



High Performance Rheology Modifier and Mix Stabilizer

Ready Mix Concrete



Product Description

Acti-Gel® 208 is a low-dose rheology modifier and anti-settling agent that stabilizes mixtures, provides superior aggregate suspension, and dramatically improves the performance and paste quality of concretes. When fully dispersed, Acti-Gel® 208 particles form a unique lattice 'microstructure' that supports slightly higher yield stress and thixotropy, resulting in a greater ability to suspend both cement particles and aggregate with reduced segregation and bleed. Under conditions of shear, flow conditions are enhanced resulting in improved pumpability and workability. Some designs may result in a reduction in measured slump. Please see optimizing recommendations below.

Acti-Gel® 208 is made from a highly purified Mg-aluminosilicate using a patented process. It is non-swelling and shear stable in both low and high salt environments and between pH 2-13.

Acti-Gel® 208 is neutral setting and will not affect set time, air content or color.

Acti-Gel® 208 complies with ASTM C 494, Type S.

Packaging

Acti-Gel® 208 is supplied in powder [or suspension form](#).

Applications:

- Self-consolidating concretes (SCCs)
- Grouts (ready mix)
- Shotcrete (wet- and dry-mix)
- Slip-form pavements, curb, etc.
- Deep foundations / anti-washout, underwater applications
- Lightweight (ready mix)
- Other concrete applications

Benefits:

- Unsurpassed concrete stability
- Suspends both coarse and fine particles and manufactured or gap-graded aggregates
- Reduces unwanted bleeding
- Improves surface finish; dramatically reduces voids / bug holes
- Superior cohesion and adhesion for low rebound shotcrete; thicker applications and higher lifts
- Dramatically reduces airborne particles in sprayed applications
- Higher green strength for shape stability in slip-form
- Reduced formwork pressure in SCC applications
- Easily pumps low-slump concrete
- Greatly improved truck clean-out

Performance

Acti-Gel® 208 is a thixotropic material that suspends particles, reduces segregation, and dramatically stabilizes concretes. During mixing or emplacement flow is greatly enhanced due to its shear-thinning behavior. On removal of shear, the rate of thixotropic rebuilding of the lattice structure is exceptionally fast, which provides i) superior cohesion, ii) rapid development of green strength and shape stability, iii) excellent anti-washout properties, and iv) reduction in hydrostatic pressure.

When used in an optimized mix design, Acti-Gel® 208 has been shown to increase early strength, reduce shrinkage, decrease rapid chloride permeability, and reduce efflorescence – all with outstanding workability and off-form finish. Please contact your local representative for recommendations.

Table 1. Typical Properties

Physical

pH	8.50-9.25
Sp. Grav. (powder)	2.29
Sp. Grav. (24% suspension)	1.154

Table 2. Chemical Composition

<i>Oxide composition</i>	<i>wt. %</i>
SiO ₂	50.2
Al ₂ O ₃	9.8
MgO	9.1
Fe ₂ O ₃	3.2
CaO	3.0
Na ₂ O	0.6
K ₂ O	0.6
TiO ₂	0.4
P ₂ O ₅	0.7
LOI	22.0
Water sol. Cl ⁻	<0.001
Acid sol. Cl ⁻	0.007

Guidelines for Use (Concrete Specific)

Acti-Gel® 208 can be added in the mixing sequence at various stages depending on the application, using a recommended dry dosage range of ~0.03% to ~0.10% (total dry weight material basis). Please contact your local representative for recommendations. Acti-Gel® 208 must be mixed with sufficient high shear to become fully dispersed with the constituents. Mixing at high shear in a ready-mix truck with a conventional charge of aggregate is usually sufficient with five to ten minutes of mixing. If Acti-Gel® 208 is added last, a minimum of 10 minutes of mixing time is required. Three to five minutes in a small concrete drum mixer is also adequate. For laboratory preparations without aggregate, mixing at high speed for at least 5 minutes in a Waring-type blender is recommended.

Optimizing Acti-Gel® 208

Like any additive, the performance of Acti-Gel® 208 is dependent on mix proportions, local materials, cement chemistry, fineness of materials, and w/c ratio. Potential mix designs for specific applications should be evaluated using actual job materials to ensure that the chosen mix design meets project specifications. Acti-Gel® 208 has a unique ability to transport higher aggregate contents which will maximize available paste and reduce water demand. Please contact your local representative for recommendations

Product Data Sheet, Rev. Jan 2014

Recommendations and advice concerning dosages, application, performance, and use is provided in good faith, based on our testing, experience, and knowledge of the product under normal conditions. All claims based on performance are believed to be accurate. No guarantee, either expressed or implied, is made with reference to the infringement of any patent. These values represent typical data from samples taken from production batches. They are not considered to be specifications. Results may vary depending upon equipment and procedures. The user of these materials is responsible for determining its suitability for their application with different materials and actual site conditions.