HEMAVATHI
SUPERTECH CEMENT
Pozzolona Portland Cement

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Quality • Strength • Reliability • Performance • Consistency

ISI
1489 Part 1

POZZOLONA PORTLAND CEMENT

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WHY SUPERTECH PPC CEMENT?

- Strength
- Workability
- Resistance to chemical attack
- Crack free construction
- Durability

What is Portland Pozzolana cement

PPC is manufactured either by intergrinding Portland Cement Clinker, flyash and gypsum to the required fineness or by blending ground pozzolana with Portland cement. Fly ash is a byproduct in coal based thermal plants, which is processed and used in manufacturing of PPC.

What is Pozzolana?

A pozzolana is a siliceous or aluminosiliceous material that, in finely divided form and in the presence of moisture, chemically reacts with the calcium hydroxide released by the hydration of portland cement to form calcium silicate hydrate and other cementitious compounds. Pozzolans and slags are generally categorized as supplementary cementitious materials or mineral admixtures.

Quality Report

TEST REPORT	RESULT	AS PER ISI SPECIFICATION
Chemical Composition		Requirements as per ISI: 1489 (Part - 1) 1991
% Magnesia	1.5	Note more than 6.0
% Insoluble Residue	23.00	X+4.0 (100-X/100) X is % fly ash
% Sulphuric Unhydride as So3	2.10	Not more than 3
% Loss on ignition	2.08	Not more than 5
% Total chloride	0.02	Not more than 0.05
FINENESS		
Specific surface (M^2/Kg)	440.00	Not less than 300
COMPRESSIVE STRENGTH (Mpa)		
At 3 day	25.00	Not less than 16
At 7 day	31.00	Not less than 22
At 28 day	45.00	Not less than 33
SETTING TIME (MINUTES)		
Initial	140.00	Not less than 30
Final	220.00	Not more than 600
SOUNDNESS		
Le-Chatelier Expn (mm)	1.80	Not less than 10
Autoclave Expn (%)	0.20	Not less than 0.8
DRYING SHRINKAGE (%)	0.08	Not less than 0.15
% FLY-ASH IN CEMENT	22.00	Greater than 15 and less than 35

Ideal Applications

Residential Constructions
Making concrete for foundations, roof slabs, flooring and wall plastering.

All Structural Constructions
Plain and reinforced concrete

Mass Constructions
Roads, Bridges, Dams etc

Large Foundations
Piling

Industrial Plants

Concrete Road

- *Higher durability of concrete structure due to less permeability of water.*
- *More resistance towards the attack of alkalies, sulphates, chlorides, chemicals.*
- *Better workability.*
- *Low heat of hydration.*
- *Due to high fineness, PPC has better cohesion with aggregates and makes more dense concreteness.*
- *Comparative lower Water-Cement ratio provides an added advantage for the further increase of compressive strength of the concrete.*
- *Better surface finish.*

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About PPC Cement

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SUPERTECH CEMENT

Pozzolanic Portland Cement (PPC), Pozzolans are siliceous material than can be added to concrete mixtures, potentially lower the mix cost without harming the performance characteristics. In some cases pozzolans will actually increase a concrete's resistance to chemical intrusion. This increases the concrete's performance when subjected to chlorides or sulfates. Pozzolans may slow the curing rate of the concrete, resulting in low break strengths at early tests, such as a 1-day test, when compared to Ordinary Portland Cement. In the long term, PPC cements typically achieve strengths equal to or greater than OPC

Advantages of Using PPC:

- Using PPC eliminates surface cracks due to low heat of hydration.
- Setting time is slightly more than OPC, which gives PPC more workable time.
- Strength development continues even after 28 days, giving ultimate higher strength to the concrete.
- Our addition of Fly Ash improves particle size distribution and gives a perfect concrete mix.
- PPC is less porous than OPC, making it even more resistant to chemical attack.
- Low heat of hydration
- Resistant to sulphate and chloride attacks
- Resistance to alkali silica reaction
- Reduction in water demand
- Reduced bleeding due to high fineness of cement
- Pore refinement leading to improved density of concrete