



SUPERFLAT®

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BLOCK™

A **nanotechnology formulation** in combination with finely crushed calcium carbonate in Type 1L cement that has **proven** to produce desirable results in the most significant ASTM test methods related to concrete slab testing. The resulting physical traits include **surface hardness, resistance to wear, vapor loss, hydration completeness, lack of scaling, and ultimate strength.**

CONCRETE CURING AGENT / VAPOR EMISSION REDUCER / ELIMINATES CRAZING

Nanotechnology. Non-corrosive. Non-hazardous.

DESCRIPTION

Superflat® Block™ is a nanoparticle silica emulsion admix for Type 1L cement that promotes an early and more complete hydration reaction. The interaction of nanoparticle silica with finely crushed calcium carbonate begins early and leads to higher compressive, flexural, and ultimate strength values in concrete slabs (both vertical tilt-up) and horizontal (floor slabs). Superflat® Block™ has proven in reliable ASTM tests to produce better consolidation (harder surface), lower vapor loss (continued hydration), and higher ultimate strength than competitive products.

Superflat® Block™ provides for an early initiation of the concrete hydration reaction that changes the development of the capillary structure within the slab and fills unoccupied space. The resulting finished substrate creates an environment that does not allow moisture migration from sub grade sources or topically due to design of the capillary system and the properties contained in the proprietary chemistry.

When Superflat® Block™ is specified, minimum concrete design mixes begin at 5,000 psi. The neutrality of the chemistry makes

Superflat® Block™ compatible with shrink compensation and light weight design mixes.

Superflat® Block™ consolidates concrete at higher levels than concrete that is placed without treatment of Superflat® Block™, which means a harder material at the surface and improved resistance to wear. Superflat® Block™ was developed to be an admixture blended into the Type 1L concrete mix at the ready-mix plant and followed by one spray-on topical application on-site during the finishing operation.

Superflat® Block™ will not prevent proper bond and adhesion with traditional floor covering adhesives. Concrete roughness of CSP 1 thru CSP 3 can be specified and achieved if epoxy floor systems are desired. Shot blasting, vertical milling and grinding is allowed if a rougher CSP or surface texture is required by the floor covering manufacturer before the coating is installed. This environmentally safe, water-based product features a zero VOC content and provides an attractive option in green building applications.

USES

Superflat® Block™ is recommended for use whenever environmental conditions pose a potential risk for moisture migration or high levels of vapor emissions. Ideal applications include floors in industrial plants, distribution centers, airports and warehouses when impervious floor systems need to be installed over finished concrete.

ASTM testing has been conducted on this product. Concrete floors treated with Superflat® Block™ exceed minimum requirements in accordance with ASTM C309 standards.

COVERAGE / APPLICATION RATE: BATCH PLANT

Types of Placement	Oz./yd ³
Slab and Tilt-up	32 oz.



SUPERFLAT®
CONCRETE

APPLICATION

Use Superflat® Block™ with approved design mixes only. Dose undiluted Superflat® Block™ at a rate of 32 oz/yd³ into the concrete mix design at a minimum of 100 revolutions and follow proper mixing ratios for other specified ingredients. Do not exceed maximum of 300 revolutions in total in the entire drum mixing operation (ASTM C94) including delivery and on-site staging.

Revolutions per Stage:

Batch Plant -100 (Minimum revolutions for complete mixing.)

Transport - 95 to 170

On-Site: 30 minimum (if trim water is added)

Total: Do not exceed 300 revolutions for the entire process.

Note: Thoroughly clean and rinse contaminated chemical sprayers and vessels before filling with Superflat® Block™. Additional plasticizers or water reducers are not compatible with Superflat® Block™ and should not be used. If more moisture is needed at the surface during the finishing process, a light mist of clean, potable water is permitted.

BURNISHING/SEALING

Floors treated with Superflat® Block™ can be treated with Superflat® Protect™ and burnished to a high sheen.

A high-speed burnisher (2000-2200 rpm) with a medium to coarse maintenance pad can be used for optimum results. Diamond impregnated pads are acceptable. After burnishing, floors can be further protected from harmful chemicals by the application of Superflat® Repel™, which can be sprayed or mopped on to the surface and allowed to dry.

ADDITIONAL INFORMATION

PACKAGING

265 Gallon Tote

No expiration if left in unopened container and material does not become frozen or exceed 165 °F (74 °C).

PRECAUTIONS: DO NOT DILUTE. Do not use if the temperature at the pour location is less than 38 °F (3 °C) or above 165 °F (74 °C). KEEP FROM FREEZING. If frozen, discard product in approved receptacles.

CLEANUP: While still wet, equipment may be cleaned easily with mild detergent and water. After 72 hours of initial placement, cleaning can begin with Superflat® Retain™.

May help contribute to LEED credits:

- IEQ Credit: Indoor Environmental Quality
- MR Credit 5.1: Regional Materials: 10% Extracted, Processed & Manufactured Regionally
- MR Credit 5.2: Regional Materials: 20% Extracted, Processed & Manufactured Regionally
- ID: Innovation & Design Process
- IO: Innovation in Operations

HEALTH HAZARDS: Superflat® Block™ is non-combustible. (Flash point is >210 ° F.) Direct contact may result in irritation of the skin and eyes. Inhalation of product mist may result in respiratory irritation. Refer to current SDS for complete health and safety information.

SPECIFICATIONS

- Complies with all State and Federal allowable VOC requirements. Treated surface passes the minimal ANSI Static Coefficient of Friction (SCOF) standards
- Increases workability % during placement
- Dosing must be performed at batch plant
- Eliminates crazing
- No need for wet cure systems
- Compatible with all floor coverings and adhesives
- Improved resistance to wear per ASTM C779

FEATURES / BENEFITS

- Hydration reaction is an integral process that remains throughout the slab and produces higher ultimate strength
- Nanoparticle silica reacts quickly with the finely crushed calcium carbonate in Type 1L cement
- Significantly reduces the amount of moisture loss at time of placement to increase workability times
- Complies with ASTM C309 test for vapor loss
- No lengthy dwell times required
- Will not slow down the finishing process
- Increases PSI by 40% on average
- May be used as a finished floor system for factories / warehouses
- Least likelihood for scaling among competitors' products per ASTM C672
- Ready to use formulation / no mixing required
- Convenient for interior and exterior use
- Environmentally safe, non-hazardous
- No VOC'S

LIMITED WARRANTY: Superflat® warrants, at the time and place we make shipment, that our material will be of good quality and will conform with our published specifications in force on the date of acceptance of the order. Read complete warranty. Copy furnished upon request.

DISCLAIMER: The information contained herein is included for illustrative purposes only, and to the best of our knowledge, is accurate and reliable. Superflat® cannot however under any circumstances make any guarantee of results or assume any obligation or liability in connection with the use of this information. As Superflat® has no control over the use to which others may put its products, it is recommended that the products be tested to determine if suitable for specific application and/or our information is valid in a particular circumstance. Responsibility remains with the architect or engineer, contractor and owner for the design, application and proper installation of each product. Specifier and end user shall determine the suitability of products for specific application and assume all responsibilities in connection therewith.

For our most current data sheets, please visit www.getsuperflat.com.