



PRECAST CONCRETE

JK WHITE CEMENT **CEM I** - APPLICATION

Our product complies to :



CEM I - 1922 - CPR - 0353
CEM II - 1922 - CPR - 0417



Introduction

“JK White Cement is a major ingredient in numerous precast products in today’s world”

Precast concrete consists of concrete (a mixture of cement, water, aggregates and admixtures) that is cast into a specific shape at a location other than its in-service position. The concrete is placed into a form, typically wood, rubber, GRP or steel, and cured before being stripped from the form, usually the following day. These components are then transported to the construction site for installation into place.



About Precast There are many different types of precast concrete forming systems for architectural applications, differing in size, function, and cost. Precast architectural panels are also used to clad all or part of a building facade free-standing walls used for landscaping, soundproofing, and security walls, and some can be pre-stressed concrete structural elements.

The White Cement can be mixed with different color and size of the aggregate to make a difference. The shape and surface of the precast concrete moulds have an effect on the look: the mould can be made of timber, steel, plastic, rubber, or fiberglass, each material giving a unique finish.



Some of the precast possibilities Pavement Blocks/Pavers/Pavement Bricks are used to create a pavement or hard standing. Main benefit of using paver is that individual paver can later be lifted and replaced if required. Typical use of pavers is for driveways, pavements, patio, town centers, and more commonly in road surfacing. Concrete paving of blocks are made by mixing small stone hardcore, pigments, cement and sand. JK White Cement with its high strength and brilliant whiteness produces hard, tough and durable pavers with bright and long lasting colours.



- Solid Concrete Products
- Insulated Precast Panels
- Pre-stressed Hollow Core Slabs and Walls
- Pre-stressed Beams
- Staircase
- Road Barriers
- Bridge Barriers
- Cladding Panels
- Sandwich Panels

Benefits of JK White Cement based Precast

- Workforce requirements are less which is a major serious impact in the current construction industry.
- Strength and Durability
- Design Flexibility as per Customer Aesthetics
- Casting, curing and testing done at the factory, which will make you free from cleanliness at your work area
- Fast and reliable
- Thermal and Energy Efficient
- Low maintenance
- Excellent Fire, Chemical and Weather resistance



Technical Specifications for CEM I 52.5 N

| Chemical Analysis | | ASTM C150 Type 1 Requirement | Tentative Range | Typical Test Results | Chemical Analysis | | EN 197-1 CEM 1 52.5 N Requirement | Tentative Range | Typical Test Results |
|--------------------------------|---------------------|------------------------------------|-----------------|-------------------------|---|---------------------|---|-----------------|-------------------------|
| I,R | % | Max. 0.75 | 0.17 - 0.20 | 0.18 | I,R | % | Max. 5.0 | 0.17 - 0.20 | 0.18 |
| MgO | % | Max. 6.0 | 0.80 - 0.95 | 0.93 | MgO | % | Max. 5.0 | 0.80 - 0.95 | 0.93 |
| SO ₃ | % | Max. 3.5 | 3.30 - 3.40 | 3.33 | SO ₃ | % | Max. 4.0 | 3.30 - 3.40 | 3.33 |
| NAa ₂ O | % | Max. 0.6 | 0.35 - 0.45 | 0.37 | NAa ₂ O | % | | 0.35 - 0.45 | 0.37 |
| Chloride | % | Max. 0.1 | 0.010 - 0.014 | 0.012 | Chloride | % | Max. 0.1 | 0.010 - 0.014 | 0.012 |
| L.O.I | % | Max. 3.0 | 1.7 - 2.0 | 1.72 | L.O.I | % | Max. 5.0 | 1.7 - 2.0 | 1.72 |
| LSF | % | | 92.0 - 93.0 | 92.41 | LSF | % | | 92.0 - 93.0 | 92.41 |
| C3S Tricalcium Silicate | % | | 53.0 - 55.0 | 54.36 | C3S Tricalcium Silicate | % | | 53.0 - 55.0 | 54.36 |
| C3A Tricalcium Aluminate | % | | 11.0 - 11.5 | 11.04 | C2S Dicalcium Silicate | % | | 22.0 - 24.0 | 23.56 |
| | | | | | C3A Tricalcium Aluminate | % | | 11.0 - 11.5 | 11.04 |
| | | | | | C4AF Tetracalcium Aluminoferrite | % | | 0.76 - 0.85 | 0.82 |
| Physical Test Results | | | | | Physical Test Results | | | | |
| Fineness (Air permeability) | M ₂ / Kg | Min. 280 | 370 - 390 | 382 | Fineness (Air permeability) | M ₂ / Kg | | 370 - 390 | 382 |
| Soundness (Autoclave) | % | Max. 0.8 | 0.02 - 0.03 | 0.03 | Soundness (Autooclave) | % | Max 10 | 0.5 - 1.0 | 0.50 |
| Setting time (Vicat) | Min. | | | | Setting time (Vicat) Min. | | | | |
| Initial | | Min. 45 | 115 - 135 | 120 | Initial | | Min. 45 | 120 - 150 | 130 |
| Final | | Max. 375 | 160 - 180 | 165 | Final | | Max. 375 | 165 - 185 | 175 |
| Compressive Strengths | | | | | Compressive Strengths N/mm ² | | | | |
| 3 days str. | | Min. 1740 | > 3800 | 4046 | 2days str. | | Min. 20 | > 30 | 34.8 |
| 7 days str. | | Min. 2760 | > 4500 | 4849 | 7 days str. | | | > 45 | 48.0 |
| 28 days str. | | Min. 4060 | > 5500 | 5927 | 28 days str. | | Min. 52.5 | > 58 | 58.5 |
| Color | | | | | Color | | | | |
| Whiteness | % | Color Meter ZE 6000 | > 91.0 | 91.10 | Whiteness | % | Color Meter ZE 6000 | > 91.0 | 91.10 |

Technical Support

Further information and advice on this product and the full range of JK White Cement products can be obtained through putting your comments over sales.fuja@jkcement.com

Note

The aforesaid information is based on our present state of knowledge and shall inform about our products and their application possibilities. Value and characteristics provided are typical and approximate size. It should not therefore be construed as guaranteeing specific properties of the product described or their suitability for a particular application. Subject to change without prior notice.

Safety Precaution

Warning - Keep out of reach of children, avoid contact with eyes, skin and respiratory. Wear appropriate personal protection equipment like safety gloves, goggles, protection clothing and respiratory protection mask.

First aid -

Eyes contact: Rinse eyes thoroughly with water for atleast 15 minutes, including under lids to remove all particles. Seek medical attention for abrasions and burns.

Skin contact : Wash with cool water and apH neutral soap or a mild skin detergent. Seek medical attention for rash, burns, irritation, dermatitis and prolonged unprotected exposures to wet cement, cement mixtures or liquids from wet cement.

Inhalation : Move person to fresh air. Seek medical attention for discomfort or if coughing or other symptoms do not subside.

Ingestion : Do not induce vomiting. If conscious, have person drink plenty of water, medical attention, seek or contact poison control centers immediately.



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