VENOFINE

(Grinded Powder of GGBS)

Description

VENOFINE activated grinded powder of GGBS. Ultra fineness improves the properties of regular GGBS like high surface area, improved penetration properties, high resistant to chemical attack.

VENOFINE is a third-generation supplementary cementitious material (SCM) with a built-in high-tech content. In spite of its high fineness, it does not increase water demand at the dosage range of 5 to 15 percent of normal OPC. The concrete slump is seen to be improved, due to the dense placing of cementitious material, producing less void content. The use of VENOFINE results in hydrated cement matrix to comprise of very small pores.

VENOFINE is a specially processed material based on high glass content with high reactivity. The raw materials are composed primary of low calcium silicates. Due to its unique chemistry and super fine particle size distribution, VENOFINE provides reduced water demand for required workability.

VENOFINE can be used as practical substitute for Silica Fume as per the results obtained. If the advantages of VENOFINE are observed in the concrete mix design, the initial rate of strength development was found to be increased or similar as that of Micro Silica.

Uses

Precast Unit residential, commercial building prestressed concrete water reservoir structure tunnels, dams, canal, heavy water tank's marine structure bridges manufacturing mortars.

Advantages

- Lesser water demand for desired workability
- Cohesion of concrete is improved
- Bleeding and Segregation are minimized
- Better workability retention
- Reduced plastic shrinkage cracks

In Harden Stage Of Concrete & Mortar

More overall strength than plain O.P.C concrete is ensured because of continuing pozzolanic reaction between high reactive glass content in VENOFINE with free lime in cement paste.

The pore reinforcement due to excellent particle size distribution of VENOFINE & pozzolanic reaction the concrete & mortar become almost impervious.

Better gel spacing is achieved due high reactivity glass contain in VENOFINE resulting in to a strong & durable concrete or mortar.

The concrete & mortar are protected from sulphates & chloride attack because of reduced permeability & reduced free lime from the hydrate cement paste because of pozzolanic reaction the leachable free lime is converted in to additional calcium silicate.

The use of VENOFINE also reduces the alkaline silica reaction between the reactive aggregates & alkaline content of cement namely K2O & Na2O.

The use of VENOFINE increases is the flexural strength by 10 to 15% the tensile strength is also improved.

CRETESTONE PRIVATE LIMITED

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Chemical Properties

Sr, No.	Test	Test Standard	Test Result	Specification Requirement
1	Silica, %	IS 4032 -1985	33.82	Max. 36.0%
2	Alumina, %	IS 4032 -1985	17.94	Max. 20.0%
3	Calcium Oxide, %	IS 4032 -1985	34.25	Max. 36.0%
4	Magnesium Oxide (MgO), %	IS 4032 -1985	8.80	Max. 10.0%
5	Insoluble Residue, %	IS 4032 -1985	0.45	Max. 1.5 %
6	Sulphide Sulphur (S), %	IS 4032 -1985	0.38	Max. 1.3 %
7	Loss on ignition (LOI), %	IS 4032 -1985	0.87	Max.3.0%
8	Glass Content, %	IS 16714 -2018	93.00	Min. 85 %
9	Manganese Oxide (Mn0), %	IS 4032 -1985	0.14	Max. 1.5 %
10	Iron Oxide, %	IS 4032 -1985	0.40	Max. 1.5 %
11	Alkali as Na20, %	IS 4032 -1985	0.32	Max. 1.0 %
12	Potassium Oxide (K20), %	IS 4032 -1985	0.48	Max. 1.0%
13	Titanium dioxide (Ti02), %	MPAES	0.61	Max. 2.0%

Physical Properties

Item No	Test Name	Test Method	Test Result	Specification Requirement
1	Moisture Content %	I.S. 4031	0.23	--
2	Particles retained on 45µ I.S. Sieve % (Wet Sieving)	I.S. 1727-1967	1%	--
3	Slag Activity Index (SAI)			
a	7 Days	I.S. 16714-2018	75%	Not less than 60 Percent of control OPC 43 Grade Cement Mortar Cube
b	28 Days		100%	Not less than 75 Percent of control OPC 43 Grade Cement Mortar Cube

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Process

Normal GGBS is coarse and particles are uneven in size of particles VENOFINE is a specialized material with great uniform particle size distribution which differentiate for specific use for special application also.

Uniformed particle size helps to finalize application of material.

Vigorous milling technique is carried out to make it VENOFINE. Strict controlled classifying process is being used to make uniformed particle size distributed material.

Strict quality management enhances maintaining of quality of Finished product

Dosage

VENOFINE is recommended 5% to 15% by weight of total binder content as per the grade of concrete. Dose can vary as per requirement but it is recommended to validate it first in the laboratory.

Health & Safety

For information and advice on the safe handling, storage and disposal of chemical products, users shall refer to the most recent Material Safety Data Sheet containing physcal, ecological, toxicological and other safety-related data.

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