

CLASSIC DURA® SILICA FUME

MICRO SILICA GRAY FOR CONCRETE & MORTAR

Product:

Classic Dura Silica Fume provides and reduces the permeability of concrete to chloride ions which protects the reinforced steel concrete for corrosion especially in coastal regions. Also improves the compressive strength, bonding strength and abrasion resistance.

Work ways:

Classic Dura Silica Fume works in three ways,

1. Primary hydration reaction attributed to inbuilt CaO.
2. Secondly, pozzolanic reaction that converts un-reacted Calcium Hydroxide into C-S-H crystal structure.
3. With average particle size less than 6 micron and uniform distribution of particles ensures a densely packed matrix.
4. Most condensed silica fume has an average particle size of about 0.15 micrometers, while a typical Portland cement has an average particle size of 15 micrometers.
5. The mechanism by which micro silica improves concrete quality is through the so-called “micro filler effect”.

Advantages:

Classic Dura Silica Fume is

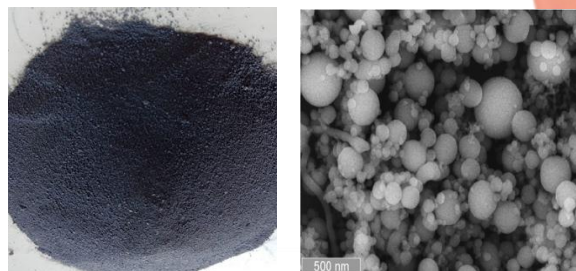
- Reduces the rate of carbonation and decreases permeability to chloride.
- Adding silica fume decreases efflorescence due to the refined pore structure and increased consumption of the calcium hydroxide.
- Has a low penetrability and high chemical resistance that provides a higher degree of protection against sulphates than low C3A sulphate resisting cements or other cementitious binder systems.
- It also improves the hydraulic abrasion-erosion resistance of concrete thus making it suitable for use in dam spillways.

Application areas:

- Medium to ultra high strength concrete
- High rise structures where pumping is a challenge.
- Precast concrete elements like tunnel segments, blocks, beams, girders etc.
- Pre and post tensioned concrete elements.
- High flow and good self compacting concrete.
- Shotcrete with improved adhesion and higher strength development.
- Structures where durability parameters are pre requisite.
- High performance concrete with lower water to binder ratio.
- Temperature controlled mass concrete for raft and pile foundation.
- General residential and commercial construction.
- Repair Mortars, plasters and grouts.
- LEED/GREEN compliant sustainable construction.

Dosage :

Classic Dura Silica Fume typically specified in dosages expressed by weight of cement. Dosages will vary depending on the application and the level of protection required, and typically range between **5% to 15%** micro silica by weight of cement.



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Typical Properties:

Physical and Chemical Characteristics

Analysis	EN 13263-1,2	ASTM C1240	Typical	Frequency
SiO ₂ (%)	Min 85	Min 85	> 85	Weekly
Free Si(%)	Max 0.4	-----	0.14	Monthly
Free CaO (%)	Max 1.0	-----	< 0.1	Weekly
SO ₃ (%)	Max 2.0	-----	0.25	Weekly
Na ₂ O eq(%)	To Report	To Report	0.50	Weekly
Cl(%)	Max 0.3	-----	< 0.1	Monthly
Loss on Ignition (%)	Max 4.0	Max 6.0	2.0 – 3.0	Weekly
Specific Surface Area (BET) m ² /gr	15 -35	Min. 15	<18	Monthly
Accelerated Curing 7days	-----	Min.105	120	Monthly
Normal Curing 28 days	Min 100	-----	110	Monthly
Bulk Density(kg/m ³)		To Report	450 kg/m ³ to 550 kg/m ³	Daily
H ₂ O(%)	-----	Max 3.0	0.5	Weekly
>45 micron (%)	-----	Max 10.0	<10	-----
pH	-----	-----	8	-----

Contact us:

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PONDICHERRY

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Storage Life:

- **Classic Dura Silica Fume** bags must be stored in a ventilated, dry area.
- Must be protected from moisture and direct sunlight.
- Properly stocked sealed **Classic Dura Silica Fume** bags can be used up till 6 months from the date of manufacturing