



# FRITZ-PAK

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## MINI DELAYED SET

## DELAYED SET ADMIXTURE

Fritz-Pak Mini Delayed Set is designed for stabilizing residual concrete wash water or extending the setting time of concrete while improving concrete quality. Mini Delayed Set does not contain calcium chloride, nitrates, nitrites or other potentially corrosive materials and is compatible with all standard concrete admixtures.



### ADVANTAGES

- Stabilizes concrete wash water for use in next load
- Can be used to recycle the boom in concrete pumps
- Reduces costs associated with chipping out the drum
- Improves the environmental impact of your concrete



### CERTIFICATIONS

ASTM C-494 Type D;  
AASHTO M-194; CRD C-87

### PACKAGING

ITEM NUMBER	WEIGHT	BAGS PER CASE	CASES PER PALLET
95050	8 ounces	60	30
95250	50 pounds	1	40

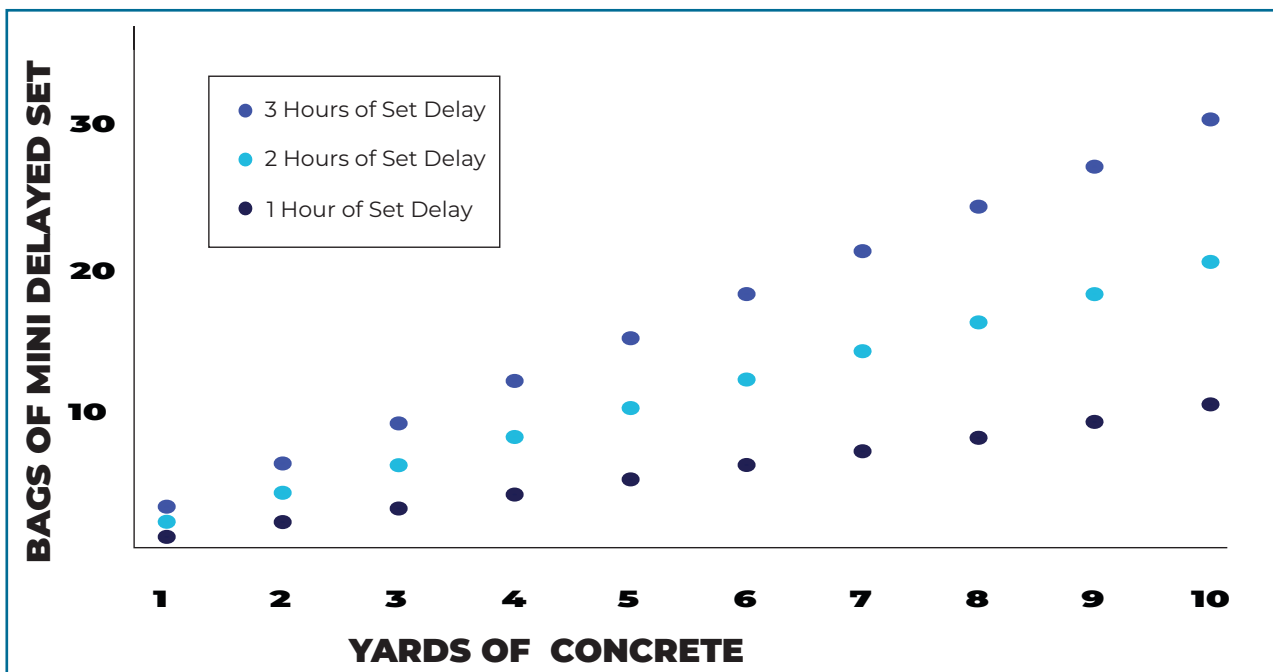
### DOSAGE

Typically one bag of Mini Delayed Set will retard the set of one cubic yard for one hour. Double the dosage to get a two hour delay, triple it for three hours. See the charts below for information about dosage rates. More detailed information is available in the product bulletin for Standard Delayed Set.



## DELAYED SET DOSAGE RATES

TEMPERATURE	DOSE OF DELAYED SET PER EVERY 100 LBS OF CEMENT	DOSE OF DELAYED SET PER EVERY 1 KG OF CEMENT
<60°F (<15°C)	1.0 ounces	0.62 grams
60 - 80°F (15 - 27°C)	1.3 ounces	0.83 grams
>80°F (>27°C)	1.7 ounces	1.03 grams



## DIRECTIONS

There are many ways to use Mini Delayed Set in concrete operations.

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

1. Determine how much Mini Delayed Set is needed. See Dosage section above.
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 to 7 minutes to ensure that the Mini Delayed Set is dispersed throughout the mix.

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.



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## **DIRECTIONS (CONTINUED)**

### **B. STABILIZATION AND REUSE OF RESIDUAL CONCRETE WASH WATER**

Some job sites may not allow you to discharge your cleaning water. Mini Delayed Set can be used to stabilize the wash water, allowing it to be reused in the next load in the truck. This helps protect both the interior of your truck and the environment.

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 two and half minutes.
5. Reverse drum to coat rear fin assembly. **DO NOT DISCHARGE WASH WATER.**
6. Mix wash water at high speed for an additional 2 and a half minutes.
7. If the mixer drum is truck mounted, park the truck and cover the drum opening in order to keep out rain.
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 (warmer than 90°F or 32°C), or pumps with booms painted a dark color, use two bags of Mini Delayed Set.
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 to 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 to 10 minutes. Check the concrete continuously. 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 so they can adjust their finishing and placing requirements if necessary.



## **DIRECTIONS (CONTINUED)**

### **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 to 5 bags of Mini Delayed Set to the second half of the mix still in the drum and mix for 5 to 7 minutes.
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 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 cleaner drum fins.

1. Remove the outer bag and introduce the inner water soluble bag into a sprayer container with 2 to 3 gallons (8 to 12 liters) of water.
2. Agitate for 5 to 7 minutes to ensure 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, Or 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. Also, the addition of Mini Delayed Set with 30 to 50 gallons of water after discharging at the site, will retard the mortar lining the inner surfaces of the drum making it easier to remove.

### **H. LEFTOVER CONCRETE IN DRUM**

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



## FREQUENTLY ASKED QUESTIONS

QUESTIONS	ANSWERS
What is the shelf life of Mini Delayed Set?	If stored properly, about 1 to 3 years.
Will Mini Delayed Set affect my color?	No, it will not affect color of gray concrete. If using white concrete, use Fritz-Pak Plaster Delay Set.
Can I re-dose?	Yes. You can add more Mini Delayed Set if the initial concrete set has not started. You may re-dose up to three times.
What happens if I overdose the concrete?	Set time will be longer, but set will still occur.
Will it change the strength of my concrete?	No.
Will it react with other admixtures?	No, Mini Delayed Set is compatible with most other admixtures.
Is it possible to mix for shorter times?	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.
Will Mini Delayed Set work if the concrete already has a retarder in it?	Yes. Mini Delayed Set is compatible with other admixtures.
If the concrete has started to set, will Mini Delayed Set to stop and reverse the setting?	No. Mini Delayed Set is used to delay the initial set. If setting has already begun, Mini Delayed Set will not work.
How do I know when setting has begun?	If you notice an increase in concrete temperature or a reduction in slump, concrete has started to set and Mini Delayed Set may not be able to stop the setting process.
What is the difference between Mini and Standard Delayed Set?	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.

## COMPATIBILITY AND STORAGE

Mini Delay Set is compatible with most concrete and cement admixtures. When using more than one admixture, each product should be dispensed separately. Mini Delay Set does not contain calcium chloride, nitrates, or other potentially corrosive materials. Store in a dry location, protected from breakage, deterioration, and contamination. Mini Delay Set is not subject to freezing.

## WARRANTY

The information 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. 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.