



ARCHITECTURAL & DECORATIVE CONCRETE



JK WHITE CEMENT **CEM I** - APPLICATION

Our product complies to :



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



Introduction

'If you want something new, you have to stop doing something old'

Concrete is one of the most widely used construction materials in the world. One special subset is called architectural and decorative concrete, which refers to a substance that provides an aesthetic finish and structural capabilities in one. This material is made to be seen. Whether creating broad expanses or minute details, concrete permanently captures the chosen look. Achieving an architectural or decorative appearance usually requires that something different be done to the concrete. Whether that involves special forms, special finishing techniques, or special ingredients, the variety of effects is almost unlimited.

Architectural and Decorative Concrete with JK White Cement :- Decorative concrete is the use of concrete as not simply a utilitarian medium for construction but as an aesthetic enhancement to a structure, while still serving its function as an integral part of the building itself such as floors, walls, driveways and patios. The transformation of concrete into decorative concrete is achieved through the use of a variety of materials that may be applied during the pouring process or after the concrete is cured, these materials and/or systems include but are not limited to stamped concrete, acid staining, decorative overlays, polished concrete, concrete countertops, vertical overlays and more.

Architecturally Exposed Concrete :-

“Architectural concrete is defined as “concrete exposed as an exterior or interior surface in the completed structure that contributes to its visual character, and is specifically designated as such in the contract documents.” The structural engineers have helped facilitate a trend in architectural design that takes advantage of the concrete structure in defining the architectural expression of the building. With more attention to reducing the environmental impact of buildings, finish materials are being reduced by leaving the concrete structure exposed. The results are durable finishes that are very efficient in terms of material use. The visible structure, coordinated with the spatial organization of the building, can provide a straightforward basis for the architectural expression.

Bridge Parapets & Median Barriers :- Parapets on bridges and other highway structures (such as retaining walls) prevent users from falling off where there is a drop. They may also be meant to restrict views, to prevent rubbish passing below, and to act as noise barriers. Bridge parapets may be made from any material, but structural steel, aluminum, timber and reinforced concrete are common. They may be of solid or framed construction. In European standards, parapets are defined as a sub-category of “vehicle restraint systems” or “pedestrian restraint systems”.

Landscaping:- Landscaping is the design of outdoor public areas, landmarks, and structures to achieve environmental, social-behavioral, or aesthetic outcomes. It involves the systematic investigation of existing social, ecological, and geological conditions and processes in the landscape, and the design of interventions that will produce the desired outcome. The scope of the profession includes urban design; site planning; storm water management; town or urban planning; environmental restoration; parks and recreation planning; visual resource management; green infrastructure planning and provision; and private estate and residence landscape master planning and design; all at varying scales of design, planning and management.

Streetscapes :- Streetscapes can be termed as visual elements of the street, including the road, adjoining buildings, street furniture, trees and open spaces, etc, that combine to form the street's character. The streetscapes usually include curbs, gutters and planters which beautify the street and cities view.





Why you must use JK White Cement CEM I 52.5 N for these applications

- High early strength for faster demoulding
- Higher fineness will give smoother surfaces
- Higher whiteness will give exact desired colours
- Highest quality raw materials used in JK White Cement CEM I
- It is economical and more durable

Technical Specifications for CEM I 52.5 N

Chemical Analysis		ASTM C150 Type 1 Requirement	Tentative Range	Typical Test Results
I.R	%	Max. 0.75	0.17 - 0.20	0.18
MgO	%	Max. 6.0	0.80 - 0.95	0.93
SO ₃	%	Max. 3.5	3.30 - 3.40	3.33
NAa ₂ O	%	Max. 0.6	0.35 - 0.45	0.37
Chloride	%	Max. 0.1	0.010 - 0.014	0.012
L.O.I	%	Max. 3.0	1.7 - 2.0	1.72
LSF	%		92.0 - 93.0	92.41
C3S Tricalcium Silicate	%		53.0 - 55.0	54.36
C3A Tricalcium Aluminate	%		11.0 - 11.5	11.04
Physical Test Results				
Fineness (Air permeability)	M2 / Kg	Min. 280	370 - 390	382
Soundness (Autoclave)	%	Max. 0.8	0.02 - 0.03	0.03
Setting time (Vicat) Initial	Min.	Min. 45	115 - 135	120
Final		Max. 375	160 - 180	165
Compressive Strengths 3 days str.		Min. 1740	>3800	4046
7 days str.		Min. 2760	>4500	4849
28 days str.		Min. 4060	>5500	5927
Color				
Whiteness	%	Color Meter ZE 6000	> 91.0	91.10

Chemical Analysis		EN 197-1 CEM 1 52.5 N Requirement	Tentative Range	Typical Test Results
I.R	%	Max. 5.0	0.17 - 0.20	0.18
MgO	%	Max. 5.0	0.80 - 0.95	0.93
SO ₃	%	Max. 4.0	3.30 - 3.40	3.33
NAa ₂ O	%		0.35 - 0.45	0.37
Chloride	%	Max. 0.1	0.010 - 0.014	0.012
L.O.I	%	Max. 5.0	1.7 - 2.0	1.72
LSF	%		92.0 - 93.0	92.41
C3S Tricalcium Silicate	%		53.0 - 55.0	54.36
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				
Fineness (Air permeability)	M2 / Kg		370 - 390	382
Soundness (Autoclave)	%	Max 10	0.5 - 1.0	0.50
Setting time (Vicat) Min. Initial		Min. 45	120 - 150	130
Final		Max. 375	165 - 185	175
Compressive Strengths N/mm ² 2days str.		Min. 20	> 30	34.8
7 days str.			> 45	48.0
28 days str.		Min. 52.5	> 58	58.5
Color				
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.fuj@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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