Best Practices for Safe, Strong and Durable Construction

Pre-construction or Application

- Always use fresh and good quality cement like JK Super cement for your Dream Home.
- Ensure robust and water tight shuttering to reduce the chances of seeping out of cement slurry from the wet concrete.
- Aggregate used in concrete should be well graded, angular and strong.
- Use cover blocks to maintain the proper cover to reinforcement for durable construction and proper bonding.
- Use 1.25'x1.0'x1.0' size measuring boxes to measure the sand and aggregate for preparing mix.

During construction or Application

- Use potable water for mixing in cement to get higher strength.
- Always use mechanical mixture machine to mix the mortar to get a homogeneous mix.
- Always maintain right water cement ratio. It is observed that one liter extra water reduces 4% strength of concrete or mortar.
- Wet cement should be used with in 1.5 hrs. to get better results.
- Do not pour concrete from more than 1 meter height to avoid segregation.
- For better compaction always use vibrator (needle/plate vibrator as per requirement).
- Do not add sugar/Molasses in mortar or concrete.

Post Construction or Application

- In normal condition curing should be done at least for 7 days to get good strength. In dry and hot condition curing should be done for minimum 12 days.
- For vertical components like column or wall curing should be done after wrapping hesian cloth to get better results.
- Never remove shuttering before the time period mentioned in IS 456:2000.

JKCement

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Company Overview

JK Cement Limited is pioneer in manufacturing world class cement of different types and grades in India. From a modest beginning in the year 1974 with a capacity of 0.3 million tons at Nimbahera, today the company has a combined annual production capacity of 10.5 MTPA. The company's state-of-the-art cement production extended its footprints by setting up 4 integrated plants, 1 grinding unit and spread it's market operations across Rajasthan, Gujarat, Western Uttar Pradesh, Uttrakhand, Haryana, Punjab and Jammu & Kashmir in North and Maharashtra, Karnataka, Kerala and Goa in the South. The company is the also one of the leading manufacturer of White Cement in India and enjoys a Pan India presence. The company made its first international foray with setting up of a green field dual process white cement-cum-grey cement plant in the free trade zone at Fujairah, U.A.E. to cater the GCC and African markets.

About JK Super Portland Slag Cement (PSC)

- Conforming to – IS:455-2015
- Surpasses – All national and international standards
- Inter Grinding – Produced by inter grinding of high quality Portland cement clinker with superior quality Ground Granulated Blast Furnace Slag (GGBS), which is highly rich in reactive silica content
- Higher Compressive and Flexural Strength – JK Super PSC cement has ingredients which form additional cementitious CSH gel to give extra strength to the concrete
- Higher fineness – Fineness of 310+m^2/kg for improved workability, enhanced cohesiveness, reduced plastic shrinkage/ settlement, reduced segregation and bleeding, improved handling and ease of pumping
- Better compatibility – Compatible with mostly branded chemical admixtures
- Low heat of hydration – Hence less chances of thermal cracks in concrete
- Extra protection – Against Alkalies, Sulphates and Chlorides
- Chemical resistant – No corrosion due to environmental pollutants
- Value for money – JK Super PSC can be used in different construction applications, which makes it value for money product

Benefits of JK Super PSC Cement

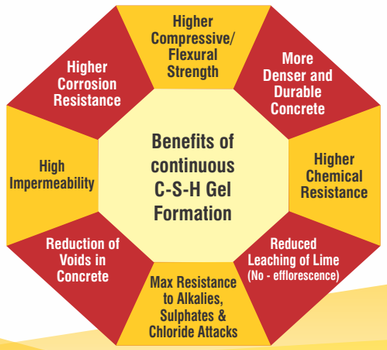
- Continuous C-S-H (Calcium Silicate Hydrate) Gel formation – In JK Super PSC cement, there is continuous C-S-H gel (Strength giving compound) formation process, which gives additional strength and durability over the years. Following are the reactions involved in C-S-H gel formation.

Reaction in JK Super PSC Cement	In presence of Alkaline Medium
OPC Part + Water = C-S-H Gel + CH	Slag Part + Water = C-S-H Gel + S
CH - Alkaline Medium	S - Reactive Silica
CH + S +Water = C-S-H Gel (Additional)	

- JK Super PSC is having excellent Sulphate and Chloride resistance, which makes it a superior product over OPC and Sulphate Resisting cement for the environment, where Sulphur and Chloride percentages are higher either in soil or water or both
- JK Super PSC can be used for decorative purposes
- JK Super PSC strength increases progressively year over years, which makes structure durable and long lasting
- Optimised initial setting time for more liveliness of cement mortar & concrete
- Smooth surface finish for better aesthetical appearance
- Eco friendly product – Because it contributes to Resource Conservation, Energy Saving and Reduced CO_2 emission

Technology & Quality Assurance

- Our all units are ISO 9001:2015 (QMS), ISO 14001:2015 (EMS), OHSAS 18001:2007 & ISO 50001 : 2011 (EnMs) certified by LRQA
- Manufacturing Units incorporate technical expertise of Denmark based cement giant F. L. Smidth & Co.
- Our units have the latest technology process control including Gama Matrix Analyser, Robo Lab, Automatic Blaine Analyser which ensures the consistent quality
- QCX and QXRD : Quality Control by Computer, X-Ray Analyser and X-Ray Diffractometer to automatically control the quality of raw mix composition and clinker
- Complete operations controlled by Fuzzy Logic System to ensure consistent and best quality
- Inter grinding of clinker and Granulated slag in vertical rolling mill (VRM) for increased fineness and uniform blending
- Higher Blaine maintained at 310+m^2/kg while IS requirement is of min. 225 m^2/kg
- Higher fineness increases the rate of strength gain



Usage and Special Applications of JK Super PSC Cement

- Ideal for all general construction works like plastering, masonry & concrete
- Most suitable for mass concrete works - Dams, Diaphragm walls, Retaining walls ,Concrete roads, Large foundations
- Piles foundations for heavy construction, particularly for ports - harbor and coastal area and any area where underground soil/water may have high sulphates and chlorides
- Preferred and recommended for marine construction work
- Industrial structures highly exposed to aggressive chemical environment of ground water and soil
- Water treatment plants and Sewerage disposal works/ Effluent treatment tanks
- Canal lining work in irrigation sector
- Parking areas, flooring, pathways and basement constructions

We believe in Best Customer Services

Quality of Service

- Believe in "Build Safe"
- Toll Free Contact Number
- Prompt Services
- Experienced Engineers
- Customized Solutions

Type of Services

- Concrete testing at JK Concrete Innovation and Application Centre (CIAC)
- Free concrete mix design
- Sand, coarse aggregates and water testing
- Slump Cone testing during slab casting
- Slab supervision by competent engineer
- NDT/Rebound hammer test
- Technical training to the applicators
- Free cover block supply at site

Test Results of JK Super PSC Cement

S. No.	Properties	JK Internal Standard
1.	COMPRESSIVE STRENGTH(MPa)	
	3 DAYS	Min 26
	7 DAYS	Min 36
	28 DAYS	Min 50
2	SETTING TIME (Minute)	
	INITIAL	150-180
	FINAL	Max 250
3	FINENESS (Blaine or m^2/kg)	310+
4	SOUNDNESS	
	LE CHATELIER	Max 1mm
	AUTOCLAVE	Max 0.15%
	Unit of Compressive strength is MPa. 1MPa = 10 Kg/cm^2	
	Confirms to BIS standard IS 455:2015	