



Zahabiya Chemical Industries

P.O. Box 18685, K.E.P.Z.,

KARACHI – 75150

Visit us at : <http://www.zahabiya.com>



Tel : +92-21-5082323 & 5082324

Fax: +92-21-5082325 & 4960462

E-mail : [firozis@super.net.pk](mailto:firozis@super.net.pk)

[info@zahabiya.com](mailto:info@zahabiya.com)

## Zahabiya ConcreMight - ZUBA 16/123

### Multipurpose Bonding Agent/ Ideal Cement Admixture (ASTM-C-494-81 TYPE A)

**Zahabiya ConcreMight - ZUBA 16/123** is latex based co-polymeric, flexible, **Bonding Adhesive & Cement/Concrete 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 compensates many deficiencies in the cement slurries/ mortar mix. This multipurpose **Human Friendly/ Environmental Acceptable** product has plasticizing action on cement mortar, facilitating the application and contributing to non-staining & non-cracking properties even in the extreme climatic conditions. ZUBA is especially formulated to be used with concrete/mortar as a fast setting and multipurpose admixture; also helps to control slump of concrete and reduces shrinkage. In harsh climatic zones, the curing (or hydration) of concrete by ZUBA-16/123 mixed water reduces the evaporation of water contents from concrete thus helping in curing by making a clear film over concrete. It considerably **increases compressive strength, waterproofing, salinity/chemical resistance and wear and tear/ abrasion resistance; facilitates flexibility & workability, erosion/ corrosion protection of steel, binding strength and durability of concrete.** The use of ConcreMight ZUBA enables the particles of cement aggregates to bond together to form continuous films, increasing the strength and resistance against water/salt penetration and such other harmful chemical substances into concrete and provides better weather/ salinity resistance to the cement composition. Also seals off the voids & cracks and retards abrasion of the concrete. Due to its over all extraordinary beneficial integral properties, it may be preferred for use in **Seismic Zone** and sub soil constructions as the ideal cement admixture. **Strongly recommended for 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** thus guarding the structure from chlorination and carbonation.

Depending on the ultimate quality and desired properties of concrete/mortar, the required dosage of ZUBA 16/123 has to be decided. Remember to mix the ZUBA-16/123 in plain potable water only before adding to cement composition in place of plain water to get the best end results.

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

***Best useable as a modifier for concrete & mortar to improve many physical properties of conventional concrete***

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



Zahabiya Chemical Industries

P.O. Box 18685, K.E.P.Z.,

KARACHI – 75150

Visit us at : <http://www.zahabiya.com>



Certificate No. 82051

Tel : +92-21-5082323 & 5082324

Fax: +92-21-5082325 & 4960462

E-mail : [firozis@super.net.pk](mailto:firozis@super.net.pk)

[info@zahabiya.com](mailto:info@zahabiya.com)

## Zahabiya ConcreMight - ZUBA 16/123 - Multipurpose Bonding Agent

### MAJOR USES IN CIVIL CONSTRUCTION JOBS

#### **1. CEMENT ADMIXTURE (ASTM-C-494-81 TYPE A):**

This time tested product is formulated especially to be used with Mortar/Concrete as an admixture to considerably increase waterproofing, weather resistance, salinity/ chemical resistance, wear/tear resistance, flexibility, smooth workability, bonding strength and durability. Particularly specified for **Seismic zone construction, Basements, Water Reservoirs, Water Canals, Sub-soil and Water logged areas, waste effluent contact areas**, as per the recommended (or tested) ratio. Provides **fast-setting properties** of cement/mortar & **increases the compressive strength remarkably. It Helps to prevent penetration/permeability of water into concrete to such an extent that further corrosion of reinforcements could be retarded.** Normally in Concrete/Mortar mix as bonding admixture, 1 - 1½ Kg for OPC and ½ - 1 Kg for SRC per 50 kg. bag of cement *added and mixed previously in the required quantity of potable water*, is suitable for better end results depending upon soil / atmospheric conditions. For Cement / Mortar / Plastering, 0.5 Kg/bag of cement is advisable. **Fast setting of cement is achieved** with ZUBA 16/123 in the ratio of 1.0 Kg./cement bag. Early initial hydration after 10 hours or as soon as cement is found set to touch is required. (6)

#### **2. BONDING NEW CONCRETE TO OLD CONCRETE AND RE-SURFACING OR REPAIRING JOBS:**

Clean the old surface to remove any dirt, oil or grease and prime it with ZUBA 16/123 diluted to equal parts of water. Allow drying for ½ hour to develop slight tackiness and prime with a mixture prepared with 1 part ZUBA, 1/4 parts water, 2 parts Portland cement and up to 1 part fine silica sand, thoroughly mixed ensuring that no air pockets or cavities are present inside. Apply the mixture compactly and uniformly to level the surface. Apply the topping on the final primer coat while it is semi dried. Hydration in normal way or as suggested. (6)

#### **3. NON SHRINK GROUTING, MACHINERY INSTALLATION & FOUNDATION PREPARATIONS, PAVEMENTS, CORRIDORS & FLOORING ETC.**

As per the job's requirements use 2.5 Kg. to 3 Kg. per 50 Kg. bag of cement to be mixed in the required quantity of water for Mortar/Concrete mixtures depending on the ultimate compressive strength and other properties required. When the concrete is just set to touch, start hydration thereafter as suggested under "Hydration" at point 6. Used in the Concrete/Mosaic/Terrazzo Flooring and also for factory/warehouse cemented floors @ 1.5 Kg. to 2.50 Kg. per cement bag (50 Kg.) and preferably 2 coats Top Coated after hydration is completed, with **ZUBA 16/121 Integrated Penetrative Sealer** or with Zahabiya **Transparent Sealer TS-141**. After curing the Flooring behaves as impermeable to mineral oils aliphatic

hydrocarbons, acids/alkali resistant smooth textured, waterproof, abrasion resistant and non-corroding, preferred in industrial/warehouse & factory floors.

#### **4. BEDDING/LAYING/FIXING TILES:**

Clean the surface thoroughly and prime it uniformly with ZUBA 1 part diluted with 3 parts of water. Repeat the application after 4 hours reducing the water ratio (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/ Gypsum or White cement. This is applied and spread by trowel or any other suitable applicator, in uniform thickness and tiles are fixed closely the 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.

#### **5. SEALING/PLUGGING WATER SEEPAGE IN MASONRY/CIVIL CONSTRUCTION:**

For low-pressure, in/ out ward pressure water seepage, clean and dry the existing surface thoroughly and dry it as best as possible. Apply ZUBA 16/123 undiluted all around the wet/damp surface. Apply the slurry/mortar prepared by using one part of ZUBA mixed with sufficient cement-fine sand (2.5:1) mixture to get high viscosity slurry and apply compactly. Let it be dried for 2-3 hours and repeat the same action. Use hot air blower for quick sealing, if possible. The surface will be sealed/ plugged from seepage and minor leakage. The process may be repeated for areas that are more critical. After 12 hours, cure the treated surface with ZUBA mixed water (1:1).

#### **6. HYDRATION:**

For all ZUBA- 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<sup>st</sup> three initial hydrations to be done after 10 hours or when the surface is set to touch dry as per normal practice.
- 4<sup>th</sup> and 5<sup>th</sup> hydrations with 1 part of ZUBA-16/123 to 9 parts of potable water, thoroughly mixed.
- Subsequent hydration with 2 parts ZUBA-16/123 mixed in 8 parts plain potable water.
- 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.



Zahabiya Chemical Industries

P.O. Box 18685, K.E.P.Z.,

KARACHI – 75150

Visit us at : <http://www.zahabiya.com>



Tel : +92-21-5082323 & 5082324

Fax: +92-21-5082325 & 4960462

E-mail : [firozis@super.net.pk](mailto:firozis@super.net.pk)

[info@zahabiya.com](mailto:info@zahabiya.com)

## Zahabiya ConcreMight - ZUBA 16/123

**Multipurpose Bonding Agent** (ASTM-C-494-81 TYPE A)

### COLOUR/ODOUR:

Bluish White when supplied. Resinous smell in liquid state, the cured film is transparent & odourless.

### DENSITY:

Average weight: 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. **The bond strength and film properties develop remarkably with passage of time.**

### COVERAGE:

Depends on the nature & porosity of the substrate. In average, a moderate porous surface covers about 12 Sq. Mtr. (130 sq.ft.) per kg.

### BEHAVIOUR

The dried film (BREATHING MEMBRANE) when perfectly cured is resistant to aliphatic solvents, mineral oils, dilute acids/alkalis, saline water, mildew and organic growth being water proof. **The resistance to aging is excellent.**

### DILUENT/CLEANER:

Use only potable water for dilution, mix thoroughly before every use. Clean the wet adhesive by normal tap water and dried film by Naphtha Solvent or White Spirit.

### TEMPERATURE RESISTANCE:

On proper dosage as admixture for cement/mortar non-shrink composition, it helps to resist comparative temperature range.

### SAFETY:

Safe in handling. No fumes emission during application. Non-Flammable, Non-Toxic & Non-Corrosive. Usable safely on Polystyrene/Thermopore sheets or such other sensitive materials. A **“Human Friendly/ Environmentally Acceptable” product.**

### VISCOSITY:

Around 2000cP (viscous fluid), measured by Brookfield DV-II, Spindle 03 @ 100RPM, 25°C (ASTM D2556).

### SOLIDS:

Normally 52%±1 Non Volatiles (ASTM D2369)

### FLEXIBILITY:

The seam less water proof cured membrane stretches up to 200% at 30°C on average relative humidity of 65%.

### 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.

### PHYSIO-CHEMICAL RESISTANCE:

When appropriately used in Cement/Mortar/Concrete as an admixture, the surface resists mild acids, alkalis, sulphates, chlorides, ammonia, sugar etc. The resultant cement composition is protected with oxidation, erosion, chlorination and carbonation effects.

**Table 1: Increased Resistance of Concrete with ZUBA**

Test for Normal Concrete Mix Cubes after 3 days*	Without ZUBA	With ZUBA
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.

### STORAGE/SHELF LIFE:

To be stored at cool dry and well ventilated place. 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: Increase in Compressive Strength of Concrete with incorporation of ZUBA 16/123**

Mix Type	Compressive Strength (psi) after 28 days ageing	
	Without ZUBA	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.

**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 for their guidance. 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.