NANO SILICA
INTEGRAL

Advanced Elements | Nano Silica Admixture

AE Integral is a colloidal nano silica admixture for ready-mixed and site-batched concrete. Added directly to the mix rather than to the surface, it distributes reactive nano silica throughout the concrete matrix, where it is designed to support continued hydration of the cement from within and to increase the density of the hardened paste. AE Integral is designed to improve workability and finishability without increasing the water-to-cement ratio. It is suitable for interior slabs on grade, slabs on metal deck, pavement, structural elements, and precast.

BENEFITS

- Colloidal nano silica technology
- Designed to support hydration from within the concrete matrix
- Designed to reduce reliance on topical curing methods
- Designed to improve workability, placement, and finishability
- Does not increase the water-to-cement ratio
- Designed to increase the density of the hardened paste
- Designed to help reduce drying shrinkage and curling
- Leaves no surface film to remove before grinding, polishing, densifying, or coating
- Zero VOC · Non-hazardous · Non-flammable

PROPERTIES

BASE	Colloidal nano silica
FORM	Water-based liquid
VOC	Zero
DOSAGE	5 fl oz per 100 lb cementitious
MIXING	70 revolutions recommended
SHELF LIFE	18 months

DOSAGE & MIXING

Step 1: Add AE Integral to the concrete mix at the batch plant, or at the jobsite on arrival before any concrete is discharged.

Step 2: Dose at **5 fl oz per 100 lb (cwt) of total cementitious material**. Use the dosage table on page 2, or the ticket yardage, to calculate the full load.

Step 3: Where other admixtures are used, add each admixture separately to the mix. Do not pre-blend AE Integral with other admixtures.

Step 4: After addition, mix a minimum of 30 revolutions at full mixing speed in accordance with ASTM C94. **70 revolutions is recommended** for full uniformity through the load.

Step 5: Verify slump before discharge. Where slump adjustment is required, use a water-reducing admixture — do not add water.

Step 6: Place, consolidate, and finish using standard practice for the specified finish.

Dosage table — 5 fl oz per 100 lb of cementitious material.

CEMENTITIOUS CONTENT	FL OZ PER CU YD	GAL PER CU YD	GAL PER 10 CU YD
450 lb/yd³	22.5	0.18	1.8
500 lb/yd³	25.0	0.20	2.0
550 lb/yd³	27.5	0.21	2.1
600 lb/yd³	30.0	0.23	2.3
650 lb/yd³	32.5	0.25	2.5

Compatibility. AE Integral is compatible with conventional water-reducing, retarding, and accelerating admixtures and with supplementary cementitious materials. Each admixture must be added separately. Trial mixes are recommended to confirm the dosage rate for your specific materials, mix design, and ambient conditions.

PACKAGING

SIZE	GALLONS	LITERS
Pail	5	19
Drum	55	209
Tote	275	1,041

STORAGE & SHELF LIFE

- Do not break the seal until the product is ready for use. Keep unused product in its original container.
- Store in a well-ventilated, cool, dry location between 41°F and 95°F (5°C – 35°C).
- Shelf life is 18 months from the date of manufacture in the original, unopened container.
- PROTECT FROM FREEZING. This product is perishable if frozen. Protect from direct sunlight and UV exposure.

SAFETY

- Always read the application instructions and the Safety Data Sheet in full before use.
- Always conduct site trials before full application. Materials, substrates, and site conditions vary by location and can affect the final result.
- Wear appropriate personal protective equipment, including eye protection and gloves. Avoid contact with eyes and prolonged contact with skin.
- Performance, working time, and finish quality may vary with mix design, ambient conditions, batch, and applicator skill.
- Clean all application equipment and tools immediately with clean water after use.
- Collect and handle wastewater and spilled material properly to protect people and the environment.
- Applications not covered by this documentation may be available upon request.

KEEP OUT OF REACH OF CHILDREN. DO NOT TAKE INTERNALLY.
BEFORE USING THIS PRODUCT PLEASE READ THE SAFETY DATA SHEET IN ITS ENTIRETY!

The content of this technical datasheet corresponds to the latest developments and our experiences. All information is based on ideal conditions and therefore may not be completely accurate in actual construction. Due to different types of materials, surfaces and actual construction conditions, guarantees are not given for applications. We are not liable for this information or any verbal statements. The only exception is when we can be blamed for willful negligence in liability. In that case, the customer must prove that he has fully and promptly transmitted all necessary information to us for examination and resolution. Any other details relating to the construction of our products must be confirmed in writing by us. The customer must check the suitability of the product for the intended application and purpose. We reserve the right to change the specifications of products due to ongoing development. In addition, our general terms and conditions are valid. This product documentation supersedes all previous technical data on this product.