



**asg** chemie



## DRYMIX MORTAR

**Performance additives for the Drymix Mortar Industry based on innovation, quality and ease-of-use. Servicing a wide range of product applications including facades, flooring, tiles, concrete reinforcement, industrial grouts, repair & patching mortars, decorative concrete, stucco and more.**

Raw materials range from reactive binders, alternative cementitious materials, accelerators, retarders, functional fillers, fibers, viscosity modifying additives for established and emerging drymix applications.

## CEMENT BINDERS &amp; SPECIALTY CEMENTS

**Amorphous Calcium Aluminate Cements (ACA)**

Amorphous Calcium Aluminate Cement (ACA) is a special cement used as an additive in conjunction with Portland Cement to create very fast setting times and high early strengths in mortar & concrete. Strength can be achieved in just a few minutes. ACA is suited for repair concrete in critical infrastructure and highway projects. ASG also supplies a range of suitable retarders to allow for adequate open times as the setting time is extremely fast.

**Calcium Aluminate Cements (CAC)**

CACs are a unique class of cement that offer high performance heat resistance as well as rapid hardening and high early strengths. CACs find use in a range of applications that require rapid hardening including self levelling compounds & industrial grouts. CAC is also used in applications that require chemical and sulfate resistance such as sewage pipes & pump stations. A range of CACs are offered including 40, 50 and 70% Al<sub>2</sub>O<sub>3</sub> materials.

**Microcementi™ CSA Binder**

Microcementi™ CSA Binder, is produced using a mixture of limestone, clay and gypsum and is known as a green cement, producing 25% less CO<sub>2</sub> emissions than Ordinary Portland Cement during the fusing process. Due to its low shrinkage properties with high early strength, Microcementi™ CSA Binder is ideal for non-shrink grouts, precast, lightweight concrete and glass fiber reinforced concrete.

**Microcementi™ Engineered CSA Cement**

Microcementi™ CSA Engineered CSA Cement is a hydraulic binder that can be used as a standalone, or in combination with OPC and gypsum. Due to its lighter color than CAC or traditional CSA, Microcementi™ CSA engineered CSA Cement offers versatility in decorative applications. Ultra rapid hardening & strength gain, low permeability and simplicity in formulation are key benefits.

**Micro-Cementi™ (SC) Shrinkage Compensating CSA Expansive Type –**

Through positive expansion, Micro-Cementi™ (SC) reduces volume shrinkage in both the plastic and hardened phases of cement hydration. Product is suitable for use in non-shrink grouts, self-leveling floor screeds and prefabricated concrete.

**Calcium Sulfate / Plaster****Anhydrite (calcium sulfate anhydrous)**

The anhydrous form of calcium sulfate, anhydrite has the chemical formula CaSO<sub>4</sub>. Found naturally, as well as being a co-product of a variety of industrial applications including flue gas desulfurization and from the production of hydrofluoric acid. Anhydrite is suitable for a variety of applications including fast setting grouts, self levelling floor compounds and rapid setting cementitious systems.

**Calcium Sulfate Hemihydrate**

More commonly known as Plaster of Paris, calcium sulfate hemihydrate has the chemical formula CaSO<sub>4</sub>·1/2H<sub>2</sub>O. Calcium sulfate hemihydrate can be used as a filler in paints, stucco & cementitious products. The amount of calcium sulfate added can influence the hydration, rheology, setting and strength in cementitious materials.

## SET RETARDERS

**Citric Acid**

Citric acid is a weak organic acid, found naturally in many types of fruit. In the Drymix Industry, citric acid works as a general-purpose retarder, recommended for use in gypsum, OPC and calcium aluminate-based systems. Citric acid can also improve the flow and pumpability of preblended cementitious products.

**Phosphonate Retarders**

The use of phosphonic based chemistries as a retarder in concrete are relatively new, however they can offer some specific advantages. Phosphonate based retarders can outperform other acids at higher temperatures, as well as allowing for longer periods of retardation. Set times can be controlled more precisely, as the relationship between dosage rate and retardation is linear. A wide variety of chemistries are available in powder form, for each application ASG can recommend the correct additive or a blend of multiple additives.

**Tartaric Acid**

Tartaric acid is a strong retarder in both cement and gypsum-based systems. When tartaric acid reacts with the mineral phases of the cement, calcium tartrate hydrate is formed, covering the cement particles, thus blocking the hydration. The L+ variety with anti-cake, is highly soluble and free flowing, allowing for easy dispersion in small dosages throughout the finished product.

## ACCELERATORS

### Aluminium Sulfate (alum)

Commonly known for its use as a coagulant in water treatment, aluminum sulfate is also an important additive in cement. Aluminium sulfate powder can improve setting time, as well as early flexural and compressive strengths. Alum is recommended for use in post fix formulations where early strength is critical.

### Calcium Formate

Calcium formate can accelerate hydration of tricalcium silicate in cement and increase the early strength of the cement mortar, as well as increasing cement hardness. Calcium formate is a viable non-chloride alternative for cold weather and low humidity conditions.

### Lith™ Lithium Carbonate

Lith™ Li<sub>2</sub>CO<sub>3</sub> Used in a variety of applications including as an accelerator in high alumina cement systems for manufacture of self-levelling flooring compounds, ceramic tile adhesives, rapid setting grouts and repair mortars. Available grades include Superfine (median particle size 30 micron) and Ultrafine (median particle size 6-10 microns)

### Lith™ Lithium Sulfate

A more soluble form of lithium, Lith™ Lithium Sulfate is available in a unique micro-mist form that is free flowing with a narrow size distribution. Used in a variety of applications including an accelerator in high alumina cement systems for manufacture of self-levelling flooring compounds, ceramic tile adhesives, rapid setting grouts and repair mortars.

### Sodium Aluminate

Sodium aluminate is a flowable white powder that is readily dissolvable in water, with a high concentration alumina oxide. In cement applications, sodium aluminate is an effective accelerator & hardness enhancer, commonly used to accelerate shotcrete. Sodium aluminate also has the added advantage of working well in cold climates and when frost is present.

## WATER REDUCERS / SUPERPLASTICIZERS

### Naphthalene Sulfonate

Naphthalene sulfonates are widely used in building chemistry as a superplasticizer for their dispersing and wetting abilities. They come in different forms (calcium and sodium salt) and various levels of sodium sulfate %. Naphthalene sulfonate creates concrete that is more workable and fluid by using less water and more slump.

### Melamine Sulfonate

A superplasticizer in cement and gypsum based materials, melamine sulfonate allows for high flow and water reduction. Suitable for use in pumpable grouts, self levelling underlayments, repair mortars and tile adhesives. Due to its light color, melamine sulfonate can be used in white and colored formulations.

### Superflow™ PCE Powder

Superflow™ is a high end superplasticizer based on the latest polycarboxylate technology. At extremely low addition rates, Superflow™ offers high levels of water reduction and flow. Superflow™ is recommended for high performance concrete applications such as floor screeds, non-shrink grouts and feather finish materials.

## PIGMENTS

### Titanium Dioxide (Rutile)

The rutile form of titanium dioxide is a white powder that serves as a pigment and colorant. It is very durable and can withstand harsh chemical environments. TiO<sub>2</sub> Rutile enhances the appearance of concrete products, paints, and coatings by making them more white, bright, and opaque.

---

## RHEOLOGY ADDITIVES

### METHOD™ Cellulose Ethers (MC, HEC, HPMC)

Method™ Cellulose Ethers are the preferred option in drymix mortar applications. The main function of cellulose ethers are to provide sufficient water retention so the cement can set and develop strength before it dries out. Method™ Cellulose Ethers also improve the workability, bonding strength and durability of a wide variety of drymix products including plasters, coatings, self-levelling compounds and putties.

### Fumed Silica

Often used as a functional filler in a variety of compounds, fumed silica can improve the properties of cement & other binders. These benefits include anti-sag, modified rheology and viscosity, as well as preventing segregation of the mix. In addition to drymix applications, fumed silica is also widely used in sealants, paints & coatings as well as in personal care. Fumed silica is available in a range of different surface area materials, as well as coated (hydrophobic) & uncoated (hydrophilic)

### Re-Dispersible Polymers (RDP)

Re-dispersible polymer powders based on vinyl acetate-ethylene (EVA), offer excellent adhesion to a variety of substrates, water resistance and flexibility. Produced by spray drying emulsions, RDPS are easily re-soluble back into water and maintain the initial properties of the emulsion. RDPs are an important component of tile adhesives, self levelling compounds, gypsum and mineral based plasters.

### Polyvinyl Alcohol (PVOH, PVA)

PVOH is a versatile polymer that can easily dissolve in water, and when added to a cement slurry it enhances the adhesion properties. PVOH also improves the fluidity of cement mortars at relatively low addition rates. A wide range of PVOH grades are available, with varying degrees of viscosity, molecular

weights and rates of polymerization.

## FILLERS

### Glass Spheres

Produced from 100% post-consumer glass, Glass Spheres are tiny white inorganic granules of various diameters that are a type of thermal insulating material. In drymix applications, Glass Spheres are used as lightweight aggregates in plasters, lightweight concrete, lightweight panels and in polymer modified concrete. Glass Spheres are also finding an important role in 3D printing applications due to their low bulk density and high compressive strength.

### Cenospheres

Cenospheres are hollow, inert spheres of silica and alumina. A natural by-product of coal power generation, cenospheres are lightweight materials added to concrete to make the structure lighter and stronger, as well as help to prevent cracking and improve durability. Due to their low specific gravity, spherical shape, narrow particle size distribution and high compressive strength, cenospheres are also used in critical applications such as oil well cementing.

---

## PERFORMANCE FIBERS

### Alkali Resistant (AR) Glass Fibers

Manufactured from specialty glass with high concentrations of zirconia, AR Glass fibers have high tensile strength and modulus, are resistant to corrosion and are easily dispersed within the concrete mix. Suitable applications include glass fiber reinforced concrete (GFRC), concrete counter tops and other decorative concrete applications requiring higher tensile strength.

### Carbon Fibers

By incorporating carbon fibers in concrete, a new material is created that is strong and durable like concrete, but light and flexible like carbon fiber. This material can be used to build structures that are more innovative, efficient, and eco-friendly than traditional ones. The carbon fibers reinforce the concrete and make it more resistant to cracking and corrosion. This material also saves cement and steel, reducing the cost and carbon footprint of construction. Carbon fiber can also increase the service life of the concrete structure.

### Polypropylene (PP) Fibers

Polypropylene Fibers are a type of synthetic fiber that when added to the concrete mix can improve performance and durability. Some of the benefits of polypropylene fibers include reduced shrinkage and cracking of concrete, increased strength and corrosion resistance. A variety of lengths and distributions are available, as well as in mesh and bundle form



**asg** chemie

Bulk Chemicals and Specialty Performance Materials

ASG Chemical Holdings, LLC • Bulk Chemicals and Specialty Performance Materials • [www.asgchemie.com](http://www.asgchemie.com)  
2603 NW 13th St. #231 Gainesville, FL 32609 • **Main** : 352.432.1481 • **Fax** : 352.430.7442 • **Toll Free** : 1.833.ASG.CHEM (274-2436)

©2024 All Rights Reserved. ASG Chemie is a trademark of ASG Chemical Holdings, LLC.