



CRETOMIX AD 1409 HES

(Activation Agent for Fly-Ash & GGBS to Concrete Mix)

Description

CRETOMIX AD 1409 HES solution a novel Mix Design methodology for activation of fly-ash, GGBS to Concrete Mix. Its solution Increase the strengths in the concrete with the certain volume of fly-ash & GGBS. It is also able to replace upto 40 % OPC with any Cementitious Material like Fly-ash, GGBS, Metakaolin, etc. The use of CRETOMIX AD 1409 HES solution in concrete is Minimum Ratio of 0.25 % to 0.6 % of total Cementitious material.

CRETOMIX AD 1409 HES is a chemical that is a blend of some Environment safe Binder which acts as a catalyst and on reaction with atmospheric CO₂ and water produces Iron Carbonates, which is the hardened product. It can enhance the green environment by absorbing the atmospheric CO₂ for its hardening process, without thermal cracking.

Concrete is the most used cementitious material for Construction works, which is responsible for 70% of the industrial carbon dioxide emission. From this perspective, the green concrete concept has evolved and more researches have been done on replacement by green materials.

It is a Performer Enhancer of Cement, Fly-ash, Lime Powder, Meta-kaolin and GGBS. With the rising cost of cement coupled with its adverse effect on the environment, it is essential that Engineers, Consultants, Realtors, Developers and Government adopt more cost-effective and nature-friendly building materials such as CRETOMIX AD 1409 HES. It is a Strong, Flexible and Green Construction material that can be used as an alternative up to 40% cement after increasing other Economical Cementitious Material

Quantity in the mix

The consistently growing cement prices have long been a reason of worry for the real estate sector since it not only increases the financial burden on the realtors but the homebuyers, too. According to a CREDAI report, the average cost of cement recorded a 25 percent hike in 2018, followed by a 3-9 percent additional hike across zones, effective from April 1, 2019. The continuous increment in the cement cost mirrors its enormous demand across the country for various infrastructure and real estate developments, and the sizeable impact it will have on the environment in the future. While the rate of realty growth cannot be changed on account of the burgeoning population, more eco-friendly substitutes, such as CRETOMIX AD 1409 HES, can certainly be explored.

Composition

Approximately 50 percent of CRETOMIX AD 1409 HES is made from Organic materials such as Enzymes and Hydroxy Carbon, Remaining 50% from Pharma By-products and silica from the ground up glass. The silica, upon reaction with Carbon Dioxide (CO₂), produces Tri-silica carbonate which is solid rock. One of the unique qualities of CRETOMIX AD 1409 HES is that it absorbs atmospheric CO₂. It does not emit CO₂. It as an alternative to cement It is up to 200 % stronger than the typical Portland cement (powdery building material made of chalk, concrete, mortar and clay) and can withstand more compression caused by seismic activity. The material is also relatively chemically active, which makes it a better option for marine-based constructions. Moreover, unlike cement, which accounts for 3rd largest industrial source of pollution and emission of toxic carbon, CRETOMIX AD 1409 HES traps the greenhouse gases and reduces pollution.

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CRETOMIX AD 1409 HES CRETE

Trials

Trial With the 34 % fly –ash M 25 Grade (OPC+PFA) (238+122) W/C Ratio is 0.43

Results:

1 Days	8.54Mpa
3 Days	16.9Mpa
7 Days	22.66Mpa
28 Days	33.45Mpa

Properties

- 1)Give/Maintain Natural color to concrete (Based on Cement).
- 2)High Compaction ratios.
- 3)Reduce the Water Permeability.
- 4)Reduce the Segregation.
- 5)Give the faster strength which consistently keeps increasing.
- 6)Considerably Reduces/Eliminates the hydration cracks and is self-healing.
- 7)Gives Natural Shine to Concrete.
- 8)Non-Toxic, Non-Hazardous, Non-Acidic, Non-Corrosive & Non Flammable.
- 9)It is not Replacement of Plasticizer.
- 10)It does not change W/C Ratio. W/C Ratio will be as per standards, requirements & temperature.

The use of CRETOMIX AD 1409 HES accelerates the pozzolanic reaction of a certain volume of Fly ash in the hardened cement paste in addition to promoting the Ettringite formation, resulting in significant increases in the compressive strength at Early ages (i.e. at 3 and 7 days) and also upto 28 days for the final strength.

Chemical Specifications

<u>Sr.No</u>	<u>Test Parameter</u>	<u>Specifications</u>
1	Physical Appearance	Colorless to Slight Pale Orange
2	pH	Min. 8
3	Specific Gravity	1.24 to 1.33
4	Chloride	0.01%
5	Sulphur	0.03%

"Environmentally Friendly" CRETOMIX AD 1409 HES- Performance Enhancer, Is 100% VOC FREE & ZERO HAP's (Hazardous Air Pollutants) safe for use prior, during & subsequent to construction. As less curing is required it SAVES Thousands of Gallons of Water. CRETOMIX AD 1409 HES Constantly improvises on construction methods and offers time saving solutions to construction challenges.

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CRETESTONE

Storage

Store under cover, out of direct sunlight and protect from extremes of temperature. Failure to comply with the recommended storage conditions may result in premature deterioration of the product or packaging.

Disclaimer

Whilst any information contained herein is true, accurate and represents our best knowledge and experience, no warranty is given or implied with any recommendations made by us, our representatives or distributors, as the conditions of use and the competence of any labour involved in the application are beyond our control.

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