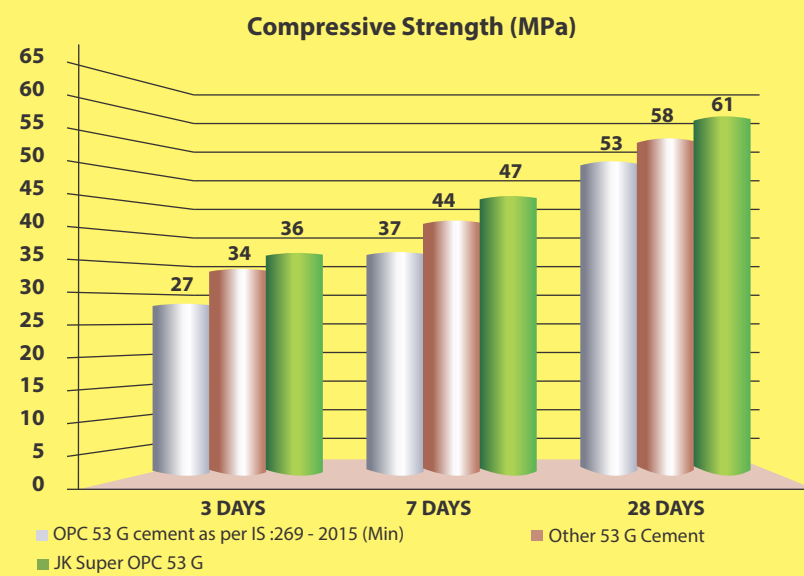


Physical Properties of JK Super OPC 53 G Cement

Sl. No.	Name of Test	Unit	Requirement as per IS : 269 -2015	Test Results
1	Fineness	m ² /Kg	Min. 225	310
2	Soundness			
a	Le - Chatelier	mm	Max. 10	1
b	Autoclave Expansion	%	Max. 0.8	0.035
3	Setting Time			
a	Initial Setting Time (IST)	Minutes	Min. 30	135
b	Final Setting Time (FST)		Max. 600	180
4	Compressive Strength			
a	3 Days	(MPa)	27	36
b	7 Days		37	47
c	28 Days		53	61



Contact:

Technical Services and Marketing Services

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Lit. Ref. JKCEN - 09



JK Super OPC 53 Grade Cement



MEMBER



IGBC-MP-1104



Company Overview

- JK Cement is an affiliate of the multi-disciplinary industrial conglomerate, JK Organisation
- One of the leading Grey Cement manufacturers with over four decades of experience in cement manufacturing
- Annual combined cement production capacity of 10.5 MTPA
- First international foray with the setting up of a green-field dual process White-cum-Grey Cement plant at Fujairah, U.A.E
- Market presence across Rajasthan, Madhya Pradesh, Gujarat, Uttar Pradesh, Uttarakhand, Haryana, Punjab and Jammu & Kashmir and South India
- 2nd largest manufacturer of White Cement and Wall Putty in India and 3rd largest manufacturer of White Cement in the world



Usage of JK Super OPC 53 Grade Cement

- ❖ Precast Concrete and RCC Elements
- ❖ Pre-Stressed and Post Tensioned Concrete
- ❖ Heavy Load Structures like Bridges, Flyovers etc.
- ❖ Industrial Flooring
- ❖ High Rise Buildings
- ❖ Cement Grouts
- ❖ Instant Plugging Mortars
- ❖ Specific Concrete Repair Works



About JK Super OPC 53 Grade Cement

- ▶ Ordinary Portland Cement conforming to IS:269-2015
- ▶ Produced with best quality limestone in India
- ▶ Superior initial and ultimate strength and extra fineness
- ▶ Consistent quality surpasses all national and international standards

Salient Features of JK Super OPC 53 Grade Cement

- ▶ Higher Initial Compressive Strength: Speeds up construction activities, advantageous product for precast applications
- ▶ Higher Ultimate Compressive Strength: Easy to make higher grade concrete M80 and above, with optimum cement content
- ▶ Higher Fineness : Quicker hydration reaction and higher strength
- ▶ Lower Permeability: Optimum Particle Size Distribution (PSD) to produce compact and dense concrete
- ▶ Low Chloride Content: Increased corrosion resistance
- ▶ Low Sodium - Potassium Ratio: Reduced chances of Alkali Aggregate Reaction (AAR)

CUSTOMER SERVICES

Type of Services

- Concrete testing at JK Concrete Innovation and Application Centre (CIAC)
- Free Concrete Mix Design
- Sand, Coarse Aggregates and Water Testing
- NDT / Rebound Hammer test
- Admixture Compatibility Test

Quality of Service

- Uphold our brand promise of 'Build Safe'
- Toll Free Contact Number
- Prompt Services
- Experienced Engineers
- Customized Solutions

Technology & Quality Assurance

- All cement manufacturing units of JK Cement Ltd. are ISO 9001:2015 (QMS), ISO 14001:2015 (EMS), OHSAS 18001:2017 & ISO 50001:2011 certified by LRQA
- Manufacturing units use the technical expertise of Denmark based cement giant FLSmidth & Co.
- Latest technology process control including Gama Matrix Analyser, Robo Lab, Automatic Blaine Analyser which ensures 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
- All operations are controlled by Fuzzy Logic System to ensure consistent and best quality
- Use of roller press in production ensures optimum PSD of cement
- For increased rate of strength gain, higher Blaine maintained at 300+ m²/Kg while IS requirement is of 225 m²/Kg

Robotech



Particle Size Analyser

Auto Sampling Unit

Guidelines on Handling of OPC 53 Grade Cement for Concrete Production

Point of Concern	Handling Precautions
Initial shrinkage cracks in concrete	To mitigate chances of initial shrinkage cracks 1. Ensure the initial curing as early as possible 2. Covering of freshly finished concrete with plastic sheet is a good option 3. Use shrinkage compensating admixtures 4. Use wind barrier to prevent early evaporation of water from concrete surface
Concrete application during hot weather conditions	1. Try to do the concrete work early morning or late evening 2. Store the raw materials in shade 3. Cool down the aggregates by sprinkling of water 4. Use cold water or add ice to bring down the temperature of concrete 5. Shuttering / reinforcement can also be cooled down by sprinkling of water before placing of concrete
Concrete application in thick or mass concrete elements/structure	1. Place and compact the concrete in layers 2. Use temperature controlled or chilled concrete 3. Try to design the concrete with optimum quantity of cement 4. If possible or permitted, use supplementary cementitious materials in concrete mix
Transportation of concrete to long distances or for a time period of more than 1.5 hours	1. Design the concrete mix for longer retention 2. Use high water reducing admixtures like PCE (Poly Carboxylate Ether) admixtures for high grade concretes 3. Design the concrete mix with safe provision/margin of admixture dosage for redosing of concrete with admixture at site, if required

Benefits of JK Super OPC 53 Grade Cement

- ❖ Economical
- ❖ Superior quality and higher strength
- ❖ Better soundness and low chloride content for enhanced performance of concrete
- ❖ Concrete structures made with JK Super OPC 53 grade cement have proven to be more durable and safer due to lower permeability of concrete
- ❖ Compatible with almost all branded construction chemicals (Chemical Admixtures)
- ❖ Reliable and prompt technical services