



Innovative & Decorative Concrete Technology

## Hi-Crete Decorative Systems Pvt. Ltd.

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### Method Statement Of Stamped Concrete

Stamped Concrete Is Cast In-Situ Decorative Concrete Flooring Where Concrete Slab Is Colored & Textured While The Concrete Is In Plastic Stage To Stimulate Natural Stone Designs. The Enhancing The Colors & Protecting The Textured Surface With Special Sealers.

#### **Material Required:**

- 1 Hicrete Dura Hard (Color Hardener) - 27.2 Kg Bag
- 2 Hicrete Powder Release Agent - 11.35 Kg Bag OR Hicrete Liquid Release Agent - 5 Gal Pail
- 3 Hicrete Super Blue - 5 Ltrs
- 4 Hicrete Color Wash - 4.5 Kg Pack
- 5 Hicrete Gloss Sealer - AC - 25 Ltrs Drum

#### **Tools Required:**

- |                                  |  |
|----------------------------------|--|
| 01 Interlocking Mat Set          | 09 Hand Held Groover                     |
| 02 Cage Roller Tamper-36"        | 10 Tampico Dash Brush                    |
| 03 48" Mag Bull Float            | 11 Grout Wheel- Correction Roller        |
| 04 36" Steel Fresno Trowel Round | 12 Handled Grout Saw + Replacement Blade |
| 05 16" Mag Float                 | 13 Impact Tool-12" With Handle           |
| 06 16"x 4" Rounded Trowel        | 14 Sealer Sprayer                        |
| 07 S Tool                        | 15 Other Mics. Concrete Finishing Tools  |
| 08 Hand Edger                    |  |

#### **Limitations:**

- Do not mix or cast concrete if:
- Rain is expected in the proceeding 24 hours period after application.
  - Avoid working in the direct sunlight or windy weather.
  - Temporary protection from weather must be provided all the duration period.

#### **Sub-grade preparation (In the scope of Client)**

The Sub-Grade Under Stamped Concrete Slab Can Make A Big Difference In The Overall Performance & Structural Integrity Of The Finished Concrete Slab.

Match The Thickness Of The Concrete Slab (For Example Slab Thickness Of 10cm)

The Entire Road Base Layer Must Be Installed Uniformly To Ensure & Provide The Following:

- Uniform Thickness Of Concrete Slab.
- Drainage Slope To Provide Sloped Concrete Slab Surface.
- Well Compaction Achieving 95% To Prevent Settlement.

### **Concrete Mix design** (In the scope of Client)

M25 Grade Of Concrete Is Most Suitable For Stamped Concrete Work

It Should Contain The Following:

- 1 Minimum Cement Content 300kg/M<sup>3</sup>
- 2 Maximum Aggregate Size 10mm
- 3 W/C Ratio Should Be Less Than 0.55
- 4 Slump Should Not Exceed 140mm

Avoid Addition Of Any Admixture Containing Calcium Chloride.

Do Not Add Any Water Reducing Admixtures.

### **Casting, Pouring & Placing of Concrete:** (In the scope of Client)

M25 Grade Of Concrete Is Most Suitable For Stamped Concrete Work

#### **A. Erecting Forms:**

To ensure a proper stamping job pay attention to the following:

- Drive the stakes flush with or slightly below the top edge of the forms.
- Set the forms to the correct elevation of the slab & the proper slope.
- Lay the polyethylene sheets on the compacted sub-grade between the forms
- (If Concrete Pouring is directly on compacted soil, base without base PCC)

#### **B. Installing Reinforcement. (If Applicable As Per Pavement Design & Loading Conditions)**

The Thickness Of Slab On Grade (Compacted To 95%) & Arrangement Of Steel Reinforcement Must Be Designed According To The Intended Use Of Max Load. Either Vehicles Or Pedestrian Only.

**For Example:** The Thickness Of 10cm For Slab On Grade (Compacted To 95%) And Steel Mesh Of 8mmdiameter Welded In A (20x20)Cm Grid Laid At The Middle Of The Slab To 1/3 The Depth From The Top Will Be Sufficient To Support Vehicle Traffic Of Maximum 5 Tons Load.

**Note: If The Axle Load Is Greater Than 2.5tons Consult The Structural Engineer For Determination Of The Necessary Reinforcement Given The Intended Use & The Condition Of The Sub-Grade.**

#### **C. Placing Concrete** (In the scope of Client)

The Best Approach Is To Have The Ready-Mix Truck To The Placement Area & Deposit The Concrete Right From The Wheelbarrow.

Place The Concrete As Close To Its Final Destination As Possible To Avoid Segregation.

Spread, Screed & Vibrate (If Necessary) The Concrete So That It Completely Fills All The Space Inside The Forms.(General Spreading Activity – Not A Final Finish)

Using Wood Floats, Start Float The Concrete Surface To The Desired Level & Flatness Before The Appearance Of Excess Moisture.

#### **Note:**

To Eliminate Any High Low Spots, Strike Off The Surface Using Aluminum Beam Or Wood Stick.

Try To Bring Enough Cement Paste To The Surface While Striking Off To Help Wetting Out The Never Float Or Trowel A Surface That Has Standing Bleed Water On It.

To Remove The Excess Bleed Water, Use A Rubber Hose Of Plastic Conduit To Be Laid On The Surface & Be Dragged To The Outer Edges Driving The Bleed Water Out Of The Slab.

Keep The Surface Open Until Bleed Water Stops Coming Out Of The Matrix & The Surface Becomes Saturated Dry (The Water Does Not Sprinkle In The Surface.)

#### **Notes:**

Do Not Attempt To Absorb Bleed Water By Applying The Hardener At An Early Stage (Water Must Not Sprinkled In The Surface.)

The Necessary Moisture For The Hardener Must Come The Concrete Matrix After Saturation In Order To Develop A Proper Bond & Assure Adequate Density Of The Surface.

***At This Stage The Entire Work Finishing Activity Will Be Handed Over To Stamped Concrete Contractor's Scope: - Hicrete Decorative Systems Pvt. Ltd***

***Colour Hardener Application (In The Scope Of Hicrete Systems)***

Before Starting Application,

- Divide & Mark The Floor Into Sections Of Known Areas.
- Set Aside The Proper Amount Of Materials To Be Applied To Each Section.
- The Color Hardener Should Be Applied Over Two Shakes At The Rate Of Minimum 2.70 Kg - 3kg/M<sup>2</sup> For The Two shakes.
- 2/3 Of The Materials (2kg) In The 1st Shake & 1/3 (1kg) Or Little More In The 2nd Shake.

Apply The Materials By Dry Shake Over The Surface At Less Than Knee Height & Distance No More Than 1.0m.

Start With The Edges Of The Slab Since They Set Quicker.

After Each Shake The Surface Must Be Thoroughly Floated (After The Powder Absorbed Water) By Trowel In Order To Work The Material Into The Surface.

After Floating The Final Shake & The Surface Has Hardened Sufficiently, Start Troweling Using The Blue Steel Trowels In Constant Medium Pressure To Ensure Uniformity Of The Surface.

***Notes:***

- Do Not Trowel The Surface Between The Two Shakes.
- Never Sprinkle Water To The Surface While Floating.
- Do Not Over Trowel To Avoid Trowel Burn & Discoloration.

***Release Agent Application (In The Scope Of Hicrete Systems)***

After Completing The Concrete Surface Treatment With The Color Hardener & While The Concrete Is Still In The Plastic Condition, Inspect The Concrete Surface By Pressing It With The Thumb With Light Moderate Pressure, If It Produce An Indentation Of 6-15mm , So It Is Time To Broadcast The Release Agent.

- Broadcast The Release Agent At Less Than Knee Height & To A Distance Of No More That Use A Soft, Long Bristle (6") Mason's Brush By Dipping The Brush Into The Material & Then Broadcast Evenly Across The Surface Following The Previous Limits.
- Application Should Occur Within A Single Shake.
- Apply Until A Uniform Thin Layer Covers The Surface.
- Avoid Over-Application As It Might Cause Disappearing Of Texture Details.
- Excess Powder Could Be Removed By Vacuuming Or Sweeping Gently.
- Leave The Concrete To Harden Enough To Walk On, At This Moment Stamping Should Start.

**Stamping / Texturing:** *(In The Scope Of Hicrete Systems)*

Time Of Texturing The Surface May Begin Immediately Once The Concrete Hardened Enough To Walk On.

Number Of Mats As A General Rule Must Be Enough So That The Area Covered Is Sufficient For 3 Workers Can Stand & Move Easily On The Stamps.

Start Pre-Texturing The Slab Perimeter With A Skin Mat Of A Matching Texture Design.

Once The Edges Have Been Pre-Textured, Texturing Of Inside Area May Begin.

Establish The First Row Of Stamps On A Straight Line Starting From The Corners (Use String Line To Check Stamped Alignment)

Impress The Stamps Into The Surface By Walking On The Mats Followed By A Light Tamping With The Pounder.

A Third Person May Be Needed To Details The Joints With A Touch Up Wheel.

**Curing** *(In the scope of Client)*

One Or Two Weeks Of Curing Required After Stamping.

**Joints:**

- Control Joints Should Be Spaced A Max Distance Of 24-36 Times The Slab Thickness.
- Control Joints Should Be Cut To The Depth Of At Least 1/4 Slab Thicknesses Using If The Slab Is Abutting Other Building Element Such Us Manholes, Column, Walls And Foundations Create An Expansion Joint & Fill It With Expansion Material Before Casting The Concrete Against It.

**Removing The Release Agent & Washing** *(In The Scope Of Hicrete Systems)*

- Start Sweeping As Much Of The Dry Release With A Soft Bristle Broom As Possible. Repeating The Cleaning More Than Once Until Little Dust Is Remaining & You Cannot Remove It.
- If Pressure Washer Is Not Available, Wet The Surface Down With A Garden Hose Then Spray A Cleaning Solution (Mild Detergent Or Citrus Base) Over The Surface & Start To Scrub In A Circular Motion With Medium Stiffness Bristled Broom.
- Pour More Water & Repeat Scrubbing Until All Loose Release Agent Is Removed.
- Leave The Surface To Dry Before Apply The Sealer.

**Note: Rotary Floor Buffer & Detergent Scrub Can Be Used.**

**Color Wash:** *(In The Scope Of Hicrete Systems)*

Once The Area Is Completely Washed And Dried, Mix The Hicrete Color Wash In A Bucket Of Water Based On The Antiquing Required.

Spray Water On Floor Using Small Water Sprayer.

Broadcast The Mixed Color Wash On Floor (You Can Use The Garden Sprayer To Broadcast The Color Wash)

Once The Color Wash Mixture Is Settled On Floor, Lightly Spray The Water Again On Color Washed Area To Push The Color Wash In Textures And Grout Lines.

Allow The Color Wash To Dry Completely.

**Sealer Application:*****(In The Scope Of Hicrete Systems)***

To Protect The Concrete Surface & To Enhance The Color, It Is Highly Recommend Sealing The Surface With A Choice Of Special Sealer Immediately After Removing The Release Agent.

- Avoid Application In Direct Sunlight Or During Strong Wind.  
On Hot Days Apply Early In The Day When The Temperature Still Low & The Concrete
- Surface Is In The Shadow & Still Cool.
- Sealer Can Be Applied By Roller, Brush Or Spray Pump.  
Two Application Of Sealer Is Preferred With An Interval Of 24 Hours Between The Two
- Coats For Drying.

***Foot Traffic Is Allowed After 24 Hours Of The Last Application & 72 Hours Minimum For Heavy Traffic.***