

LGA[®] High Efficiency Grinding Aid and Pack Set Inhibitor

High efficiency grinding aid and pack set inhibitor

Introduction

The LGA[®] series of cement additives is formulated to provide grinding efficiency that is superior to that of traditional grinding aids based on amines or glycols. Laboratory grinds comparing LGA with traditional glycol-based additives have indicated increases in grinding efficiency of 15% at Blaine fineness of 3500–4000 cm²/g for Ordinary Portland Cement.

Product Description

LGA consists of a mixture of special amine salts that are then formulated with more traditional amines or glycols. It is available with either an amine base, as LGA and LGA 70, or with a glycol base, as LGA N, or a blend of amine and glycol, as LGA N 50, to better meet the unique performance requirements of different milling systems. In addition to providing increased grinding efficiency, LGA products also effectively inhibit pack set.

Specifications

Active Ingredients	69.0–81.0
Specific Gravity	1.09–1.15 [@77 °F (25 °C)]
pH	6–9

Typical Properties

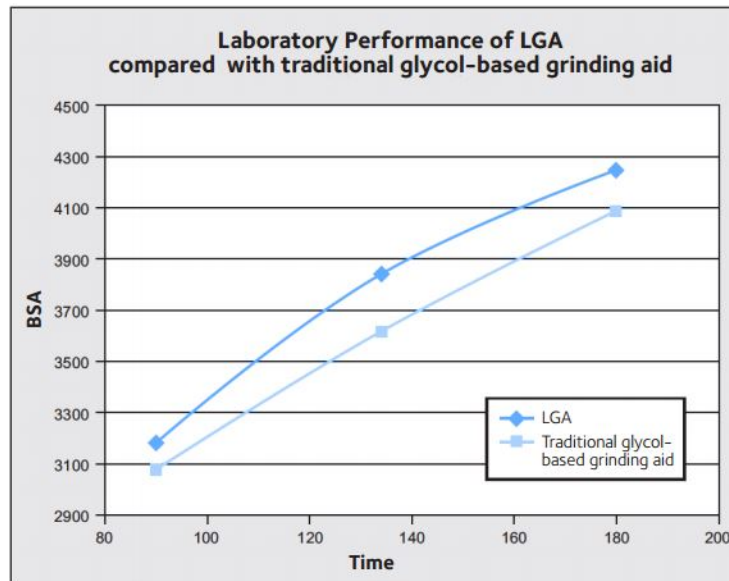
Appearance	Dark brown, low viscosity solution
Odors, Fumes	Alcohol odor with no noxious or toxic fumes
Foaming Point	None
Freezing Point	15 °F (–10 °C)

Product Advantages

- Increased mill output at same cement fineness
- Reduced grinding costs
- Improved dosage efficiency
- Higher cement strengths
- Increased cement flowability

Recommended Addition Rate

According to GCP experience, the typical dosage of LGA as received ranges from 0.02% to 0.06% of cement. The optimum addition rate should be determined through cement mill tests in consultation with GCP personnel.



How to Use

LGA may be proportioned as received; however, dilution with four to eight parts of water is normally recommended in order to facilitate greater proportioning accuracy and better additive distribution. Where extremely small addition rates are used, even greater dilution is recommended.

For dilution, suitable dispensing pumps with adjustable flow rates should be used for optimum performance. It is desirable to introduce LGA into the first compartment of the finish grinding mill to effect maximum distribution and efficiency of the product.

Dosing Equipment

GCP LGA high efficiency grinding aid should be accurately proportioned through a calibrated dosing system, suitable for the cement mill and the output required.

Specification Compliance

LGA is approved for use under ASTM C465 specification as a non-harmful processing addition. It has been thoroughly tested and a test report is available from GCP upon request.

Packaging

LGA is available in 55 gal (210 L) drums, in totes or in bulk by tanker trucks. It contains no flammable materials.

Health & Safety

All precautions defined on the SDS (Safety Data Sheet) for LGA must be followed.

Storage

Where it is expected that the storage tanks will be exposed to freezing temperatures, provisions should be made for insulating and heating the tank and lines in order to prevent excess viscosity and to aid pumpability.

Technical Services

Field Engineers from GCP are available to assist in laboratory and mill test evaluations of LGA. Complete testing equipment and methods for analyzing mill performance and pack set index are also available during plant trials.