

DuraTek-Microfume

Densified Silica Fume Powder

General Description

Riteks DuraTek-Microfume is densified, constant pH, amorphous light grey silicon oxide powder. DuraTek-Microfume improves the mechanical properties (compressive strength) and durability (via permeability decrease). DuraTek-Microfume can be used for high performance, high strength applications; low-permeability concrete required to resist water and chemical ingress and concrete required to resist mechanical abrasion.

How the Product Works

Microfume is a highly reactive pozzolan that reacts with the cement and converts weak calcium hydroxide crystals into useful calcium silicate hydrate gel. The abundance of ultra-fine silica fume places thousands of particles for each cement grain in a typical concrete mixture. The sub-micron particles are dispersed in spaces around and between the cement grains, leading to uniform distribution of particle sizes and high density concrete.

Product Characteristics / Features & Benefits

- Improves the relative durability of concrete by lowering the permeability of the concrete significantly.
- Increases early and ultimate strengths both compressive and flexural
- Ultra-high strength concrete exceeding compressive strengths of 15,000 psi and 6,000,000 psi modulus of elasticity
- Increases aggressive chemical resistance up to 15 times that of normal concrete
- Increases density
- Reduces damage caused by freezing and thawing
- Increases the abrasion resistance of the concrete
- Reduces surface bleeding
- Effective corrosion inhibiting system that resists the ingress of water-born salt contaminants (de-icing salts or marine salts)
- Reduces segregation

Specifications

Conforms to:

Conforms to ASTM C 1240, Standard Specification for Silica Fume for Use in Hydraulic Cement and Mortar.

Technical Information

Specific Gravity: ~ 2.2 to 2.3
Form/Appearance: Very finely textured gray powder

Water Req (gal/lb): 0.048

Bulk Density: ~ 30 lb/ft³ (481 kg/m³)

Microsilica Content: ~ 100%
 Amorphous

SiO₂: ~ 92 to 98%

Packaging/Storage

25lb(11.3kg) Bags | Super Sacks | Bulk Delivery

Store in a dry area protected from moisture.



Scan to Request a Sample

281.569.3500
 service@riteks.com

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How to Use

APPLICATION INFORMATION: Recommended dosage rates are typically specified between 5 and 15 % by weight of cement. Trial batches are strongly suggested, using project materials in order to determine the optimum dosage for specified project requirements.

MIXING: The 25 lb. bags of Microfume are repulpable bags, these bags are intended to be added directly to central or truck mixer without opening. The bags are designed to disintegrate through a combination of wetting and grinding the paper during concrete mixing. Specific batching and mixing instruction procedures as outlined in the Silica Fume Association Users Manual and ASTM C94/C94M must be followed.

LIMITATIONS: Concrete mixes with low water cementitious ratios and smaller size aggregates as these mixes may not develop sufficient mixing energy to fully repulp the bags. Always determine repulpability of bags by pretesting mix designs and batch sequence.

WORKABILITY & FINISHING: Microfume will affect the finishing characteristics of the concrete, especially in warmer ambient conditions. The quantity of bleed water from the concrete also may be reduced the use of a finishing aid and evaporation retarder are strongly encouraged to be used.

Shelf Life

Microfume, packaged in bags, can be stored indefinitely provided it is kept in a dry environment.

Health And Environmental Data

Before handling or using this product please refer to the Safety Data Sheet for complete health, safety and environmental information.

Dispose of waste in accordance with local, state and federal regulations.



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