LISTED ON HDB'S LIST OF APPROVED MATERIALS

W1 CEMENT STRENGTHENER

WATERPROOFING THIN SET TILE BONDING, TILE BONDING, NEW TO OLD CONCRETE BONDING, ANTI-CHLORIDE, PLASTICISER, INJECTION POLYMER AND SEALER

FEATURES

Cement added with **W1** will have:

1. **Improved bonding strength** by 2 to 3 times to 30.57 kg/cm^2. Especially good for bonding metal, glass, homogeneous tiles, granites and marble tiles to prevent staining.
2. **Increased flexural and compressive strength** by 40% to 100%. Compressive strength to 56.00 N/mm^2. Flexural strength to 10.00 N/mm^2. (ASTM C 39).
3. **Quicker cement setting time**. Reduced surface cracking and dusting, forming a very tight seal. Good for wall plaster, wet areas and swimming pool waterproofing.
4. **10 to 20 times more resistant** to oil, salt water, chloride, acid and vapour penetration—a feature particularly important in steel-reinforced concrete structures.
5. **Improved plasticity and flow** (ASTM C 124-71). Easier to work with; reduces porosity.
6. **W1 CEMENT STRENGTHENER** is deemed to be suitable for use in contact with potable water tested against SS375 : 2001.

APPLICATION METHOD

Based on Cement: Sand ratio of 1 : 3.

1. The amount of water needed is 24% by weight of cement.
2. This can be replaced totally with 24% or lesser of **W1** for optimum performance.

A. For Tile Bonding Aid, Grouting Cement, Vapour Barrier & Waterproofing:

1. Dilute **W1 + Water = 1 + 1** by Volume before adding into the Cement.
2. It will waterproof and bond tiles very strongly onto glass, glazed tile, steel and wood. Fine silica sand of 0.5 mm diameter can be added for grouting tile joints.
3. Add **30% v/v** into Grouting Cement. Mix well before grouting.

B. For Tile-Over-Tile Bonding:

1. Dilute **W1 + Water = 1 + 1 by Volume** before adding into the **Tile Bond Cement** or **Cement.**
2. Hard brush this slurry onto the existing tile surface with a thickness about 1.5 mm. While it is still wet, bond on the tile.

Consumption—Floor Screed:

W 1 + Water	=	**1 + 1 by Volume**
W1 usage	=	**0.4 kg / m² / 10 mm thick**

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Wall Plaster & Cement Mortar for diverse range of Sealing, Repairs & Waterproofing:

- Wall plastering, spalling concrete, corrosion-preventing prime coat on reinforced steel bar, mending worn out floor and holes, patching works around piping, re-pointing of brick works, tile joints, sealing of old concrete, asbestos sheet, fish tanks & swimming pools.

Coating or Injection into Floor Screed, Wall & Absorbent Surface to Prevent Seepage & Waterproof:

- Use **W1** or Mix **W1 + W5 MULTI-BOND**. Dilute as needed to coat, or inject into the brick or cement to seal up porosity. Injection pressure is 100 psi. Normal drying time is 10 days at 30° C.

Type 2 Bonding Method:

To save on W1 consumption and increase bonding strength,

1. **Priming Slurry** **W1 + Cement = 1 + 2**
   - Brush the slurry onto the cement surface while it is still wet. (10 minute drying time)
   - Apply the mortar directly onto it.

For Old Concrete Bonding,

1. **Priming Slurry** **W1 + Water = 1 + 1 or 2**
   - Before adding into **Portland Cement** or **Tile Bond Cement** at 30% level
   - Brush the slurry onto the old concrete surface while it is still wet. (20-minute open time)
   - Pour the new concrete mix directly onto it.

W1 used to bond water stopping strip

Re-surfacing of drain using W1

Packing

1-kg bottle, 5-kg carboy, 20-kg jerry can, 200-kg drum

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AWCS Technologies Test Report AWCS/MAT/24/122 dated 24 April 2024 (ASTM C1042-99, ISO 124:2014)

Curing Conditions

a) Type I - 14 d in air (23 ± 2) °C, (50 ± 4) % RH

b) Type II - 7 d in air (23 ± 2) °C, (50 ± 4) % RH + 7 d in saturated lime water

Table 1. Summary of Test Results

NO.	PROPERTIES	HDB'S ACCEPTANCE CRITERIA	RESULT	UNIT
1.	Slant Shear Bond Strength (Type I)	≥ 2.8	2.9	N/mm^2
	Slant Shear Bond Strength (Type II)	≥ 8.7	8.8	N/mm^2
2.	Total Solids Content	Determination of solid content value	44.5	%

Green Label Test under SGLS Category 032 Date: 5 June 2024 Ref: CE-8500314384/CHS

Results :

Item No.	Parameter	Test Method	Unit	Result	RPL	SGLS 032 Criteria	Justification
1	Heavy Metals						
	• Cadmium (Cd)	BCTD/MC/IHM111/2022 Rev (3)	%	N.D.	0.01	N.D.	Pass
	• Lead (Pb)		%	N.D.	0.01	N.D.	Pass
	• Total Chromium (Cr)		%	N.D.	0.01	N.D.	Pass
	• Mercury (Hg)		%	N.D.	0.01	N.D.	Pass
2	Volatile Organic Compounds	ISO 11890-2 Ed 3.0 : 2020	g/L	1.19	1.0	25*	Pass
3	Total Halogenated Organic Solvent		%	N.D.	0.01	N.D.	Pass
4	Total Aromatic Organic Solvent		%	N.D.	0.01	N.D.	Pass
5	Epichlorohydrin		%	N.D.	0.01	N.D.	Pass
6	N-Methyl Pyrrolidinone		%	N.D.	0.01	N.D.	Pass
7	Formaldehyde	High Performance Liquid Chromatography	%	N.D.	0.005	N.D.	Pass
8	Alkyl Phenol Ethoxylate	LCMS-MS	%	N.D.	0.005	N.D.	Pass
9	Flash Point	ASTM D3828-16a (2021) (Proc. B)	°C	>61.0	-	>61.0	Pass

Notes *N.D. - Not Detected (< Reporting Limit)*
RPL - Reporting Limit
Tests for Formaldehyde, Alkyl Phenol Ethoxylate & Flash Point were performed in conjunction with external laboratory.
SETSCO shall adopt the Simple Acceptance as the decision rule in evaluating conformance to specification.
**Manufacturer*