



TEST RESULTS OF JK SUPER 43 GRADE CEMENT

S. No	Properties	JK Internal Standard
1.	COMPRESSIVE STRENGTH(MPa)	
	3 DAYS	Min 33
	7 DAYS	Min 41
	28 DAYS	Min 55
2	SETTING TIME (Minute)	
	INITIAL	100-130
	FINAL	Max 180
3	FINENESS (Blaine or cm²/gm)	Min 2850
4	SOUNDNESS	
	LE CHATELIER	1mm
	AUTOCLAVE	0.08%
Unit of Compressive strength is MPa. 1MPa = 10 Kg/cm ² Confirms to BIS standard IS 269:2015		

JK CEMENT

(Unit of JK Cement LTD.)

Contact :

Technical Services And Marketing Services
Padam Tower, 19 DDA Community Centre, Okhla Phase -1, New Delhi -110020

Tel: (+91) 11-49220000, fax (+91)11-49220044

E-mail: For CTS: ctsgrey.delhi@jkcement.com

Help line 18001028868

www.jkcement.com

Lit. Ref. JKCEN-01

JK Cement LTD.

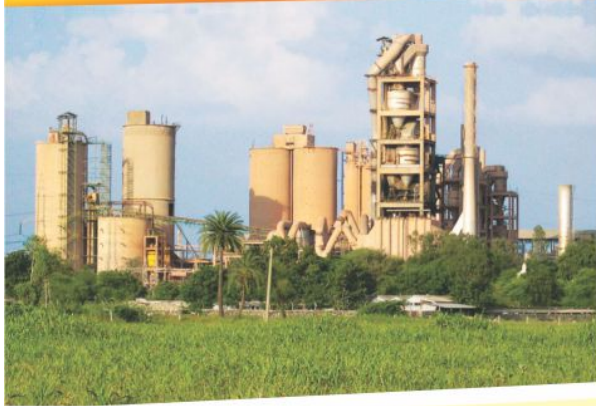
JK SUPER
CEMENT
BUILD SAFE



IGBC-MP-1104



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 an annual combined 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 its market operations across Rajasthan, Gujarat, Western Uttar Pradesh, Uttarakhand, Haryana, Punjab and Jammu & Kashmir in North and Maharashtra, Karnataka, Kerala and Goa in the South. The company is 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 Pozzolana Cement (PPC)

- Conforming to IS:1489(part 1) -2015
- Surpasses all national and international standards
- 28 days strength more than 43 grade cement
- Increased fineness for enhanced cohesiveness in mix
- Low heat of hydration
- Sulphate and chloride resistance
- Suitable in all climates, geographies and applications
- Protects reinforcement from corrosion and increases life of the structure

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
- Higher Blaine maintained at 3500 cm²/gm while IS requirement is of 3000 cm²/gm
- Higher fineness increases the rate of strength gaining.
- Use of roller press in production ensures right PSD of cement

Benefits of JK Super Cement

- Continuously increasing strength after application
- Better workability and smooth finish due to higher fineness
- No micro cracks due to lower heat of hydration
- Protection against dampness due to lesser permeability
- No leaching of lime and unpleasant deposits on the surface
- Double action cement
- Reliable and prompt technical services



TABLE - 1
SUGGESTED MIX PROPORTIONS
FOR CONCRETE WORK

Type of construction	Minimum Grade of concrete	Compressive strength after 28 days (N/mm ² or MPa)	Proportion with JK Super Cement
Beam, Slab, Column	M20	20	1:1.75:3.5
Foundation, Prestress Concrete	M25	25	1:1.25:2.5
For PCC	M15	15	1:2.5:4.5

TABLE - 2
SUGGESTED MIX PROPORTIONS
FOR MORTAR WORK

Type of application	With JK Super Cement
Masonry 9"	1:6
Masonry 4.5"	1:5
Wall Plaster Internal	1:6.5
Wall Plaster External	1:4.5
Ceiling Plaster	1:4

We believe in Best 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
- 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

► Quality of Service

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

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 can reduces strength of concrete or mortar by 4%.

- 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 for 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 hessian cloth to get better results.
- Never remove shuttering before the time period mentioned in IS 456:2000.

Test Results of JK Super Cement

S.No.	Properties	JK Internal Standard
1.	COMPRESSIVE STRENGTH (MPa)	
	3 DAYS	Min 28
	7 DAYS	Min 38
	28 DAYS	Min 54
2	SETTING TIME (Minute)	
	INITIAL	100-140
	FINAL	Max 200
3	FINENESS (Blaine or cm ² /gm)	Min 3750
4	SOUNDNESS	
	LE CHATELIER	1mm
	AUTOCLAVE	0.08%

Unit of Compressive strength is MPa. 1MPa = 10 Kg/cm²
Confirms to BIS standard IS 1489 (part 1): 2015



JK CEMENT
(Unit of JK Cement LTD.)

Contact :

Technical Services And Marketing Services
Padam Tower, 19 DDA Community Centre, Okhla Phase -1, New Delhi -110020
Tel: (+91) 11-49220000, fax (+91)11-49220044

E-mail: For CTS: ctsgrey.delhi@jkcement.com

Help line : 18001028868

www.jkcement.com

JK Cement LTD.

JK SUPER
CEMENT
BUILD SAFE



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 hessian cloth to get better results.
- Never remove shuttering before the time period mentioned in IS 456:2000.



JK Cement LTD.



**JK SUPER
CEMENT**
BUILD SAFE

JK CEMENT

(Unit of JK Cement LTD.)

Contact :

Technical Services And Marketing Services

Padam Tower, 19 DDA Community Centre, Okhla Phase -1, New Delhi -110020

Tel: (+91) 11-49220000, fax (+91)11-49220044

E-mail: For CTS: ctsgrey.delhi@jkcement.com

Help line : 18001028868

www.jkcement.com

Lit. Ref. JKCS - 170



IGBC-MP-1104



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 its market operations across Rajasthan, Gujarat, Western Uttar Pradesh, Uttarakhand, 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+ m²/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

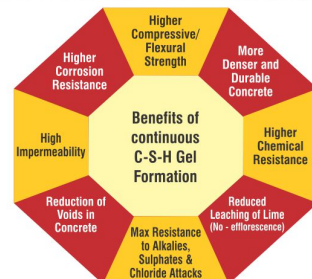
- Continuous C-S-H (Calcium Silicate Hydrate) Gel formation – In JK Super PSC cement, there is continuous C-S-H gel (Strength giving compound) formation process, which gives additional strength and durability over the years. Following are the reactions involved in C-S-H gel formation.

Reaction in JK Super PSC Cement OPC Part + Water = C-S-H Gel + CH CH - Alkaline Medium	In presence of Alkaline Medium Slag Part + Water = C-S-H Gel + S 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 CO₂ 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+ m²/kg while IS requirement is of min. 225 m²/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 7 DAYS 28 DAYS	Min 26 Min 36 Min 50
2	SETTING TIME (Minute) INITIAL FINAL	150-180 Max 250
3	FINENESS (Blaine or m ² /kg)	310+
4	SOUNDNESS LE CHATELIER AUTOCLAVE	Max 1mm Max 0.15%
Unit of Compressive strength is MPa. 1MPa = 10 Kg/cm ²		
Confirms to BIS standard IS 455:2015		

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 an annual combined 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,

Uttarakhand, Haryana, Punjab and Jammu & Kashmir in North and Maharashtra, Karnataka, Kerala and Goa in the South. The company is 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 OPC 43 Grade Cement :

- Ordinary Portland Cement conforming to IS:269-2015
- JK Super 43 Grade cement is produced by using best lime stone available in India
- JK Super 43 Grade cement has Superior Strength,
- Extra Fineness, Consistency in Quality
- Surpasses all national and international standards
- Suitable in all climates, geographies and applications

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
- Use of roller press in production ensures Optimum PSD of cement
- For increased rate of strength gain higher Blaine maintained at 2850+ cm²/gm while IS requirement is of 2250 cm²/gm



Benefits of JK Super 43 Grade Cement

- Economical due to superior quality and higher strength. (Refer table 1 and 2)
- Better soundness and low chloride content for enhanced performance of the concrete
- Concrete structures made with JK Super 43 grade cement has proven to be more durable and safe due to lower permeability of concrete
- Reliable and prompt technical services

**TABLE- 1
SUGGESTED MIX PROPORTIONS
FOR CONCRETE WORK**

Type of construction	Minimum grade of concrete	Compressive strength after 28 days (N/mm ² or MPa)	Proportion with JK Super 43 Grade cement
Beam , Slab, Column	M20	20	1:1.75:3.5
Foundation, Prestress Concrete	M25	25	1:1.25:2.5
For PCC	M15	15	1:2.5:4.5

**TABLE- 2
SUGGESTED MIX PROPORTIONS
FOR PLASTERING WORK**

Type of application	With JK Super 43 Grade Cement
Masonry 9"	1:6
Masonry 4.5"	1:5
Wall Plaster Internal	1:6.5
Wall Plaster External	1:4.5
Ceiling Plaster	1:4

We Believe In Best 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
 - 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
- **Quality of Service**
 - Believe in "Build Safe"
 - Toll Free Contact Number
 - Prompt Services
 - Experienced Engineers
 - Customized Solutions

Best Practices for Safe, Strong and Durable Construction:

Pre-construction or Application

- Always use fresh and good quality cement like JK Super 43 grade 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 stong.
- 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 can reduces strength of concrete or mortar by 4%.

- 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 for 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.