

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.

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.

© 2009 Fritz-Pak Corporation

continued...

HIGH STRENGTH SET RETARDER

SET
RETARDERS

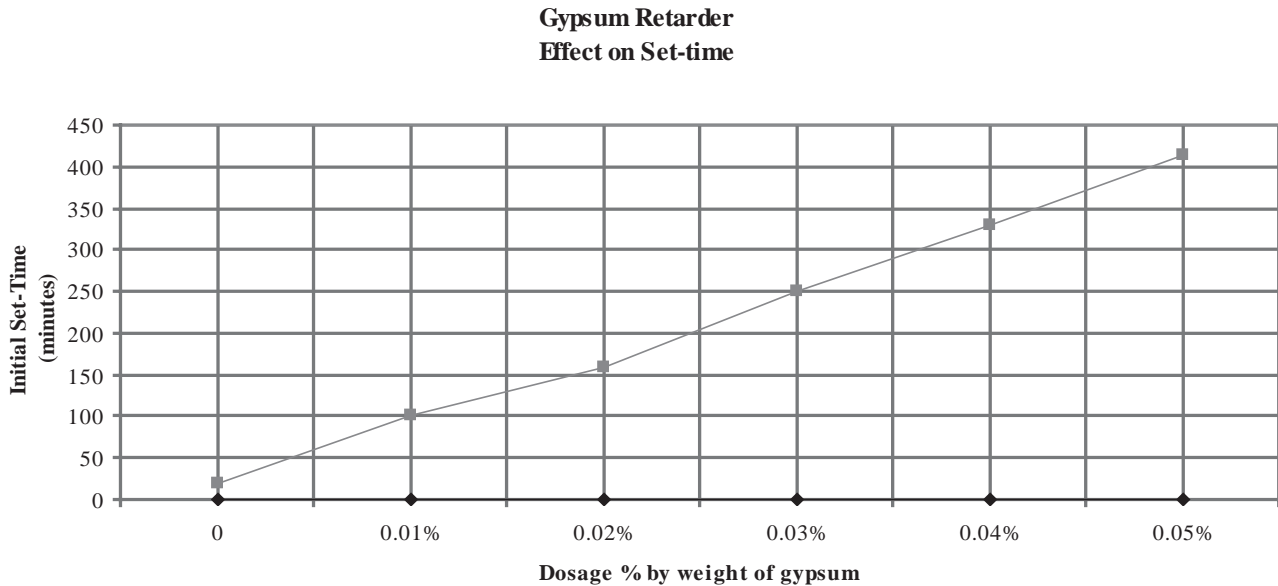


Figure 1. Typical retardation effect of Fritz-Pak Gypsum Retarder as a function of dosage. Actual results will vary by differences in test conditions and gypsum composition. Tests are highly recommended to determine actual dosage for your applications. Note: 0.01% is equivalent to 100 grams per metric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