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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LIQUID PUMP PRIMER

ADVANTAGES

- The liquid mixes into a solution more quickly than its powdered counterparts.
- No need for expensive ready-mixed priming grout.
- Packaged in easy to handle 3-ounce bottles, and all cases come with a convenient carrying handle.
- Increases ease and range of pumpability.
- Decreases wear on equipment.
- Easily introduced into pumping equipment.
- Decreases horsepower required for pumping.
- Reduces friction and line pressure.

DESCRIPTION

Slick-Pak Liquid is a state-of-the-art liquid pump primer uniquely formulated to provide the concrete pumper with a cost-effective replacement for premium priced grout, primer slurries or bagged cement primers. Slick-Pak Liquid is environmentally safe and compatible with all conventional concrete materials. Slick-Pak Liquid contains no bentonite, cementitious materials, soaps or air entraining agents.

DIRECTIONS FOR PUMP PRIMING

Shake well before opening. Pour Slick-Pak Liquid into 5-10 gallons of water and mix for a few minutes. It is possible to mix the product directly in the hopper. When the water becomes thick, you may begin priming. It is recommended that testing be done to determine the suitability of Slick-Pak Liquid to your concrete applications.

PUMP PRIMING NOTES

Remember, as with any pump priming material, the first few gallons of concrete will have a higher water content than the mix behind, which may affect certain pours, such as slabs and columns. To avoid potential problems discard the first few gallons.

When the concrete contains superplasticizers, we recommend doubling the amount of water used to prepare the Slick-Pak Liquid solution for pump priming.

PACKAGING

- 3-oz (89 ml) bottles, 36 bottles per case, 72 cases per pallet (item #97130)



FAQ

- Q. What is Slick-Pak Liquid?
- A. It is a specially formulated liquid emulsion of pump primers, pumping aids and water thickeners.
- Q. How does Slick-Pak Liquid work?
- A. It contains water thickeners and lubricating agents. As it goes through the pipes and hoses it leaves a coat of water and lubricating agents and effectively wets all surfaces. As concrete comes behind the Slick-Pak it does not lose water and the lubrication allows it to slip through the pipe.
- Q. What is the difference between Slick-Pak Liquid and Slick-Pak I & II?
- A. All 3 products have water thickeners and lubricating agents for priming the concrete pumps. The main difference is that in Slick-Pak Liquid the materials are partially hydrated and can become a solution and develop thickness faster than Slick-Pak or Slick-Pak II.
- Q. Is Slick-Pak Liquid stronger than traditional Slick-Pak or Slick-Pak II?
- A. No. Slick-Pak II is the strongest material, followed by Slick-Pak and then Slick-Pak Liquid.

continued...

LIQUID PUMP PRIMER

- Q. Does Slick-Pak Liquid Freeze?
- A. Yes. It will start to freeze around 10 °F (- 12 °C).
- Q. Can Slick-Pak Liquid be used after it has been subject to freezing?
- A. Yes. There might be some separation of materials, so be sure to shake well before using.
- Q. If I have a long run of hose or pipe, should I increase the Slick-Pak Liquid concentration to make it more effective?
- A. No. A too-high concentration may thicken the concrete excessively and produce a plug in the line. It is better to increase the volume of Slick-Pak used to insure complete coverage and wetting of the line.
- Q. What is the best way to prime horizontal lines?
- A. Slick-Pak Liquid will tend to run on the lower part of the line, so we recommend using a rubber ball in front of the priming solution to avoid only wetting the bottom of the line.
- Q. Why do I get plugs when priming for concrete containing superplasticizers?
- A. Slick-Pak Liquid requires water to hydrate. When Slick-Pak Liquid is made with too little water it will absorb water from the concrete in order to hydrate. Concrete with superplasticizers tends to have a low water content, so if the Slick-Pak Liquid absorbs any water from the plasticized concrete, it will have a tendency to plug. For priming concrete with superplasticizers, we recommend increasing the amount of water used to prepare the priming solution.
- Q. If I do not have a bucket available, can I prepare the priming solution in the hopper?
- A. Yes. Most operators do it that way. Be sure that the bag dissolves completely by directing the water stream over it.

- Q. Will Slick-Pak Liquid build-up in the pipes and hoses of the pump?
- A. No.
- Q. How do I clean up spills of Slick-Pak Liquid?
- A. The best way to clean up is to absorb the material and then dispose in a regular trash container. Follow with water to ensure all slipperines is removed. You can use sand, dirt, cement, oil absorbers, paper towels, cloth towels, etc.
- Q. Is Slick-Pak Liquid safe for the environment?
- A. Yes. For further informatioun refer to the Material Safety Data Sheet (MSDS).
- Q. Does Slick-Pak Liquid contain bentonite clay?
- A. No. Neither bentonite nor any other type of clay.

PRECAUTIONS

All Fritz-Pak Concrete Admixtures should be stored in a dry location, protected from breakage, deterioration and contamination. **This product is subject to freezing.**

WARNING

Do not use less than the recommended amounts of water to mix Slick-Pak Liquid.

WARRANTY

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POOL PLASTER ADDITIVES

PLASTER DELAY-SET

A white powdered set retarder designed for use in pool plaster.

PLASTER FAST-SET

A white powdered non-chloride set accelerator for use in pool plaster.

PLASTER SUPREME

An additive for improved workability and crack reduction for pool plaster.

SET RETARDER FOR POOL PLASTER

ADVANTAGES

- Plaster Delay-Set slows down the set time of pool plasters.
- It does not weaken the plaster.
- It does not contain chlorides, nitrites, nitrates, clay or other materials that may be hazardous to your workers or harmful to the plaster.
- It does not discolor plaster.
- English and Spanish usage directions on every bag.
- Very easy to store and carry.
- Easy and safe to handle by workers.
- Plaster Delay-Set is packaged in a patented water soluble Fritz-Pak inner bag for convenient use at the job site.

DESCRIPTION

Plaster Delay-Set is a dry powdered admixture packaged in a patented, ready-to-use, water soluble bag. Plaster Delay-Set is designed to slow down the set of plaster. It is invaluable in hot weather or when you have a shortage of workers, when you often need more time to work the plaster before it sets. It will not discolor or affect final strength of the plaster, it is very predictable in its use, and will not weaken the final strength of the plaster. Used as directed, one bag will retard the set of plaster for about one hour, depending on temperature. Up to three bags may be used. Contains no chlorides, nitrites, nitrates or clay.

DIRECTIONS

1. Determine the amount of Plaster Delay-Set required. See Recommended Dosage Rate.
2. Prepare pool plaster mix using all ingredients, including water. Begin mechanical mixing before adding Plaster Delay-Set.
3. Remove the protective outer bag, place the inner water-soluble bag and contents in the mixer.
4. Continue mixing for at least 5 minutes for complete dispersion of Plaster Delay-Set throughout the mix. **Improper mixing can result in poor performance.**

RECOMMENDED DOSAGE RATE

- **When blending plaster at the job site:** Use one 10-oz. (284 g) bag of Plaster Delay-Set for every four sacks of cement in the mix for



a 1-hour set retardation.

- **When using pre-blended plaster:** Use one bag of Plaster Delay-Set for every 1000 pounds of plaster mix for about a 1-hour set retardation. If more delay is needed, up to three bags may be used.
- **As an additive in the manufacture of dry plaster blends:** Use 2.66 oz./cwt of cement for about 1 hour set retardation.

COMPATIBILITY

Plaster Delay-Set is compatible with most concrete admixtures. When used with other admixtures, each one must be dispensed separately into the mix.

PACKAGING

- 10-oz (284-g) water soluble bag, 40 bags per case (item #95450)
- 50-lb paper bags available for addition to pre-packaged dry mixes (item #95451)

FAQs

- Q. What is the shelf life of Plaster Delay-Set?
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. How will Plaster Delay-Set affect my plaster?
A. Plaster Delay-Set will slow down the set of plaster.

continued...

SET RETARDER FOR POOL PLASTER

- Q. What advantages are there for using a plaster set retarder?
- A. Since Plaster Delay-Set slows down the set of plaster, it will give you better results at high temperatures because it gives you extra time to place and finish the plaster. It is also very convenient when you have a small crew, a hot shell, or a complex pool design.
- Q. Can Plaster Delay-Set be used with regular gray portland cement?
- A. Yes. It is equally effective in white or gray cement.
- Q. What is the recommended dosage for Plaster Delay-Set?
- A. One 10-oz bag for every 1000 lbs of plaster mix. This assumes a 60% sand/aggregate and 40% cement mix.
- Q. Does Plaster Delayed Set affect the durability of plaster?
- A. No.
- Q. Can Plaster Delay-Set be redosed?
- A. Yes, as long as the plaster has not started to set.

- Q. Will Plaster Delay-Set discolor the concrete or plaster?
- A. No, Plaster Delay-Set is white in color, and will not cause problems with integral colors in the mix.

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.

WARRANTY

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NON-CHLORIDE ACCELERATOR

ADVANTAGES

- Plaster Fast-Set accelerates the set time of plaster.
- Does not contain calcium chloride.
- Does not interfere with color.
- Does not promote steel corrosion.
- Can be easily stored for use as needed.
- Dosage can be increased for faster acceleration.
- Does not require heated warehousing.
- It can be used in all weather.
- It is suitable for all types of cement based plasters.
- English and Spanish usage directions on every bag.
- Very easy to store and carry.
- Prepackaged doses in patented water-soluble Fritz-Pak bags are simple to use.
- Increases plaster workability.

DESCRIPTION

Plaster Fast-Set is a white, powdered, non-chloride set accelerator. It is ideal as a replacement for accelerators containing calcium chloride, which weakens plaster, causes corrosion and interferes with color. Plaster Fast-Set safely speeds up the set time and also greatly enhances plaster spreadability. It contains no nitrates, and is therefore not hazardous to workers, and requires no environmental reporting. One 5-lb bag of Plaster Fast-Set will reduce set times by up to three hours.

DIRECTIONS

1. Determine the amount of Plaster Fast-Set required. See Recommended Dosage Rate.
2. Prepare pool plaster mix using all ingredients, including water. Begin mechanical mixing before adding Plaster Fast-Set.
3. Remove the protective outer bag, place the inner water-soluble bag and contents in the plaster mix.
4. Continue mixing for at least 5 minutes for complete dispersion of the Plaster Fast-Set throughout the mix. **Improper mixing can result in poor performance.**

RECOMMENDED DOSAGE RATE

Dosage rate varies depending on temperature and the amount of acceleration desired. Increased dosages provide higher acceleration rates.



- **When blending plaster at the job site:** Use one bag per 4 bags of cement for temperatures above 45°F (7°C). Use 2-3 bags for temperatures below 45°F.
- **When using pre-blended plaster:** Use one bag per 1,000 lb of plaster for temperatures above 45°F. For temperatures below 45°F, use 2-3 bags.
- **As an additive in the manufacture of dry plaster blends:** Add at a rate of 1-3% by weight of cement.

COMPATIBILITY

Plaster Fast Set is compatible with most concrete admixtures. When used with other admixtures, each one must be dispensed separately into the mix.

PACKAGING

- 5-lb (2.27-kg) water soluble bag, 8 bags per case (item # 98455)
- 50-lb paper bags available for addition to pre-packaged dry mixes (item #98449)
- 50-lb bucket (item # 98448)

FAQs

- Q. What is the shelf life of Plaster Fast-Set?
- 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.**

continued...

NON-CHLORIDE ACCELERATOR

- Q. How will Plaster Fast-Set affect my plaster?
A. It will speed up the set time of plaster.
- Q. What advantages does using a plaster set accelerator have?
A. Since Plaster Fast-Set accelerates the set of plaster, it will give you better results at low temperature. It saves you time when you want to finish early, because of weather or scheduling issues, or to increase productivity.
- Q. Does Plaster Fast-Set contain any calcium chlorides?
A. No.
- Q. Will Plaster Fast-Set affect the color of the plaster?
A. No. Plaster Fast Set is white in color, and it will not harm integral colors in plaster.
- Q. What is the recommended dosage rate of Plaster Fast-Set?
A. A 5-lb bag should be added to 1000 lbs of plaster.
- Q. Can I increase the dosage of Plaster Fast-Set?
A. Yes. Up to three 5-lb bags per 1000 lbs of plaster may be used. Additional bags will not significantly reduce the set time.
- Q. What is the difference between Fritz-Pak

NCA and Plaster Fast-Set?

- A. None. The only difference is the packaging. The packaging of NCA has instructions for use in ready mix concrete, while Plaster Fast-Set has instructions for use in pool plaster.

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.

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FOR IMPROVED WORKABILITY AND CRACK REDUCTION

ADVANTAGES

- Plaster Supreme improves workability, making plaster smooth and easy to spread.
- Greatly reduces cracks.
- Slows evaporation, increases water retention.
- Will not affect set times.
- Will not discolor white plasters, and helps colors mix evenly in colored plasters.
- Contains no clay, only 10 oz required to treat a standard plaster batch.
- Easy and safe to handle by workers.
- English and Spanish usage directions on every bag.
- Very easy to store and ship.
- Prepackaged doses in patented water-soluble bags are simple to use.

DESCRIPTION

Plaster Supreme is a white, dry powdered admixture packaged in a patented, ready-to-use, water soluble bag. It is intended for use in pool plasters, to create a smooth, easily-spread plaster that reduces water loss and subsequent cracking. Plaster Supreme is a chemically active agent that improves the water retention of cement-based plasters, grouts and mortars. In pool plaster, this reduces water loss from evaporation, thus eliminating the need for constant re-wetting in warm conditions. It also reduces water loss to the concrete shell. This allows for better cement hydration and a more even finish. Plaster Supreme also contains pumping additives that make the plaster more workable and easier to trowel. Unlike clay-based additives, Plaster Supreme will not leave residues that can promote discoloration or increased plaster cracking.

DIRECTIONS

1. Determine the amount of Plaster Supreme required. See Recommended Dosage Rate.
2. Prepare pool plaster mix using all ingredients, including water. Begin mechanical mixing before adding Plaster Supreme.
3. Remove the protective outer bag, place the inner water-soluble bag and contents in the plaster mix.
4. Continue mixing for at least 5 minutes for complete dispersion of the Plaster Supreme throughout the mix. **Improper mixing can result in poor performance.**



RECOMMENDED DOSAGE RATE

- **When blending plaster at the job site:** Use one 10-oz bag of Plaster Supreme for every four sacks of cement (94-lb sacks) in the mix.
- **When using pre-blended plaster:** Add one 10-oz bag for every 1000 lbs of plaster.
- **As an additive in the manufacture of dry plaster blends:** Add at a rate of 0.166 lbs/100 lbs of cement or at the rate of 0.0604 lbs/100 lbs of total blend.

COMPATIBILITY

Plaster Supreme is compatible with most concrete admixtures. When used with other admixtures, each one must be dispensed separately into the mix.

PACKAGING

- 10-oz (284-g) water soluble bag, 40 bags per case (item #98421)
- 50-lb paper bags available for addition to pre-packaged dry mixes (item #98422)

FAQs

- Q. What is the shelf life of Plaster Supreme?
A. If stored properly, about 3-6 years. **If the**

continued...

FOR IMPROVED WORKABILITY AND CRACK REDUCTION

material ever seems hard or caked, do not use it. It will not break up in the mix.

- Q. How will Plaster Supreme affect my plaster?
A. It will improve workability, reduce cracks, and increase water retention to reduce evaporation.
- Q. How does Plaster Supreme work?
A. Mainly, Plaster Supreme increases the level of entrained air in the plaster, making it easier to pump and spread. It also increases the plaster's ability to withstand cracking. Additionally the water retention agent will insure that the water does not evaporate from the plaster, thus creating a better environment for curing.
- Q. Does Plaster Supreme have any effect on plaster coloring?
A. No.
- Q. Does Plaster Supreme affect the durability of plaster?
A. Yes. Plaster Supreme increases durability.

- Q. Does Plaster Supreme have a water reducer in the formulation?
A. Yes, plaster made with Plaster Supreme will require slightly less water, thus creating a stronger cement paste within the plaster.

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.

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SPECIALTY ITEMS

CONTROL FINISH

Slab and flatwork finishing aid.

COUNTER-FLO

Concrete Countertop Admixture that makes concrete more fluid with less water. A proprietary blend of water reducers and mineral admixtures especially designed for production of concrete countertops and statuary.

FILL FLOW

For production of Flowable Fill or Controlled Low Strength Materials.

HYDROCIZER

Anti-Washout Admixture, for placing concrete underwater, or on porous or wet substrates.

NS-7

For production of Non-Shrink Grout.

RESCUE-PAK

Six of our most effective admixtures for emergency use, packaged in a heavy-duty water-tight carrying case. Change the slump, retard the set, increase the air content or increase the pumpability of your mix at the job site in just five minutes. Designed to be carried on trucks in case of unexpected need, the Rescue-Pak includes a waterproof field guide for use, and product bulletins and MSDS's to comply with job site safety regulations.

SUPER SLUMP BUSTER

Reduces slump of concrete. This viscosity-modifying admixture thickens the water in concrete, thus increasing the support capabilities of the aggregates. Recommended for slip-forming or concrete placed on slopes.

WATER CONDITIONER

Reduces or eliminates false-set in mobile mixers or continuous mixers.

FINISHING AID

ADVANTAGES

- Avoids retempering slab surface with water.
- Eliminates or reduces plastic shrinkage cracks, dusting, crazing and crusting.
- Greatly improves application of color hardeners and stamping.
- Greatly enhances the speed and ease of finishing concrete slabs.
- Keeps surface moist in windy conditions.
- Excellent in hot or dry weather.
- Improves durability of concrete surface.
- May be used in power trowels.
- New smaller inner twin packs fit into wide and narrow mouth sprayers.

DESCRIPTION

Fritz-Pak Control Finish is a dry powdered finishing aid, packaged in an easy-to-use water soluble pack that allows for easy preparation of solutions at the jobsite. Control Finish improves concrete surface finishing characteristics without re-tempering with water, thus avoiding many common surface problems such as plastic shrinkage cracks, dusting, cracking and crazing. Sprayed on lightly and troweled in, Control Finish produces a high quality surface that is easy to finish and extremely durable. Makes stamping and addition of color hardeners much easier. Packaged in two twin inner packs in each printed bag.

DIRECTIONS

1. Determine the amount of Control Finish required and the area you want to cover (see also Coverage). Dosage Rate: Mix 1 inner pack with 1.5 gallons (5.7 liters) of water or 2 inner packs with 3 gallons (11.4 liters) of water. For a stronger solution, both packs may be used in as little as 1.5 gallons of water. You may want a stronger solution on very windy or hot days.
2. Each Control Finish package is double bagged. Remove the protective outer bag and add one or both of the entire Fritz-Pak inner packs to water in a spraying can or power trowel tank. The bags will easily dissolve with agitation.
3. Mix or shake for 3-5 minutes to uniformly dissolve. Periodic remixing may be required.
4. Prior to troweling, mist Control Finish evenly on concrete surface. Only a light application is necessary.



COVERAGE

The contents of one full bag of Control Finish make a solution that will cover approximately 1,000 square feet (100 square meters).

PACKAGING

- 18 oz (511 g) in two inner water soluble packs (9 oz each), packaged in one outer printed bag, 30 bags per case, 35 cases per pallet (item #97000)
- 50-lb (22.7-kg) paper bag, 40 bags per pallet (item #97010)

FAQs

- Q. What is the shelf life of Control Finish?
- A. In the liquid form, it can be used for up to 6 months. Remixing will be necessary after long periods of inactivity. In powdered form, if stored properly, about 2-3 years. **If the material ever seems hard or caked, do not use it. It will not break up in the mix.**
- Q. Will Control Finish affect concrete colors?
- A. Control Finish has recently been reformulated to avoid using dark colored material. If applied lightly and evenly, there should be no effect on concrete color.

continued...

FINISHING AID

- Q. Can Control Finish be used with color hardener?
- A. Yes, it is particularly suited to help in the application.
- Q. Can Control Finish be reapplied?
- A. Yes, you can rewet as needed as you move through the finishing area.
- Q. Will it retard the set of concrete?
- A. Not if applied correctly. If excess amounts are sprayed, and accumulate on the surface, some surface retardation may be seen.

PRECAUTIONS

Avoid heavy or uneven applications which may slightly discolor and retard the concrete surface. 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

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CONCRETE COUNTERTOP ADMIXTURE

ADVANTAGES

- Counter-Flo makes concrete more fluid with less water.
- Strengthens concrete.
- Reduces water.
- Reduces cracking.
- Smoother finish.
- Makes concrete easier to place.
- Comes in an 8-lb reclosable plastic container.
- 2-oz. measuring scoop included for easy dosing.
- Specially designed for concrete countertops and statuary.

DESCRIPTION

Fritz-Pak Counter-Flo Concrete Countertop Admixture is a mixture of water reducers and mineral admixtures specifically designed for use in the production of concrete countertops and concrete statuary. It makes concrete more flowable for easy placement without adding additional water, allowing you to reduce the water:cement ratio in your mix. By lowering water content you achieve higher compressive and structural strength, thus allowing faster demolding and a faster cure. Lower water content will also provide a denser and less permeable concrete, making the concrete less prone to staining. Use of Counter-Flo allows you to place a relatively wetter concrete, reducing the amount of air bubbles, so concrete will yield a better pattern definition.

DIRECTIONS AND DOSAGE

Preferably, Counter-Flo should be added to the dry concrete or mix materials before adding water. Blend thoroughly within the dry materials and proceed mixing the concrete normally, but using about 20% less water. If added to wet concrete, sprinkle over all the concrete to avoid areas of high concentration, then mix well for 5 minutes to allow the active ingredient to hydrate and disperse within the concrete.

- **For pre-bagged concrete:** Use 1 level scoop (2-oz volume) per 80-lb bag of concrete. For higher water reduction you may increase the dosage rate, but do not exceed 3 scoops per bag of concrete.



- **For site-made concrete:** Determine the total amount of cement in your mix and add 1 level scoop (2-oz volume) for each 20 lbs (9 kg) of cement.
- **For modified pre-bagged concrete:** Add enough Counter-Flo for the pre-bagged concrete and then add Counter-Flo for the additional cementitious material added. Add one level scoop for each bag of pre-bagged concrete and 1 additional level scoop for every 20 lbs of cementitious materials. Cementitious materials include fly-ash, silica fume, slag or calcined clay; include them as part of the cement weight in order to determine the number of scoops to use.

NOTES

Good Practices. Always follow good concreting practices when using Counter-Flo. We recommend the practices of the American Concrete Institute, (ACI), the American Society of Concrete Contractors (ASCC) or the Portland Cement Association (PCA).

Pigments. If pigments are used in your mix; add Counter-Flo before or at the same time as pigments are added. Counter-Flo will help disperse the pigments within the mix.

Timing and Re-Dosing. Counter-Flo will gradually lose its effect within about 45 minutes

continued...

CONCRETE COUNTERTOP ADMIXTURE

of adding water (faster in warm climates >80°F). If effects wear off, fresh unplaced concrete may be re-dosed to regain flow properties.

PACKAGING

- 8-lb (3.63-kg) re-closable plastic container with a 2-oz. measuring scoop, 4 containers per case, 36 cases per pallet (item #99614)
- 8-lb (3.63-kg) re-closable plastic container with a 2-oz. measuring scoop, 1 container per case, 120 cases per pallet (item #99615)

COMPATIBILITY

Counter-Flo is compatible with most concrete and cement admixtures. If adding other admixtures, they should be added separately into the mix. Testing of compatibility with other admixtures is required prior to production use. Counter-Flo does not contain calcium chloride, nitrates or other potentially corrosive materials.

FAQs

- Q. What does Counter-Flo do to concrete?
- A. It makes it easier to place, reduces water, increases strength, and reduces shrinkage cracks to produce a smoother finish.
- Q. Will it change the set time?
- A. No, it will not appreciably speed or slow the set.
- Q. Will Counter-Flo change the strength of the concrete?
- A. Yes, it will increase strength and durability.

Q. Does concrete made with Counter-Flo require special curing?

A. No, cure as you normally would. (We recommend following the American Concrete Institute guidelines.)

Q. Will Counter-Flo affect my colored concrete?

A. No, Counter-Flo is a white powdered material and will not affect concrete color.

STORAGE AND HANDLING

Keep the unused powder dry. Close container tightly when not in use. Store in a dry location, protected from breakage, deterioration and contamination. Avoid keeping the container open in areas of high humidity. If the material absorbs moisture and becomes lumpy (not free-flowing), discontinue its use. Counter-Flo is not subject to damage from freezing temperatures.

WARRANTY

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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.

continued...

FLOWABLE FILL ADMIXTURE

- 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

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ANTI-WASHOUT ADMIXTURE

ADVANTAGES

- Concrete can be exposed to water without excessive washout.
- Eliminates time and expense of dewatering hydraulic structures prior to placement.
- Eliminates the need for pumps or tremmies when direct placement is possible.
- Self-leveling and self-consolidating.
- Allows direct underwater concrete placement in repair locations.
- Effective in fresh and salt water environments.
- Improves concrete workability with no loss in strength.
- Higher strengths may be achieved more economically using standard mix designs.
- Improves cohesiveness and reduces concrete segregation and water dilution.
- Lower permeability.
- Higher durability.
- Addition of high-range water reducer is not required.
- Improved bond strength to steel and existing concrete.
- No need for admixture dispensers because Hydrocizer is packaged in patented water soluble Fritz-Pak inner bags for convenient use at the plant or job site.

DESCRIPTION

Fritz-Pak Hydrocizer is a dry powdered admixture, packaged in a ready-to-use water soluble bag. Hydrocizer is a polymeric fluid loss additive combined with a premium superplasticizer formulated to physically bind with the water in the concrete and provide maximum water reduction for controlled slump while producing stronger more durable concrete. The special combination yields an admixture suitable for concrete placement in fresh water as well as marine environments. When used as an anti-washout admixture, Hydrocizer allows placement of concrete in underwater applications without segregation, reduces water requirements, increases concrete compressive strength, reduces permeability and increases durability. Hydrocizer is recommended for all types of underwater concreting where performance with decreased segregation, lower water-cement ratio, and improved slump characteristics are desired. Hydrocizer does not contain calcium chloride or other potentially corrosive materials and is compatible with all standard concrete admixtures.



DIRECTIONS

1. Determine the amount of Hydrocizer needed. See Recommended Dosage Rate.
2. Remove the protective outer bag.
3. Place the entire water-soluble inner bag into the concrete mix in the drum, where it will easily dissolve. Hydrocizer can be added at the plant or job site.
4. Mix at high speed for 5-7 minutes. Mixing time is very important to allow anti-washout materials to dissolve and become active.
5. Discharge material from the truck within 30 minutes after adding Hydrocizer.

Best results are achieved with concrete mixes that have a low water:cement ratio or a low slump of 2-3" (5-8 cm). Rounded coarse and fine aggregates are preferred to ensure better flowability and self-consolidation. The addition of Fritz-Pak Silica Fume is also useful to further increase compressive strength, bond strength and abrasion and washout resistance.

RECOMMENDED DOSAGE RATE

One 1.75-lb (1.1-kg) bag of Hydrocizer is recommended for each cubic yard (meter) of 4000 psi (275 kg/cm²) concrete to achieve anti-washout stability and yield a slight increase in slump. Concrete temperature, ambient temperature or concrete mixes containing special admixtures such as silica fume may require dosage rates outside the recommended range. Contact your Fritz-Pak distributor with any questions concerning the dosage rates and applications for this product. We recommend that testing be done to determine the suitability of Hydrocizer to your mix designs.

continued...

ANTI-WASHOUT ADMIXTURE

COMPATIBILITY

Hydrocizer is compatible with most air-entraining admixtures as well as other conventional admixtures. When used with other admixtures, each one must be dispensed separately into the mix.

PACKAGING

- 1.75-lb water soluble bag, 24 bags per case, 25 cases per pallet (item #97090)
- 1.1-kg water soluble bags, 20 per case, 25 cases per pallet (item #97093)
- 50-lb (22.7 kg) paper bag, 40 bags per pallet (item #97091) *continued...*

FAQs

- Q. What is Hydrocizer?
- A. It is a blend of water retention agents and superplasticizers. The water retention agents hold the concrete together and the superplasticizer reduces the amount of water in the mix.
- Q. Does the superplasticizer in Hydrocizer change the set time?
- A. No. It is a non-retarding superplasticizer.
- Q. What standards does Hydrocizer meet?
- A. There are no ASTM standards for additives for underwater concreting, rather there are standards for the concrete used in underwater concreting. Hydrocizer can be used to develop mixes that meet standards

and requirements for underwater concreting.

Q. Can Hydrocizer be used in saltwater?

A. Yes. The superplasticizer in Hydrocizer is tolerant of high salt concentrations.

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.

WARRANTY

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NON-SHRINK GROUT FLUIDIFIER

ADVANTAGES

- Increased compressive, shear and bond strength.
- Increased water retention.
- Reduced water requirements.
- Extended working life.
- Higher strengths may be achieved more economically.
- Easily adaptable to leaner mixes.
- Improves grout workability with no loss in strength.
- Expansion provides better contact with surrounding surfaces.
- Improves water-tightness by reducing cracks and cold joints.
- Improves cohesiveness and decreases bleeding and segregation.
- Reduced time and labor costs for placement.
- Allows ease of placement in difficult areas such as high density steel reinforcement.

DESCRIPTION

Fritz-Pak NS-7 is a ready-to-use dry powdered admixture for portland cement grouts. NS-7 is formulated to produce a more uniform and workable non-shrink grout with less water, improved flowability and extended set times. As a non-shrink additive, NS-7 will allow slow, controlled, in-place expansion prior to hardening. As a grout fluidifier, NS-7 will greatly enhance flowability allowing ease of placement with extended handling and set times. NS-7 also significantly reduces water requirements, 10 to 20 percent, yielding increased compressive and flexural strengths. NS-7 is recommended for all types of high-lift portland cement grouting applications where improved non-shrink performance with increased flowability is desired. NS-7 does not contain calcium chloride, nitrites, nitrates or other potentially corrosive materials and is compatible with all standard grout additives.

DIRECTIONS

NS-7 should be added in powdered form to the grout mix at the job site, rather than the plant, to ensure no reduction in expansive action and to provide maximum flowability.

1. NS-7 should be used in grouts containing at least six sacks of Type I or Type II portland cement. NS-7 may be added before or after



adding water into the mix. If using the 1-lb water soluble bags to prepare the grout, one bag per sack of cement is the recommended dosage.

2. Each NS-7 bag is double-bagged. Remove the protective outer plastic bag and introduce the entire inner water soluble bag and its contents into the mix.
3. Mix thoroughly for at least 5 minutes after adding water. **Improper mixing can result in poor performance.**

RECOMMENDED DOSAGE RATE

One pound of Fritz-Pak NS-7 is recommended for each 100 pounds of cementitious material (1% bwc) to provide proper expansion and fluidifying characteristics. Grout temperature, ambient temperatures or grout mixes containing accelerators, retarders, or special admixtures such as silicafume may require dosage rates outside the recommended range. Contact your Fritz-Pak distributor with any questions concerning the dosage rates for this product. We recommend that testing be done to determine the suitability of NS-7 to your grout mixes.

COMPATIBILITY

NS-7 is compatible with all air-entraining admixtures, calcium chloride and other admixtures. When used with other admixtures, each one must be dispensed separately into the mix.

PACKAGING

- 42-lb (19-kg) paper bag, 60 bags per pallet (item #97080)
- 1-lb (454-g) water soluble bag, 30 bags per case, 42 cases per pallet (item #97081)

continued...

NON-SHRINK GROUT FLUIDIFIER

FAQs

- Q. What is the shelf life of NS-7?
- A. If stored properly, about 2-4 years. **If the material ever seems hard or caked, do not use it. It will not break up in the mix.**
- Q. How does NS-7 work and produce a non-shrink grout?
- A. It contains an ingredient that generates gas and produces expansion. Expansion occurs before set in order to fill all voids and cavities.
- Q. Is the expansion desctructive?
- A. No. Since the expansion is made by gas, it will not be strong enough to break any forms.
- Q. Is there any expansion after setting?
- A. No.
- Q. What type of gas is generated?
- A. Hydrogen.
- Q. Are there any special guidelines for the application of non-shrink grouts made with NS-7?
- A. Generation of gas starts within 5 minutes of adding water and will continue for approximately 1 ½ hours. The sooner the grout is placed, the greater the expansion it will give. The grout should not sit more than 1 ½ hours before it is used.
- Q. Dose NS-7 work with calcium aluminate cements?
- A. Yes. It is also effective with fast set cements.
- Q. Does NS-7 contain a water reducer?
- A. Yes.
- Q. For grouts made with NS-7, do I follow standard concrete testing procedures?
- A. No. Compressive strength needs to be tested using restrained cylinders or molds. If not done this way, compression strengths will be lower. See ASTM C 1107 for further reference.
- Q. Can I use NS-7 for block fill material?
- A. Yes.

- Q. What are the standards for NS-7?
- A. NS-7 is used to produce non-shrink grouts. It is the grout produced that needs to conform to the specifications. With NS-7 you can produce grouts that conform to ASTM C 1107, Grade "A" Pre-Hardening Volume-Adjusting.
- Q. What are the best applications for NS-7?
- A. NS-7 is used to prepare non-shrink grouts used in block filling, hollow core filling, ICF grouting, back filling in tunnels, back filling of pipes and in general for filling voids were low to moderate strengths are required.

PRECAUTIONS

NS-7 is not recommended as a non-shrink additive for conventional concrete applications. 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.

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ADMIXTURES TO SOLVE COMMON PROBLEMS ON THE JOB



- Supercizer 5
- Slick-Pak II
- Super Air Plus
- Mini Delayed Set
- Super Slump Buster
- Standard Delayed Set

Rescue-Pak contains 6 of our most effective admixtures proven to solve problems in the field

ADVANTAGES

- Rescue-Pak improves your bottom line by saving loads of concrete at the job site which would otherwise be rejected.
- Our admixtures are packaged in patented water-soluble bags for convenient use at the plant, on the road or at the job site.
- Heavy-duty, watertight carrying case.
- Handy waterproof field guide and usage directions.
- Product Bulletins and Material Safety Data Sheets included to comply with jobsite safety regulations.
- All our products meet or exceed applicable ASTM standards.

SUPERCIZER 5

Use Supercizer 5 to increase slump of concrete by 6" or for a 25% water reduction. Supercizer 5 is formulated to produce stronger, more durable concrete.

Supercizer 5 meets ASTM C-494 Type F, AASHTO M-194 & CRD C-97.

Refer to Supercizer 5 Product Bulletin for more information.

SLICK-PAK II

Slick-Pak II increases the ease and range of pumpability, while decreasing wear on equipment, horsepower required for pumping, and friction and line pressure. Slick-Pak II minimizes slump and air loss through pump lines, and does not affect ultimate strengths of concrete.

Refer to Slick-Pak II Product Bulletin for more information.

SUPER AIR PLUS

Use Super Air Plus when the level of entrained air is below job requirements. Super Air Plus will increase the content of entrained air in concrete by 0.75 to 2%.

Super Air Plus meets ASTM C-260, AASHTO M-154 & CRD C-13.

Refer to Super Air Plus Product Bulletin for more information.

SUPER SLUMP BUSTER

Use Super Slump Buster when low slump is required for proper placing. Super Slump Buster permits controlled slump reduction, allowing placements on inclines or curbs, while minimizing segregation.

continued...

ADMIXTURES TO SOLVE COMMON PROBLEMS ON THE JOB

Super Slump Buster improves finishing characteristics without changing the water-cement ratio.

Refer to Super Slump Buster Product Bulletin for more information.

STANDARD DELAYED SET

Use Standard Delayed Set to retard the set of fresh concrete, in cases when the ready-mix truck has a long distance haul, the truck or other equipment breaks down, or when the temperature at the job site is too high.

Standard Delayed Set meets ASTM C-494 Type D, AASHTO M-194 & CRD C-87.

Refer to Standard Delayed Set Product Bulletin for more information.

MINI DELAYED SET

Use Mini Delayed Set for wash water stabilization, when no washout is allowed at the job site. Use it to retard the set of concrete whenever an unexpected delay occurs. One bag of Mini Delayed Set retards one yard of concrete for one hour.

Mini Delayed Set meets ASTM C-494 Type D, AASHTO M-194 & CRD C-87.

Refer to Mini Delayed Set Product Bulletin for more information.

FAQs

- Q. How do I buy replacement bags?
- A. All the admixtures are available in case quantities. Call you local Fritz-Pak distributor.
- Q. What is the Rescue-Pak designed for?
- A. Rescue-Pak is designed for on-the-jobsite corrections. It has proven to effectively solve unexpected concrete problems.

Q. What type of products are in the Rescue-Pak?

A. Air-Entrainment, Retarder, Superplasticizer, Pump Primer/Pump Aid, and slump reducer. Consult the technical bulletins to review individual products.

Q. What kind of shelf life can I expect?

A. If stored in a dry place, it should be good for two or more years. If the powder is still flowable (not hard), the product is good.

Q. What is the cost of Rescue-Pak?

A. Can you afford a lost or rejected load?

PACKAGING

- 24 bagged products per case, 30 cases per pallet (item #99000)

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VISCOSITY MODIFYING ADMIXTURE

ADVANTAGES

- Permits controlled slump reduction.
- Allows concrete placement on inclines.
- Excellent for forming curbs.
- Permits placing different flows from the same load.
- Minimizes segregation.
- Does not change water-cement ratio.
- Allows for maximum truck utilization.
- Faster discharge of concrete from trucks.
- Improves finishing characteristics.
- Easier placement of concrete in slip-form machines.

DESCRIPTION

Super Slump Buster is a dry powdered slump reducing admixture packaged in a patented, ready-to-use, water soluble bag. Super Slump Buster is uniquely formulated to provide the ready mix producer with an economical solution to a concrete mix with too high a slump for proper placement. Super Slump Buster is also environmentally safe and compatible with all conventional materials. It contains no cementitious materials, soaps or air entraining agents, and does not affect air content, strengths or water:cement ratio. Super Slump Buster is a viscosity modifier.

DIRECTIONS

1. Determine the amount of Super Slump Buster required. See Recommended Dosage Rate.
2. Add the required amount of Super Slump Buster to the mixed concrete at the job site.
3. Mix at full speed for 7-10 minutes to insure that the Super Slump Buster is uniformly dispersed throughout the mix. For better results let the mix rest 4-5 minutes for slump to be reduced.

RECOMMENDED DOSAGE RATE

Super Slump Buster should be dosed at the rate of one 8-oz (227-g) water-soluble inner bag per 4 yards for each 2-3 inches of slump reduction required. Lean mixes or gap graded concrete will require higher dosages of Super Slump Buster. Poorly designed concrete mixes with excessive water content might not experience corrected slump.



COMPATIBILITY

Super Slump Buster is compatible with all air-entraining admixtures as well as other conventional admixtures. When used with other admixtures, each one must be dispensed separately into the mix.

PACKAGING

- 8-oz (227-g) water-soluble bag, 60 bags per case, 42 cases per pallet (item #97180)

FAQs

- Q. What is the shelf life of Super Slump Buster?
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 is Super Slump Buster?
A. It is a water thickener.
- Q. How does Super Slump Buster work?
A. As the water thickens, it is able to maintain particles in suspension better than just plain water. So the thickened water holds the cement, the cement paste holds the sand, and the sand holds the aggregates, thus reducing slump.
- Q. Can I use Super Slump Buster to pour concrete on an incline?
A. Yes.

continued...

VISCOSITY MODIFYING ADMIXTURE

Q. Does Super Slump Buster work the same in all mixes?

A. No. In mixes with low cement content, Super Slump Buster is less effective. Also gap-graded mixes slump differently than properly graded mixes. Reverse mixes (i.e. low aggregate, high sand content) also slump differently.

Q. Does Super Slump Buster increase the strength of concrete?

A. No. Whatever amount of water was used in the mix does not change, so strength is not increased.

Q. What standards does Super Slump Buster meet?

A. Super Slump Buster falls in the category of Viscosity Modifying Admixtures (VMA). At present there are no ASTM standards for this group of materials.

Q. Does Super Slump Buster affect set time?

A. No.

Q. Does it affect air entrainment?

A. No.

Q. What are the best applications for Super Slump Buster?

A. Super Slump Buster is most commonly used in slipforming or curb mixes. Normally these mixes require a low slump. Low slump concrete is difficult to batch because just a small amount of excess water can increase

the slump. So adding Super Slump Buster can easily correct the slump.

Q. What is the mixing procedure of Super Slump Buster when adding to the concrete?

A. We recommend 5 minutes of mixing at high speed to insure good dispersion throughout the concrete and then an additional 5 minutes at slow speed to allow for Super Slump Buster to develop its full thickening properties.

Q. Can I pour concrete for flatwork first and then add Super Slump Buster to the same load to pour a curb or slip forming?

A. Yes.

Q. What is the maximum reduction in slump I can achieve using Super Slump Buster?

A. 3-4 inches.

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. Super Slump Buster affects slump; it is not a strength enhancer.

WARRANTY

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FOR THE REDUCTION OF FALSE-SET PROBLEMS IN VOLUMETRIC MIXERS

ADVANTAGES

- Fritz-Pak Water Conditioner reduces false-set problems in volumetric mixers.
- Does not delay set of concrete.
- Very easy to store and ship.
- Prepackaged doses in patented water-soluble Fritz-Pak bags are simple to use.

DESCRIPTION

Water Conditioner is a dry powdered admixture packaged in a patented, ready-to-use, water soluble bag. It is intended for use in volumetric concrete mixers to prevent false-set problems.

False-set is a term used to describe the stiffening of the concrete within one minute after water is added. It is not a "hard set". It happens more frequently in volumetric mixers because mixing times are not long enough and don't go past the false-set condition.

DIRECTIONS

1. Determine the amount of Water Conditioner required. See Recommended Dosage Rate.
2. Remove the protective outer bag, add the inner water-soluble bag and contents into water tank and let dissolve for at least 5 minutes.
3. Add water to concrete mix as per your mix design. Unused water may be left in the tank.

RECOMMENDED DOSAGE RATE

One 4-oz bag of Water Conditioner will treat 400 gallons (1,500 liters) of water.

COMPATIBILITY

Water Conditioner is compatible with most concrete admixtures. When used with other admixtures, each one must be dispensed separately into the mix.

PACKAGING

- 4 oz (113 gram) water soluble bag, 100 bags per case (item #98420)

FAQs

- Q. Why does false set occur in volumetric mixers but not in regular ready mix concrete?
- A. False set is a rapid hardening of the concrete shortly after adding water. This false set is not



a hard set and in regular ready mix concrete, the extended mixing simply breaks up this false set.

- Q. Why does false set occur?
- A. In the manufacture of cement, gypsum is added to control the set. The gypsum is normally added in the final milling process. If in the final milling the temperature of the cement gets too hot, the gypsum will dehydrate forming anhydrate or hemihydrate (plaster of Paris). When water is added the plaster of Paris hardens very fast and gives the appearance of a false set.
- Q. Why doesn't false set happen all the time?
- A. False set is more common in the summer time and when cement plants are working at full capacity.
- Q. Why it is important to control the false set in volumetric mixers?
- A. Because when the false set appears, it is very difficult for the contractor to work the concrete. If excess water or superplasticizer is added to the concrete to reduce the effects, this can cause a weaker concrete or increased cost of admixtures.

continued...

FOR THE REDUCTION OF FALSE-SET PROBLEMS IN VOLUMETRIC MIXERS

Q. Will the Water Conditioner affect the true set of concrete?

A. No.

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.

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