

Application Guidelines and Quality Assurance

Application Guidelines

1. **Mix Design:** Follow IS:10262 for optimized cement content and strength.
2. **Water-Cement Ratio:** Maintain a low water-cement ratio to achieve desired strength and durability. 1 liter extra water reduces the strength of concrete by 3-5 MPa
3. **Curing:** Ensure proper curing for a minimum of 7 days to achieve early strength.
4. **Storage:** Store in a dry place to prevent moisture absorption.

Quality Assurance

JK super 53 Grade Cement undergoes stringent quality checks at every stage:

- **Raw Material Selection:** High-grade limestone and additives.
- **Manufacturing Process:** Advanced automated processes ensure consistency.
- **Testing Standards:** Regular testing in NABL-certified labs to ensure compliance with IS standards.

Certifications

- IS:269:2015 Certified
- ISO 9001:2015 for Quality Management

Customer Support

- Technical consultation for mix design and construction challenges.
- **Pre Slab Casting:** Shuttering and Reinforcement checking, Cover block, Shuttering Tape. Raw material testing like silt content, water pH etc.
- Slab supervision (Free and Paid)
- **Post Casting:** Curing Scheduling, NTD
- Training and workshops on best practices for cement usage.

Choose JK 53 Grade Cement for high-performance structures that demand early strength and exceptional durability. Its unmatched properties and benefits make it the ideal choice for modern construction needs.



900
Technical
Executives

130+
Mobile
Technical
Labs

Call us at : 1800-266-4606

Proud to Partner with Prestigious Projects



Agra-Lucknow-Expressway



Atal Tunnel



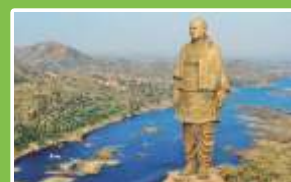
Central-Vista Project



Mumbai-Goa Expressway



Mumbai-Ahmedabad-High-Speed-Rail-Corridor



Statue of Unity



Customer Technical Services :

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IGBC-MP-1104



JK Super OPC 53 Grade Cement



Company Introduction

JK Cement Ltd. is one of the leading cement manufacturers in India that has catered to the nation's multi-sectoral infrastructure needs on the strength of its product excellence, customer orientation, and technology leadership. The company, which has formerly been focused on the north and central Indian markets, has begun to expand its market presence into new geographies, JKCement's aspirations for global growth are currently being addressed via our white-cum-grey cement plant in Fujairah, UAE.

Since, our inception in 1974 we have grown and evolved to continually meet the changing needs of our customers and partners. We are proud producers of Grey Cement, White Cement, Wall Putty, Tile Adhesives, Paints, Wood Coatings and Construction Chemicals.



~25
MTPA

Cement
Production
Capacity

14

Plants in Rajasthan, Haryana,
Gujarat, Karnataka, Madhya
Pradesh, Odisha & Uttar
Pradesh (upcoming in Bihar,
Jaisalmer)

50+

Years of
Experience in Cement
Manufacturing

25K+

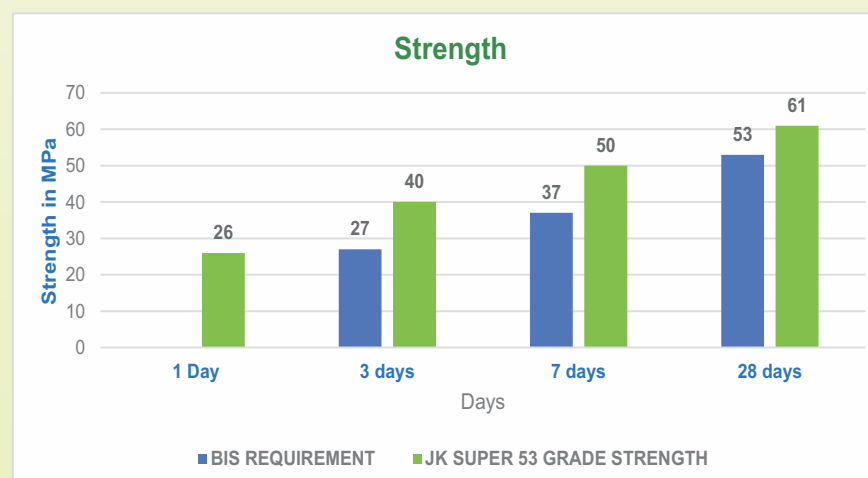
Dealer and Retailer
Base; Pan-India
Presence

JK Super 53 grade cement:

JK Super 53 Grade Cement is a high-strength cement that meets the requirements of IS 269:2015. It is designed to deliver superior performance in construction projects requiring early strength development and high ultimate strength.

Key Benefits

- **High Early Strength:** Rapid gain in strength in 1 day and 3 days. 3-30 μ (Micron) Particle Distribution in the range of 60%-65%
- **Ultimate Strength:** Achieves excellent 60MPa+ compressive strength at 28 days and beyond.
- **Versatility:** Suitable for a wide range of applications, from high-rise buildings / industrial structures to precast/prestress casting, paver blocks and electric pole etc
- **Durability:** Advanced PSD technology enhanced the resistance to cracking and shrinkage, ensuring long-term durability



Main Features

1. Early Strength Development

- Suitable for precast and prestressed constructions
- Suitable for rapid project completion

2. High Ultimate Strength

- Ideal for load-bearing and high-stress applications
- Ensures long-term structural stability

3. Workability and Finish

- Enables smoother and crack-free finishes
- Enhances aesthetic appeal

4. Durability and Resistance

- Resists sulphate attacks and alkali-silica reactions
- Offers superior resistance to environmental aggressors

5. Reduced Material Usage

- High strength allows for thinner sections

6. Faster Construction

- Early strength reduces formwork/Mould turnaround time

7. Longevity

- Reduced maintenance and repair costs

Physical and Chemical Properties

Physical Property	Requirement as per IS 269	Typical Values
Fineness (m ² /kg)	Min. 225	300–310
% R 45 mic.	-	< 10
Soundness (Le-Chatelier) (mm)	Max. 10	1.0 mm
Initial Setting Time (min)	Min. 30	140 \pm 10
Final Setting Time (min)	Max. 600	200 \pm 10
Compressive Strength (MPa):		
- 3 days	Min. 27	36 – 39
- 7 days	Min. 37	47 – 49
- 28 days	Min. 53	60 – 62

Chemical Property	Requirement as per IS 269	Typical Values
LSF	0.8 - 1.02	0.88 - 0.89
AM	Min 0.66	1.22 - 1.25
% LOI	Max. 4.0%	< 2.0
% IR	Max. 5.0%	< 2.0
% SO ₃	Max 3.50%	2.6 \pm 0.1
% Magnesia	Max 6.0%	1.1 \pm 0.1

Comparative Analysis and Benefits

Comparison with Other brands of Cement

Parameter	Other Brands	JK Super 53 Grade Cement	Benefits
Early Strength	Moderate	High	Reduces mould turnaround time, enabling faster project completion.
Ultimate Strength	Adequate	Exceptional	Allows the use of thinner sections, reducing material costs.
Applications	General Construction	Specialized	Ideal for normal construction, and particularly beneficial for prestress and precast applications.
Setting Time	Standard	Standard	Consistent workability for ease of application.
Durability in Aggressive Environment	Moderate	Superior	Optimized Particle Size Distribution (PSD) reduces micro-cracks, ensuring longer life and better performance in harsh conditions.

*Comparison is based on our internal lab testing

Applications

- Prestressed and precast concrete structures
- Electric poles, Paver block, Tiles, concrete bricks/ block
- High-rise buildings and bridges
- Industrial buildings
- Highways/expressways, Metros and highspeed train like bullet train

Sustainability

- Lower cement content in mixes due to high strength.
- Reduces CO₂ footprints in construction processes.