

Product Data Sheet
Edition 07.2014
Identification No. CA - 24



KEMFUME

A Super Pozzolan Silica Fume High Performance Concrete Admixture

Description

KEMFUME is a dry powder used as an admixture to Portland cement composition as a super-pozzolan. It is submicronic in size, and its highly reactive **KEMFUME** is an essential ingredient for the production of high flow or self - compacting high strength concrete and low permeability at the same time.

Where to use

The durability of **KEMFUME** concrete is well documented. And recognizable as the standard by which high performance concretes (HPC) are measured. Using White **KEMFUME** architectural and colored concretes can now benefit from the increased durability of HPC without affecting the desired color.

KEMFUME used in the following concrete constructing:

- Structural concrete.
- Pre-cast concrete.
- To opening up extra rentable floor space in tall buildings.

Advantages

KEMFUME is known as a glass hard, inert, hollow silica sphere in shape.

- It is used to reduce the weight of plastics, rubbers, resins, cement...etc., in addition to other benefits in other situations.
- Its spherical nature is particularly useful in increased filler loading and improved rheology.
- Increased water & gas tightness.
- Increased abrasion resistance.
- Increased compressive strengths.
- Improved cohesion and adhesion of mortar, grout, and shotcrete mixes.
- High early strengths enable faster production schedules.
- Improved bond strengths.
- Chloride free – doesn't cause rust for concrete reinforcement.

Properties

Material	Dry powder
Avg. Particle size (μ m)	< 0.5
Absolute density. (g/cm ³)	2.2 typical.
Coarse particles (+45 μ m)	3.21 typical.
Reflectivity	+55%
Surface area (Sq .M/gm)	23 typical.
Particle shape	Spherical.
Bulk density (lb /cft)	27 avg.
Color	Light Grey

How to use

Theoretical dosage rate:

Mix designs containing 5 to 20%

KEMFUME based on proportioned cement weight. Are common to achieve the desired fresh and hardened concrete properties.

Mixing:

KEMFUME is added with the cement to the concrete at the batching plant before the gauging water.

Application:

Low dosages (<5%) of white **KEMFUME**. May actually perform as a mild flow enhancer, replacing and freeing water from between cement grains. At higher dosages white **KEMFUME**. Will have a negative water demand on the mix and will require the use of water reducing admixture to control slump and workability as (**KEMFLOW SUPER FM**). White concrete in addition to architectural applications is commonly used for light reflectivity and safety go hand – in – hand while improving durability properties white **KEMFUME** will not discolor specially colored mortars, grouts, architectural casting.

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Optimum mixing time 2 minutes .The water quantity should be measured carefully according to the final consistency needed. **KEMFUME** concrete should be handled and placed as conventional concrete.

Curing:

PROKEM recommends the concrete be cured for 24 hours after finishing operations are complete by using **KEMCURE** curing compound. spray applied surface contact curing membranes should be used in all cases.

Compatibility:

All admixtures may be used in the same concrete batch with **KEMFUME** .

Cleaning:

Spillage of **KEMFUME** with concrete can be removed with water.

Packaging:

Available in 15 and 500 kg packs.

Shelf life & Storage:

Unlimited, it must be stored in dry conditions.

Health and Safety

- **KEMFUME** is non-toxic.
- Use gloves to avoid contact with skin.
- Wear a face mask against dust if there is a heavy dust development.
- If skin comes in contact, wash immediately with soap and water.
- Do not dispose of into water of soil but according to local regulations.
- Do not use solvents.
- Eye contamination must be immediately washed with water, then seek medical treatment.
- Non – hazardous, no problems during transport.

Additional Information

PROKEM provides the construction industry with a comprehensive range of construction chemicals and specialty products answering the queries of modern engineers for trouble free durable structure.

PROKEM designs tailor made products should there be critical application that requires specific properties rather than our main range. For our customer's satisfaction, **PROKEM** extends technical services to include after sales support to assist users in a proper handling of our products.

PROKEM representative must be present at the job site during placement of the first batch of treated concrete. Do not proceed without this representative being present for certification.

Environmental Considerations

KEMFUME is environmentally safe .