

SUNFINE® is a low calcium silicate mineral based additive, ground to Micron level to achieve very high level of reactivity. Fineness and high reactivity ensures enhanced hydration process, which in turn greatly enhance the strength and durability of concrete mix by lowering the permeability.

Addition of SUNFINE® improves the particle packing of paste components, which ultimately leads to concrete with higher strength and improved durability.

SUNFINE® lowers the water demand, admixture dosage and hence improving strength and durability parameters of concrete at all ages.

FIELDS OF APPLICATION

- RCC residential, commercial structures
- High rise structures with challenging situations to pump the concrete with ease
- Temperature controlled mass concrete for raft and pile foundations.
- Aluminum/tunnel form work with high flow or self-compacting concrete
- High performance concrete with extremely low water to binder ratio
- Shotcrete with improved cohesion and faster initial strength gain
- Precast concrete elements for tunnels, bridge, segmental construction, blocks, hollow core slabs etc.
- Post tension/prestressed concrete slab
- Construction grouts, plasters, repair mortars
- LEED/GREEN compliant structures

TYPICAL PROPERTIES

S No	Parameter	Test Method	IS 16715	Typical Values
1	Fineness in m ² /kg	BET Method	1500 Min.	2200
2	Particle Size Range			
	(a) D50 in µm		5 Max	4.59
	(b) D95 in µm		15 Max	9.10
3	Specific Gravity	-	-	2.88
4	Bulk Density in Kg/m ³	-	-	680.00
5	Manganese oxide (MnO)	IS 4032	5.5 Max	0.36
6	Magnesium oxide (MgO)	IS 4032	17.0 Max	7.80
7	Sulphate sulphur (S)	IS 4032	2.0 Max	0.14
8	Sulphate (as SO ₃)	IS 4032	3.0 Max	0.57
9	Insoluble residue	IS 4032	3.0 max	0.81
10	Loss on Ignition	IS 4032	3.0 Max	1.32
11	(CaO+MgO+1/3 Al ₂ O ₃)/(SiO ₂ +2/3Al ₂ O ₃)	IS 4032	1.0 Min	1.04
12	(CaO+MgO+Al ₂ O ₃) / (SiO ₂)	IS 4032	1.0 Min	1.75
13	Chloride Content	IS 4032	0.1 Max	0.019
14	Glass Content	IS 16715 / 5.3	Min 85 %	93.90
15	Slag Activity Index	IS 4031 / 16715	7 Days	101.30
			28 Days	114.40

DOSAGE

Measured quantity of SUNFINE® shall be added in the concrete mix along with cement and other pozzolanic powder materials. Mixing time shall be adequate to facilitate the uniform inter dispersion of all powder materials in the concrete.

Dosage: 4% to 8% by weight of total binder content as per the grade of concrete. For special purpose concretes, dosage beyond the above stated range can be used to achieve desired performance.

PACKING

20 Kg PP Bags/ 1000 Kg Bulk Bags.

ADVANTAGES

- Improves durability parameters of concrete by refined pore structure, reduces permeability
- Improves the resistance of concrete to aggressive environment conditions
- Maintains the pH of the concrete to protect steel reinforcement
- Improves pump ability of concrete
- Enhanced slump and extended slump retention without increasing the dosage of expensive chemical admixtures
- Faster removal of shuttering, quick rotation of forms in precast industry
- Enhanced rate of strength gain in concrete mixes with high pozzolanic material contents like fly ash, GGBS, etc.

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