



1.12 FAST S.F-D

Silica Fume Pozzolan Admixture

PRODUCT DESCRIPTION

FAST S.F-D is a dry, densified silica fume (microsilica) pozzolanic admixture for concrete which produces superior performance characteristics. FAST S.F-D Substantially increases concrete compressive and flexural strengths, durability, and impermeability.

BENEFITS

- Increased compressive and flexural strengths.
- Dramatically improved durability.
- Enhanced resistance to chemical attack.
- Superior freeze-thaw resistance.
- Low permeability.
- Increased abrasion erosion resistance.

RECOMMENDATIONS

FAST S.F-D is a pozzolan which reacts chemically within the concrete and an ultra-fine material which fills the voids between cement particles creating an extremely dense and impermeable concrete. As a result, FAST S.F-D. will increase the resistance of concrete against sulfate and chloride attack, providing superior protection for substructures and superstructures in harsh environments. FAST S.F-D greatly reduces the ingress of water and chemicals, which promote the corrosion of reinforcing steel. These performance characteristics make FAST S.F-D. an ideal material for use in parking decks, bridge decks, marine structures, and any application requiring dense and impermeable concrete. The use of FAST S.F-D creates extremely high compressive strength concrete. This creates structural economics and design flexibility as a result of a reduction in member size and/or quantity, increased span lengths, and reduced slab thickness. Consequently, FAST S.F-D is recommended for demanding or intricate design applications requiring extremely high performance concrete. NOTE: For the ultimate in impermeable, durable, high strength performance, use FAST 1000 SP-MN

super plasticizer in conjunction with FAST S.F-D micro silica.

DIRECTIONS FOR USE

FAST S.F.-D is batched at the ready-mixed concrete plant in a similar manner to cement and other cementitious materials. The uniformity of performance is mixing dependent; as a result, ensure the concrete is thoroughly mixed prior to placement with a minimum of 100 revolutions of the drum. The most important recommendations for optimizing concrete performance and aesthetics are “under finish and over cure!” concrete containing FAST S.F-D Silica fume. Under finishing means to not specify a greater degree of finishing than is actually necessary for the intended use of concrete. By limiting the finishing to only what is absolutely necessary, you will minimize finishing costs and reduce the time before curing is initiated thus reducing the potential for plastic shrinkage cracking. Over curing means that to get them FastChem benefit from FAST S.F-D silica fume, you must adequately cure. Do more than you would do for conventional concrete in the same placement. Remember you are trying to obtain high-performance concrete or you would not have used FAST S.F-D admixture in the first place. Curing is a poor area in which to try and save money. ACI 308, “Standard Practice for Curing Concrete”, must be followed to ensure the optimum concrete performance. The greatest difference that you will notice between conventional concrete and FAST S.F-D. Concrete will be in finishing. The difference will become greater with increasing dosages of FAST S.F-D Admixture. As a result of the increased cohesiveness and density, concrete containing FAST S.F-D will bleed much less than conventional concrete. At higher dosages bleeding will be essentially eliminated. This will increase the difficulty of finishing operations and susceptibility to surface drying



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and plastic shrinkage cracking. As a result, preventative measures are recommended to reduce surface evaporation. As a part of these preventative measures, FAST Cimfilm finishing aid and evaporation retardant is highly recommended for use between all finishing operations. Finally, use of FAST 1000 water-reducing admixtures and FAST 1000 SP-MN super-plasticizer is recommended to assist placement and finishing operations while optimizing concrete performance. We recommend steel finishing tools for use with concrete containing FAST S.F.-D. Also, you should consider a one-pass finishing procedure of screeding, bull floating, and blooming or other texturing followed immediately by curing. Remember, high dosages of FAST S.F.-D. Produce concrete that will not bleed. Therefore, there is no requirement to wait for the bleeding to conclude before initiating curing. If the contractor has not previously placed silica fume concrete, a small trial pour is recommended to familiarize pouring and finishing crews with the unique characteristics of concrete containing FAST S.F.-D silica fume.

APPLICABLE STANDARDS

FAST S.F.-D dry, dignified micro silica complies with the applicable standard provisions and specifications of ASTM C 1240-93 Standard Specification for Silica Fume for use in Hydraulic-cement Concrete and Mortar. At FastChem, we believe that this specification is particularly important, especially the minimum SiO_2 requirement of 85.0 percent. The importance of the silica content in determining the activity of silica fume is mentioned in Appendix XI, "Silica Content" of the Specification.

ADDITIONAL RATE

FAST S.F.-D is recommended for use at an addition rate of 5 to 15% by weight of cement depending on the desired performance

characteristics. Trial batches using project materials are recommended in order to confirm conformance to project specific requirements, or when materials, conditions or applications indicate addition rates outside the recommended range.

PACKAGING

FAST S.F.-D is supplied in 25 lbs. (11.34 Kg)&25 kg bags or in bulk delivery.

TECHNICAL SERVICE

A trained FastChem representative is available to assist in the preparation of specifications, and the resolution of Concrete problems in the field.

WARRANTY

This product is warranted to be free of defects in material and workmanship, and conform to FastChem Construction Chemicals ("FastChem") quality control standards. All recommendations, statements and technical data herein are based on tests we believe to be reliable and correct, but accuracy and completeness of said tests are not guaranteed and are not to be construed as a warranty or guaranty of any kind, expressed or implied including but not limited to, an implied warranty of merchantability or an implied warranty of fitness for a particular purpose. Satisfactory results depend upon many factors beyond FastChem's control. User shall rely on his or her own information and tests to determine suitability of the product for the intended use and user assumes all risk, loss, damage, expense and liability resulting from his or her direct use, indirect use or consequential to their use of the product. FastChem shall not be liable to the buyer or any third person for any injury, loss or damage directly or indirectly resulting from use or inability to use the product. FastChem's sole responsibility shall be to replace that portion of the product which proves to be defective. Any warranty claim must be made within six (6) months from the date of the claimed breach. This limited warranty applies only if the product was properly installed and used according to all instructions and was properly stored prior to use.

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