Industrial flooring & construction products

Greco SF-90D

Densified silica fume for high-performance concrete

Description

Greco SF-90D is a densified silica fume powdered product, derived as a by-product from the smelting process used to produce silicon metal and ferrosilicon alloys.
Greco SF-90 silica fume is a very fine pozzolanic material consists of mainly spherical particles of amorphous silicon dioxide with a very high surface area of minimum 15,000 m²/kg and particles approximately one hundredth the size of the average cement particle.
Greco SF-90D silica fume improve the quality of the hardened concrete and cementitious system chemically called pozolanic reaction and physically as a pore filler.
The hydration Portland cement produces calcium silicate hydrate (CSH) gel, source of concrete trength and calcium hydroxide (CH) or free lime. Being a highly reactive pozzolan, silica fume chemically reacts with calcium hydroxide (CH) present in the cement paste to produce additional CSH gel, thus improving the cement paste to aggregate bond and resulting in higher compressive strength and impermeability of the concrete.
The ultra-fine material fill voids and capillaries created by free water in the matrix during hydration process and as a result reduced the permeability of the concrete. **Greco SF-90D** silica fume meets ASTM C1240 and BS EN 13263-1:2005+A1:2009 specifications.

Compatibility

Greco SF-90D silica fume is compatible to Chemical admixtures, all type of Portland and blended cements such as fly ash and slag.

Applications

Greco SF-90D silica fume is recommended to use with chemical admixtures such as water-reducer and superplasticizer for making high strength and durable concrete, shotcrere, cementitious grouts and mortars.
Greco SF-90D silica fume can be used to produce all grade of concretes. It can be used in ready-mixed concrete for high strength and impermeable concrete for structures in power plant, wharf, port, marine, bridges, building basement, airport, ship yard, high-performance industrial floor and etc. It also recommended for prestressed and precast products such as span piles, square pile, hollow core slab, underground tunnel segment and sewerage system.

Effects On Fresh Concrete

- Improved cohesiveness and pumpability
- Reduced rebound in shotcrete
- Reduce the heat of hydration in mass concrete construction by reducing the cement content.
- Reduced bleeding or bulk tanker delivery into silo.

Effects On Hardened Concrete

- Increased compressive strength and reduction in permeability
- Improved sulphates resistance
- Reduced chloride ion permeability
- Improved electrical resistance
- Improved bond strength to rebar and substrates
- Protection against alkali silica reaction in aggregate
- Improved abrasion and erosion resistance

Typical Properties

Appearance	:	Grey powder
Specific Gravity	:	2.0 - 2.4
Solubility	:	Insoluble
Bulk Density	:	550 ~ 650 kg/m ^{3}

Quantity To Use

Typical dose rates for **Greco SF-90D** silica fume range from 5 to 15% by weight of cement. The dosage rate vary depending on the mix design requirements. It can be used as cement replacement or as additional pozzolanic material. The exact amount is best determined by trail mixes.

Packaging

Greco SF-90D is supplied in 10kg, 20kg, bulk bag

Shelf Life

Unlimited when stored in a dry and protected environment.

Health & Safety

Avoid skin and eye contact. Wear suitable protective clothing, masks, gloves, etc while handling product. Wash thoroughly with water after handling. For more detail, refer to MSDS.

Note:
Use the leaflet as a guide for the use of this product concerned. The information given is in accordance with the latest technical developments. However, we cannot accept responsibility for any work carried out with our materials as we have no control over the method of application used or the condition of the site involved.

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