

JSW PSC is a unique blend wherein some portion of OPC is replaced with Ground Granulated Blast Furnace Slag (GGBFS) to make the structures long-lasting and durable. GGBFS present in PSC helps in secondary hydration, producing more C-S-H gel in the system to improve concrete performance. It conforms to IS:455:2015.

Blast furnace slag is the by-product of the controlled process of iron production which results in a uniform composition. Whereas in the case of Portland Pozzolana Cement, the quality of fly ash from ESP widely varies; however, PSC is produced by using ultramodern technology, like roller press and vertical roller mill. The fineness & microstructure of PSC thus can be controlled, and consistent quality is attainable.

1800 266 266 1 (toll free)

JSW Cement

World's #1
eco-friendly
cement company

JSW Cement is India's leading 'Green Cement' manufacturer and is part of the JSW Group. We have a strong commitment towards innovation in sustainability & technology to offer eco-friendly construction & building solutions to our customers. Growing exponentially since our inception in 2009, we have reached a production capacity of 19 MTPA (Million Tonnes Per Annum).

We envision a self-reliant India by boosting our colossal infrastructure and fast-growing economy through benchmark projects.

We cater to 11 major states in India across the eastern, western, and southern parts of the country.

JSW Cement emerged in the market as a leader in environmentally friendly product Pozzolona Slag Cement (PSC). Since then, we have expanded our cement range to Concreel HD (CHD), Comp Cem (Composite Cement – PCC)

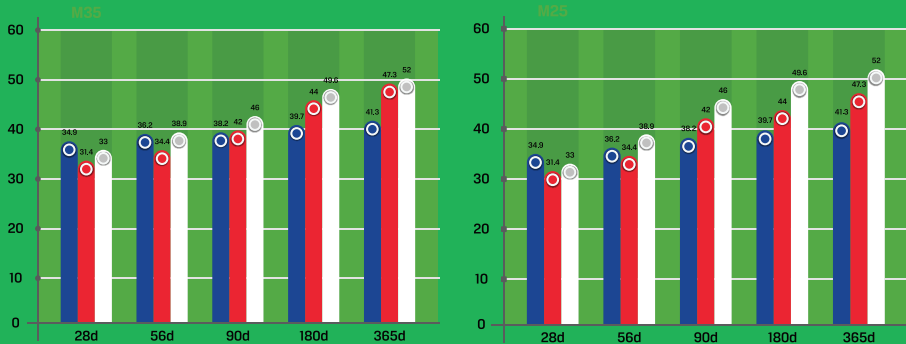
JSW Cement also extends its services through its construction products in categories like and Ground Granulated Blast Furnace Slag (GGBS) and Slag Sand for the use in concrete and other civil works. The latest introduction to this is the wide range of Construction Chemical products such as Tile Adhesive, Grout & Cleaner, Precision Steel Grouts, Mortar and Waterproofing Range

JSW is now being recognized as a holistic group for construction with Steel, Cement, Paints, and Construction Chemicals foray to the Indian market.

ADVANTAGES OF PORTLAND SLAG CEMENT

- Better surface for painting
- Incomparable long-term strength
- Reduced thermal cracks due to lower heat of hydration as compared to OPC
- Reduced shrinkage cracks as compared to OPC, PPC
- Improved workability and smooth finish
- Improved cohesion
- Better resistance against chemicals such as chlorides, sulphates, and carbon dioxide
- Improved durability
- Green product
- Higher flexural strength

Strength Development



PSC based concrete always shows higher strength beyond 28 days in comparison to those made with OPC concrete and fly ash concrete.

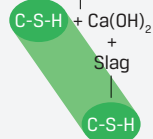
Source: Civil Aid Laboratory, Bangalore

HYDRATION MECHANISM

OPC (43/53) + WATER



PSC + WATER



Concrete with slag cement has a higher portion of strength-enhancing calcium silicate hydrate gel (C-S-H) when compared to concrete made with Ordinary Portland Cement or Portland Pozzolana Cement. The compressive strength of concrete made with slag cement increases manifold with time.

PSC is regarded as an environmentally friendly material that can protect the environment by limiting the exploitation of natural resources and reducing the amount of energy consumed in the mining process. Replacing Portland by GGBS helps in reducing CO2 emissions and in conserving non-renewable resources of limestone. It produces less CO2 per tonne of cement produced.

Resource Conservation

Conserves natural resources
(limestone, crushed stone, sand, others).

Energy Savings

Portland Slag Cement reduces energy
(fuel, electricity, other) by approximately 40%
compared with ordinary cement.

CO2 reduction

Portland Slag Cement reduces CO2
emission by approximately 40% compared
with Ordinary Cement.

Estimated, assuming blast furnace slag content of 45% in Portland Slag Cement



The use of GGBS in concrete is recognized by LEED (Leadership in Energy and Environmental Design), CII (Confederation of Indian Industry), IGBC (Indian Green Building Council) and adds points towards certification of a structure as a green building.

MAJOR APPLICATIONS OF PORTLAND SLAG CEMENT



PSC is an all-purpose cement and it can be used in all construction works. It can be used in

- Residential
- Commercial
- Industrial complex
- Concrete roads and flyovers
- Mass concrete works
- Dams, building the foundation/subsoil works
- Pile construction works
- Water retaining structures
- Marine works
- Effluent treatment plant
- All civil, structural, and non-structural works
- Commercial building, residential & high rise building
- Metro



Commercial Building



Residential



High Rise Building



Metro

PSC USED IN COASTAL REGION



JSW PSC played a crucial role in the construction of Mumbai Port Trust, where chloride is encountered with sulphate in soil or groundwater.

IS 456 recommends the usage of PSC for stronger and durable construction.



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