



primo Greencem for those who care for Environment

Benefits: Low heat of hydration • Reduced leaching due to free lime in clinker being utilized in reaction with pozzolana • Increased bulk volume • Impermeable and denser concrete • Increased ultimate strength • Increased resistance to chloride, sulphate and alkali aggregate reaction

Applications: It can be used for almost all the constructions where OPC is used • Heavy duty structures like flyovers, dams, aqueducts and marine structures • Subsoil structures and structures in hostile soils with high salinity, moisture and harmful chemical agents • For producing fibre cement roofing sheets and allied cement products • All types of mortars for construction-masonry, plaster, paving and tile fixing

Hydration characteristics

It improves durability by developing very dense matrix of hydration products restricting the entry of aggressive substances ensuring safety and long life of structures.

Lower heat of hydration

The heat of hydration of **Greencem** is lower at early stages as compared to ordinary and rapid hardening cement. This prevents irreversible cracks caused by thermal stresses at the early stages.

Increased bulk volume

Greencem gives more cement volume per bag, as compared to ordinary cement, because the specific gravity of **Greencem** is much lower than Ordinary Portland Cement.

Improved water tightness

Since the gel pores in **Greencem** become narrowed by hydration of fly ash, it offers greater resistance to aggressive chemicals in the environment. It has minimum segregation and bleeding, much lower when compared with other Portland Cements.

Improved corrosion resistance

As movement of corrosion-causing soluble chlorides is restricted, corrosion of reinforced steel is sharply reduced by using **Greencem**.

Increased ultimate strength

Greencem is produced by blending high quality fly ash with a very high quality clinker. This provides very high compressive strength additionally in the long run. **Greencem** gains strength consistently, and over a longer period than OPC, helping structures become stronger and durable.

Increased durability

Greencem improves the durability of the concrete/mortar in cases of mass construction and enhances compressive strength in the long run.

For the benefit of customers

Concrete in its early stages is tender and weak. This is the stage when it is more likely to develop cracks that can never be rectified. Pay extra attention to curing, as it gives long term strength to the structure.



*Images used are for visual representation only.

Quality Parameters**

Test	Greencem	IS 1489 (Part 1) : 2015
Physical Requirement		

A. PHYSICAL REQUIREMENTS

FINENESS:

Specific Surface (Sq.mtr./kg)	330	> 300
-------------------------------	------------	-------

SOUNDNESS:

Expansion of unaerated cement

a) By Le Chatelier Method (mm)	1.0	<10
b) By Autoclave (%)	0.02	< 0.8

SETTING TIME:

a) Initial set (minutes)	200	> 30
b) Final set (minutes)	260	< 600

COMPRESSIVE STRENGTH (MPa):

a) 3 days	28	> 16
b) 7 days	38	> 22
c) 28 days	53	> 33

B. CHEMICAL REQUIREMENTS:

Loss on ignition (%)	1.7	< 5
Insoluble Residue (%)	22	*
Magnesium Oxide (%)	1.4	<6.0
Sulphuric Anhydride (%)	2.0	< 3.5
Alkalies (%)	0.45	
Chlorides (%)	0.01	< 0.1
Declared % of fly ash used	25	

*Not more than $\frac{4.0(100-X)}{100}$ Declared % of fly ash % will not vary more than $\pm 3\%$

** Test results are subject to Lab norms as per the BIS