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Zahabiya ConcreMight - ZUBA 16/123, a *Trustworthy Friend of Cement*, is latex based co-polymeric, flexible, Cement admixture emulsion, formulated to suit a variety of specialized construction related utilities. Beneficially specified in CIVIL CONSTRUCTION field, specifically suitable for tropical climatic conditions. ZUBA-16/123 is best useable as a modifier for concrete & mortar to improve many physical properties of conventional concrete, enhancing waterproofing properties and compensating many deficiencies in the cement slurries/ mortar mix. This multipurpose Human Friendly/ Environmental Acceptable Product is especially formulated to be used with concrete/mortar as a fast setting, multipurpose admixture, having plasticizing action on cement mortar, facilitating workability, helping controlling slump and reducing shrinkage. In harsh climatic zones, the curing (or hydration) of concrete by ZUBA-16/123 mixed water reduces water evaporation from concrete, facilitating curing. Due to its extraordinary beneficial integral properties, it is strongly recommended for use in Seismic Zone and sub soil constructions, construction at saline, water logged, seaside/coastal areas, water canals, waste water ponds, *effluent drains and basements, overhead and underground water tanks, zones of road bridges exposed to spraying water and foundations* as the ideal cement admixture, guarding the structure from chlorination and carbonation effects.

ADVANTAGES OF USE OF CONCREMIGHT ZUBA-16/123 IN CIVIL CONSTRUCTION

- 1 Increases the compressive strength (up to 30-50%) and water proofing properties of concrete/mortar (~ 40-50%).
- 1 Adhesion properties and abrasion resistance are improved.
- 1 Increases adhesion between steel (reinforcements) and concrete by more than 20 times.
- 1 Helps to protect steel reinforcement from erosion/ corrosion by preventing water vapour attack.
- 1 Allows fast setting properties of concrete/mortar.
- 1 Allows lower water to cement (W/C) ratio.
- 1 Plasticize and reduces the shrinkage of concrete.
- 1 Provides increased flexibility and greater resistance to structural cracks and settlements.
- 1 Controls plastic volume change resulting non-shrink concrete.
- 1 Allows high resistance to weathering, abrasion and local mechanical damages (wear and tear).
- 1 Prevents bleeding from concrete.
- 1 Improves the resistance of concrete against freeze/thaw, toxic gases penetration etc.
- 1 Increases the resistance of concrete/ plaster against moisture, salinity, acids/alkalis, sulphates, chlorides, carbon dioxide, ammonia, sugar etc reducing their penetration especially in marine environment.
- 1 Algae & moss growth in ZUBA mixed structures is arrested to great extent.

Table 1: Increase in Compressive Strength of Concrete with incorporation of ZUBA-16/123

Mix Type	Compressive Strength (psi)	
	Without ZUBA	after 28 days ageing With ZUBA
Concrete Mix design at 4000 psi	5000	6200 (0.75%)
Patch and Repair Mortar	4000	6000 (5%)
Floor Screed	5000	7000 (6%)



* Dosage of ZUBA-16/123 is indicated in brackets, based on amount of cement used

VISCOSITY:	2000cP viscous fluid, (Brookfield DV-II, Sp-03 @ 100RPM, 25°C) [ASTM D2556]
SOLIDS:	Normally 52%± 1 Non Volatiles [ASTM D2369]
DENSITY:	1.05 Kg per litre at 25°C [ASTM D1475].
DRYING:	Air-drying. A thin uniform film dries up within 10 minutes [ASTM D1640] and deep cures after 10 hours. Strength and film properties develop further with passage of time.
COVERAGE:	On average, it covers about 12 m ² /kg (130 ft ² /kg) on a moderate porous surface.
BEHAVIOUR:	Being waterproof, the dried film (BREATHING MEMBRANE) when perfectly cured is resistant to aliphatic solvents, mineral oils, dilute acids/alkalis, saline water, mildew and organic growth. The resistance to aging is excellent.
SAFETY:	Safe in handling. No fumes emission during application. Non-Flammable, Non-Toxic & Non-Corrosive in nature.
FLEXIBILITY:	The seam less waterproof cured membrane stretches up to 200% at 30°C, 65% RH.
APPLICATION:	As the additive and admixture for Cement/Mortar/Concrete duly mixed in potable water as suggested for specific use. Used as a solvent free, safe, water proof, weather resistant primer coating as binder for water based paints and plasters.
STORAGE/ SHELF LIFE:	Shelf life in closed original containers is two years from the date of manufacturing. Keep original container airtight after every use. Mix well before use.

Table 2: Increased Resistance of Concrete with ZUBA 16/123

Test for Normal Concrete Mix Cubes after 3 days*	Without ZUBA	With ZUBA 16/123
Water Absorption (% Abs)	2.7	<1.5
Salt Penetration (% Abs)	3.2	<1.2
Acid Resistance (% Abs)	3.2	<1.2

* Detailed test report available on request.



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DOSAGE:

Depending on the ultimate quality and desired properties of mixed concrete/mortar, the required dosage of ZUBA 16/123 has to be decided. For best end results, mix ZUBA-16/123 only in plain potable water for addition to cement composition.

Nature of Work	Dosage*
Sub Soil, Basement or Plinth Level Construction	1.5-2.0 kg (OPC) 1.0-1.5 kg (SRC)
High Strength Concrete/ Mortar	1.0-1.5 kg (OPC) 0.75-1.0 kg (SRC)
Plastering/ Screeding	0.5 kg (OPC)
Quick Set Cement Composition	1 kg (OPC)
Old to New Concrete Bonding	1:1 in water (priming)
Resurfacing, Patching, Repairing Jobs**	1 kg ZUBA, ½ kg Water, 2 kg OPC, 1.5 kg Silica Sand
Non-shrink Grouting, Machinery Installation & Foundation preparations	2.5-3.0 kg (OPC)
Mosaic/Terrazzo & Industrial/Warehouse Floorings***	1.5-2.5 kg (OPC)
Bedding/ Laying Tiles**	1 kg per 2 kg Water for priming as well as cement slurry
Sealing/ Plugging Water Seepage**	2 kg ZUBA, 4 kg OPC, 2 kg Sand



* Dosage is per bag of OPC or SRC or otherwise stated.
** See below for complete procedure.
*** Topcoat of Zahabiya Transparent Sealer ZTS-141 is recommended.

SELECTED WORK-METHODS:

(i) Resurfacing/ Repairing:

Prime the old cleaned surface with diluted ZUBA 16/123 (1:1). After slight tackiness is developed (1/2 hour), prime with a mixture prepared with 1 part ZUBA, ½ part water, 2 parts Portland cement and 1.5 part fine sand. Apply the mixture compactly and uniformly to level the surface. Apply the topping on the final primer coat while it is semi dried.

(ii) Bedding/ Laying Tiles:

Prime the surface uniformly with diluted ZUBA 16/123 (1:2). Prepare bedding adhesive for Tile Fixing, using 1 part ZUBA by weight to 2 parts of water, mixed to make thick slurry with OPC or White cement and spread by trowel etc., in uniform thickness. Tiles to be fixed closely and grouting done with the same slurry. Let it be dried perfectly to achieve perfect bonding. The tile grouting area/cavities must be perfectly sealed by the ZUBA mixed cement slurry.

(iii) Sealing/Plugging Water Seepage:

For low-pressure, in/out ward pressure water seepage, clean and dry the existing surface as much as possible. Apply ZUBA 16/123 undiluted all around the wet/damp surface. Apply the slurry/mortar prepared by using ZUBA (see table above) to get high viscosity slurry and apply compactly. Let it be dried for 2-3 hours. Repeat the same action. Use hot air blower for quick sealing, if possible and safe. The process may be repeated for areas that are more critical. The cement/ sand ratio may be adjusted slightly as per requirements and volume of plugging mixture. After 12 hours, cure the treated surface with ZUBA mixed water (1:1).

HYDRATION:

For all ConcreMight mixed cement composition as suggested above, initial hydrations/ curing may be conducted as per normal. However, the following recommended procedure of hydration will be appreciable for best end results:

- 1 1st three hydrations to be done after 10 hours or when the surface is set to touch dry as per normal practice.
- 1 4th and 5th hydrations with 1 part of ZUBA-16/123 diluted with 2 parts of potable water.
- 1 The experienced site supervisor may finally determine the days of hydration needed on case-to-case basis.

NOTE: REMEMBER, NOT TO MIX ZUBA-16/123 DIRECTLY TO DRY CEMENT. ALWAYS USE ZUBA MIXED WITH POTABLE WATER.

IMPORTANT NOTICE:

The Information & Data contained herein are correct to the best of our knowledge, tests and experience. These are presented in good faith to the users. The recommendations and suggestions mentioned are made without guarantees or representations as to the results. The Consumer should satisfy himself as to the suitability of the product for the intended purpose and use. WE ASSUME; NO LIABILITY for damages of any kind and the user accepts the product 'as is' and without any other warranties, expressed or implied. Our warranty is limited to the replacement of so proved defective Zahabiya original product only, provided used within shelf life as supplied originally.