



THE  
MEHTA  
GROUP



Mazbooti gazab ki.



**PORTLAND SLAG  
CEMENT**

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**SAFETY  
FIRST**



[www.mehtagroup.com](http://www.mehtagroup.com) | [www.BuyCementOnline.com](http://www.BuyCementOnline.com)

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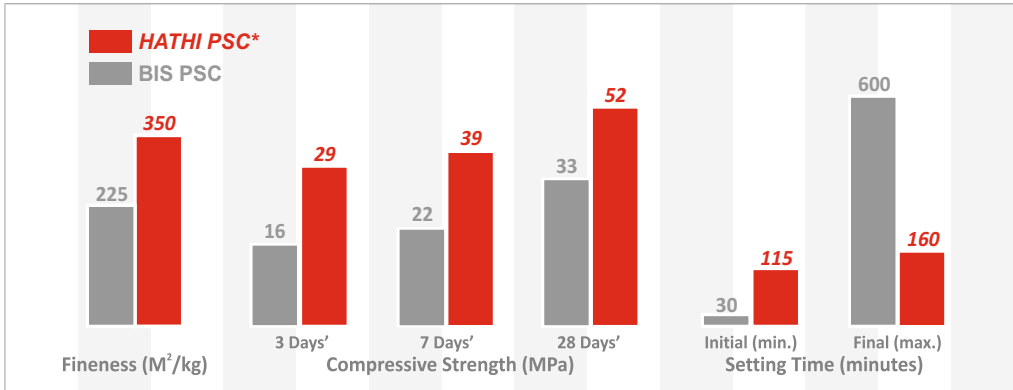
## HATHI PSC: A CEMENT FOR DURABLE CONSTRUCTION

Hathi PSC is manufactured by inter-grinding high quality clinker, Granulated Slag and Gypsum. Our Portland Slag Cement is well accepted and appreciated for its premium quality.



### Hathi PSC gives you a +4 advantage:

- 1 Low heat of hydration - Less thermal cracks and suitable for mass concreting,
- 2 Low co-efficient of permeability - Increasing corrosion resistance,
- 3 Greater resistance to – aggressive chemicals in the environment like sulphate, alkali and acids,
- 4 Increased strength and durability – reduced service life cycle cost of a structure.

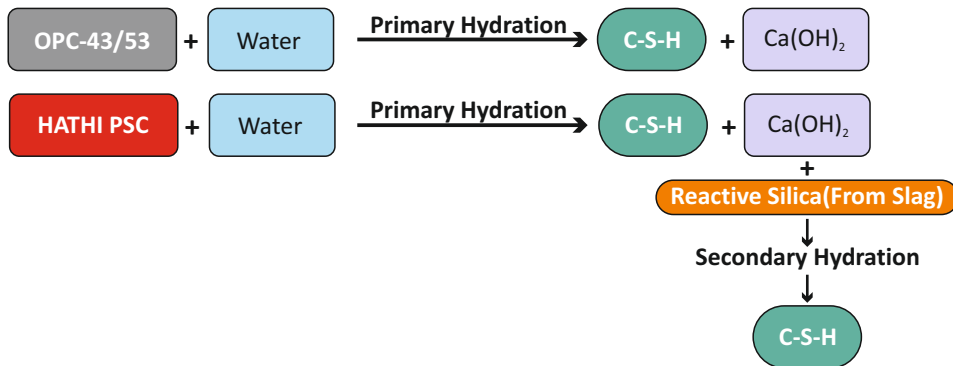


\* Above values are indicative monthly average.

### Lower Permeability

Concrete made with Hathi PSC has lower permeability due to formation of hydrates between clinker and slag grains, filling the pore space. It also prevents leaching of Calcium Hydroxide due to low impermeability and converts it into additional strength contributing C-S-H gels.

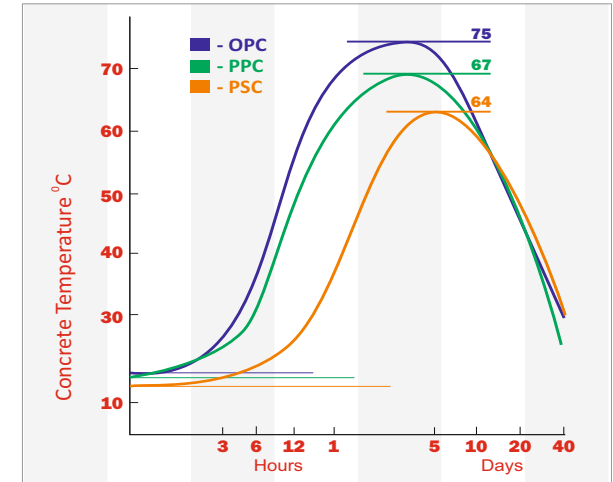
### MECHANISM OF CEMENT HYDRATION



### Lower Heat Of Hydration (H-O-H)

Hathi PSC has lower heat of hydration compared to OPC/PPC leading to less thermal cracks. Workability retention is also enhanced.

This makes it an ideal choice for Indian climate.



Comparison of heat generated in mass concrete with OPC, PPC and PSC concrete (Bamforth, 1980)

### Advantages

- ★ Low heat of hydration leading to minimisation of thermal cracks
- ★ Low free lime due to secondary hydrated mineralogy leading to reduced leaching
- ★ Reduces permeability in concrete leading to corrosion prevention
- ★ Higher protection against sulphates and chlorides
- ★ Reduces alkali silica reaction
- ★ Higher surface area leading to improved workability
- ★ Reduction in bleeding and segregation
- ★ Increases strength and durability of concrete

### Applications

- ☑ Concrete – reinforced and non-reinforced
- ☑ Mass concrete structures – dams and big foundations
- ☑ Water treatment plants and Sewage disposal works
- ☑ Marine structures like bridge, pile, wind-mill, jetty and ports
- ☑ Industrial structures exposed to highly aggressive chemical environment of ground water and natural soils

In manufacturing Hathi PSC, we use Granulated blast furnace slag conforming to IS: 12089 and procured from steel plants. It contains high glass content (more than 90%) and is a cementitious material consisting of lime (CaO), silica (SiO<sub>2</sub>), alumina (Al<sub>2</sub>O<sub>3</sub>) and magnesia (MgO).

Slag combines with lime in cement when water is added and forms compounds possessing cementing properties (C-S-H Gel) which contribute to strength, impermeability and sulphate resistance.