

SURFACE PREPARATION INSTRUCTIONS

NEW CONCRETE SURFACES

- **THIN ROLLED ON COATINGS:** light steel troweled finish (no burnished or hard troweled). Use dissipating curing agent such as E-Cure, if possible.
- **URETHANE CEMENT FLOORING:** Broom finish. This will allow urethane cement to be installed directly over broom finish, without further surface prep.

GENERAL REQUIREMENTS

All dirt, foreign contaminants, oil and laitance must be removed to assure a trouble-free bond to the substrate. After surface preparation and before application, repair all holes, cracks, and grind down any projections. Surface should have a minimum tensile strength of at least 300 psi @ ASTM D-4541. Surface profile should be CSP 3-5 per International Concrete Repair Institute guidelines.

TYPES OF SURFACE PREPARATION

1. SHOTBLASTING / BLASTTRACKING (*bare concrete*)

Shotblasting is preferred method of bare concrete surface preparation: Shotblasting will remove all laitance and provide a suitable profile for adhesion. Depending on the substrate, one of two types of steel shot should be used:

- **THIN ROLLED ON COATINGS:** Fine brush blast with #280 size shot.
- **URETHANE CEMENT TOPPING:** Regular blast with #330/380 size shot.

2. DIAMABRUSH

If you own or can rent a swing machine (a/k/a floor buffer or maintainer) , and the area has a thin coating or glue/mastic, you may also use the Diamabrush surface prep system.. Diamabrush has two types of 25 grit diamond disc tooling for floor prep. These can prepare the surface of bare concrete, scratch up existing thick well-bonded coatings, or combination of glue removal, thin paint removal and concrete prep..

1. REMOVAL TOOL-

removing thin paint and glue/mastic.



2. PREP TOOL (*or prep+*)- abrades/profiles bare concrete or well bonded existing coatings..



Diamabrush discs can be purchased at Grainger.com or PumaCrete, or rented at Home Depot rental centers (along with floor maintainers). Dust skirts for dust control are not available at Home Depot.

Note: this system emits considerable dust, unless a proper dust skirt is attached to the floor buffer, along with a vacuum, to capture the dust.. PumaCrete includes a 17" dust skirt with all Diamabrush sales.

The diamond blades/brushes last approximately 5,000-20,000 sf depending on the type of removal/prep and skill of operator.

3. SCARIFICATION (SCARIFIER): *(remove thick coatings/toppings)*

A third type of surface prep is useful for removal of thick, peeling or unbonded coatings/toppings.

Scarifiers are available in gas engine or 3 phase electric versions. SC-10 by SASE Co. is an industry standard and requires an investment of approximately \$4,000 to \$6,000, depending on age and condition.

KEY-IN's for EDGES/TERMINATIONS *(for URETHANE CEMENT FLOORING)*

To prevent lifting and delaminations, keyways (minimum 1/4" wide x 3/8" deep) must be cut at all terminations including doorways, drains and anywhere that floor does not abut a wall or vertical surface.

Refer to Puma-Crete Architectural Details for diagrams of key-ins to drains and perimeter edges.

JOINT TREATMENT

Moving joints should be "honored". This requires a sawcut over the existing joint in the concrete, tape the edges and fill with a suitable joint filler such Sikaflex 2c (NS-non sag).

Refer to Puma-Crete Architectural Details for diagrams for joint treatment.

Typical Tools/ Supplies

1. **Extension Cords** (12 gauge recommended)
2. **Vacuum** with quality filter/filtration. *Dewalt DV010 dust extractor (approx. \$400) has dual hepa filters, and handles diamabrush grinding as well as 4.5" angle grinders and worm gear saws.*
3. **Diamabrush discs-** REMOVAL TOOL or PREP TOOL
 - a. 17" dust skirt for 17" floor buffer.
 - b. Floor buffer (swing machine). High speed is preferred, such as the HAWK 300 rpm F0003-17XHD
4. **Floor Saw:** Cutting Perimeter Edges (for Cement Urethane mortars), or cutting joints. Worm Gear or Hypoid Saw will make up to 1-inch deep cuts with .125 or .25 inch diamond segmented cutting blades. Dust shroud adapters are available for these.
5. **Angle Grinders (with dust shrouds) 4.5" or 7"** May be used for edge prep, or prep for small areas

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