



# 1.12 XPERT 650 SILICA FUME

## Silica Fume Pozzolanic Admixture

### PRODUCT DESCRIPTION

XPERT 650 S.F-D is a dry, densified silica fume (micro silica) pozzolanic admixture for concrete which produces superior performance characteristics. XPERT 650 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

XPERT 650 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, XPERT 650 S.F-D. will increase the resistance of concrete against sulfate and chloride attack, providing superior protection for substructures and superstructures in harsh environments. XPERT 650 S.F-D greatly reduces the ingress of water and chemicals, which promote the corrosion of reinforcing steel. These performance characteristics make XPERT 650 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 XPERT 650 S.F-D creates extremely high compressive strength concrete. This creates structural economics and design flexibility because of a reduction in member size and/or quantity, increased span lengths, and reduced slab thickness. Consequently, XPERT 650 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 XPERT 1000 SP-MN super plasticizer in conjunction with XPERT 650 S.F-D micro silica.

### ADDITIONAL RATE

XPERT 650 S.F-D. is recommended for use at an addition rate of 5 to 15% by weight of cement depending on the desire performance characteristics. Trial batches using project material sare recommended to confirm conformance to project specific requirements, or when materials, conditions or applications indicate addition rates outside the recommended range.

### DIRECTIONS

XPERT 650 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 XPERT 650 S.F-D Silica fume. 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 XPERT 650 S.F-D. Concrete will be in finishing. The difference will become greater with increasing dosages of XPERT 650 S.F-D Admixture. As a result of the increased cohesiveness and density, concrete containing XPERT 650 S.F-D will bleed much less than conventional concrete.

### APPLICABLE STANDARDS

XPERT 650 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 FAST, we believe that this specification is particularly important, especially the minimum SiO<sub>2</sub> 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.

### PACKAGING

XPERT 650 S.F-D is supplied in 25 lbs. (11.34 Kg) & 25 kg bags or in bulk delivery.