



# Zuari Cement

Italcementi Group

Zuari Blended Cement  
Quality Cement for life



**Zuari Cement** is part of the Italcementi group, the fifth largest cement producer in the world and the biggest in the Mediterranean region. With net sales of over 5 billion Euro in 2009 and a capacity of 70 million tonne. Italcementi Group combines the expertise, know-how and culture of a number of companies from more than 22 countries in 4 continents. This includes an industrial network of 59 plants, 15 grinding centres, 5 terminals, 92 aggregates quarries and 373 concrete batching units. With its inherent strengths, Italcementi is set to give the building industry, cement that's truly international.

Italcementi believes in customer satisfaction through continuous quality improvement. This belief is reflected in the group's Quality Management System that complies with ISO 9001:2000 standards. This system covers all the processes, across all the group companies, to ensure that the end product delivered to customers is nothing short of world-class.

In fact, Zuari's drive for quality begins with the raw material itself. Add to this a superior work force, cutting edge technology and a strict quality assurance system which ensures (from raw material to finished product stage) a product that bears the unmistakable stamp of Zuari's quality. Making it the finest and toughest cement available in India today.

**Zuari Blended Cement the eco-friendly, user friendly cement**

Zuari Blended Cement has been developed in response to today's need for environment friendly products that are cost effective, durable and have minimal by-products.

Durability is a very important property in concrete. And durability here means concrete that ensures the long life span of structures like homes and residences that are lifetime investments. Since distress of concrete and early failure of structures is a common phenomenon, research over a period of time helped develop

various remedial measures that improved durability and cost economics. One of them being Blended Portland Cement, with complementary pozzolanic and cementitious materials like fly ash, blast furnace slag, etc. And Zuari Blended Cement is a fine example of it.

**Factors that make Zuari Blended Cement more durable**

**Hydration characteristics**

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

**Lower heat of hydration**

The heat of hydration of Zuari Blended Cement is lower at early stages as compared to ordinary and rapid hardening cement. Thus preventing irreversible cracks caused by thermal stresses at the early stages.

Quality Parameters		
Test	ZUARI Blended Cement	IS 1489 (Part1) 1991
<b>Fineness</b>		
Specific surface (m <sup>2</sup> /Kg)	340	>300
<b>Soundness</b>		
Le Chatelier Method (m.m.)	1.0	< 10
Auto dave (%)	0.02	< 0.8
<b>Setting Time</b>		
Initial (minutes)	200	> 30
Final (minutes)	280	< 600
<b>Compressive Strength Mpa</b>		
3 days	28	> 16
7 days	38	> 22
28 days	53	> 33
<b>Chemical Requirements</b>		
Loss on ignition (%)	1.7	< 5
Insoluble residue (%)	22	*
Magnesium Oxide (%)	1.4	< 6
Sulphuric Anhydride (%)	2.0	< 3
Alkalies (%)	0.45	
Chlorides (%)	0.01	< 0.1
Declared % of fly ash used	25	

\* Not more than - X+  $\frac{4.0(100-X)}{100}$  Declared % of Fly ash. % will not vary more than ± 3%



**Increased bulk volume**

Zuari Blended Cement gives more cement volume per bag as compared to ordinary cement because the specific gravity of Zuari Blended Cement is much lower than Portland Cement.

**Improved water tightness**

Since the fly ash gel pores in Zuari Blended Cement 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 reinforcement steel is sharply reduced by using Zuari Blended Cement.

**Increased ultimate strength**

Zuari Blended Cement 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. Zuari Blended Cement gains strength consistently, and over a longer period than OPC, helping structures become stronger and durable.

**Increased compressive strength**

Zuari Blended Cement improves durability of the concrete/mortar in cases of mass construction and enhances long term gain of compressive strength.

**For the benefit of customer**

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 imparts the structure long term high strength.

**Fine examples of blended portland cement**

A 72 storey office building measuring 1,75,000 sq. mtrs. was built way back in 1986 in Dallas, Texas, USA using fly ash concrete of 83 MPa (strength). The world's tallest building, the Petronas Towers, measuring 452 mtrs, in Kuala Lumpur, Malaysia, was built using 37.5% fly ash in the cement. The modern miracle, the under sea Euro Tunnel, owes its guaranteed life to blended cement.



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