

## POLYURETHANE UREA CEMENT LEVELLING INDUSTRIAL FLOOR

**NON-UNIFORM MOTTLED FINISH, SEAMLESS,  
IMPERVIOUS, TOUGH FUNCTIONAL 3 TO 4mm  
SELF-LEVELLING FLOOR  
QUICK INSTALLATION, LOW ODOUR,  
ENVIRONMENTALLY GREEN  
SUPERIOR IMPACT & CHEMICAL RESISTANCE**

### PRINCIPAL USES

Stonclad UL is specifically designed for those applications where fast installation, smooth, dense chemical resistance with unsurpassed adhesion in thin layers is required. The unique urethane-cement-aggregate chemistry imparts exceptional resistance to mechanical, vibration and thermal shock abuse. A functional floor, initially with a non-uniform appearance which blends to a semi-sheen finish over time. The system utilises renewable and recycled resources.

### RESISTANCE

**Weather:** Coating will chalk and discolour.

**Acids:** Resists splash and fumes of inorganic acids up to 30% concentration, such as Hydrochloric and Sulphuric. Good resistance to organic acids.

**Alkalies:** Resists splash and spillage.

**Petroleum Products:** Resists splash, spillage of Paraffin, Jet Fuel, Diesel Oil, Petrol, Alcohol and Solvents.

**Water and most Salt Solutions:** Excellent resistance.

Refer to Stonclad UT Chemical Resistance Chart for specific chemicals.

### TYPICAL PHYSICAL PROPERTIES

| Property             | Test Method | Specification |
|----------------------|-------------|---------------|
| Adhesion to concrete | ASTM D4541  | > 3MPa        |
| Compressive strength | ASTM D695   | 45-50MPa      |
| Hardness Shore D     | ASTM D 2240 | 80-90         |
| Chemical Resistance  | ASTM D1308  | No defects    |

NOTE: Staining may occur depending on length of exposure time, chemical concentration and temperature.

### MOISTURE BARRIER

To ensure long term adhesion to concrete slabs and in absence of a proper vapour barrier, the use of Stonprime 786OPR, broadcast with coarse texture # 6223 Aggregate, system is required.

### PRIMER AND SKIM COAT

To fill substrate voids and detect the possibility of "outgassing", the use of Stonprime SL Primer 739 SL is essential. If blow holes are detected in the primer they should be skimmed level with Pro-Struct 30/35NS Quickset.

### COVE BASE

To provide an integral seal at the joint between the floor and the wall, Pro-Struct 618/22 Cove Bases in heights from 5 to 15cm may be specified. This can be overcoated with Stonblend 956 Coving paint.

### PACKAGING & COVERAGE

**SL Primer:** Stonprime 739 SA

20lt kit : 60 – 70m<sup>2</sup>/kit

**Mortar:** Stonclad UL, 955

18lt Kit : 955 A, B, C & D Pigment Pack

6m<sup>2</sup>/18lt kit at 3mm thick

**Coving Paint:** Stonclad 956

1 Litre kit: 956 A, B, C & D Pigment Pack

### REFERENCE SAMPLE

A trial reference sample should be installed by the applicator prior to start of contract to ensure correct coverage and workmanship.

**See also Instruction Sheet "Handling of Epoxy Products"**

### TYPICAL PROPERTIES AT 25°C

|                               |   |
|-------------------------------|---|
| Finish                        | Smooth Eggshell   |
| Colour                        | Brick Red, Ochre<br>Green, Grey (NB: Colour<br>will yellow with time)       |
| Consistency                   | Flowable Liquid   |
| Volume Solids                 | 100% Solvent-free   |
| Theoretical Coverage Per Coat | 4,5m <sup>2</sup> /18lt kit at 4mm  |
| No. of Components             | 4   |
| Mix Ratio by Volume           | Mix complete kit  |
| Pot Life                      | 6 to 10 Minutes   |
| Apply Over                    | Prepared primed concrete  |
| Apply By                      | 10mm Notched rake &<br>spiked roller  |
| Curing Time                   | 12 Hours – Initial<br>24 Hours – Service<br>5 Days – Chemical<br>Resistance |
| Thinner                       | Nil   |
| Shelf Life                    | Maximum 1 Year in<br>sealed container                                       |
| Max Service Temperatures      | 60°C Wet / Dry  |
| Application Temperature Range | 16°C to 30°C  |
| Dew Point                     | Substrate to be 2°C<br>above dew point                                      |
| VOC Content                   | 33g/l   |

### EQUIPMENT

- 2 x 25lt Mixing drums
- High torque 600 rpm mixer
- Spiral mixing impeller
- Clock with second hand
- New 10mm notch rake
- 2 x New spiked rollers
- 2 Sets of spiked shoes
- 2 Sets of floor lights
- Personal protective equipment
- Squeegees and medium nap rollers
- Temperature gauge and wet film thickness comb
- Abrasive blasting and floor cutting equipment

# APPLICATION SPECIFICATION FOR STONCLAD UL SYSTEM

**NOTE:** Do not attempt to install this material unless application team is fully trained and understands the requirements of working with materials with short application times within the specified temperature range. Substrate and material temperature are to be within 16-30°C.

## SUBSTRATE PREPARATION

Stonclad UL with its appropriate primer is suitable over properly prepared concrete surfaces which are level and do not require renovation. The substrate must be dry and free of all wax, grease, oils, fats, loose or foreign materials and laitance. Laitance and unbonded cement particles must be removed by mechanical methods, i.e. abrasive blasting or diamond grinding. The surface must show open pores throughout and with main aggregate in concrete exposed and have a coarse sandpaper texture. Retaining slots, 5mm x 5mm, must be cut running 150mm from and parallel to the walls, edges and joints. If weak, dusty substrates exist, they should be removed and repaired with Pro-Struct 529. Product can be laid on 1 to 2 week-old new concrete, provided a minimum tensile strength of 1.5MPa has been achieved. For recommendations or additional information regarding substrate preparation, please consult StonCor's "Surface Preparation Methods".

## PRIMING AND PATCHING

1. Apply 2 coats wet-on-wet Stonprime SL-739 Solvent-free Primer at a total of 60-70m<sup>2</sup>/20lt kit with a rubber squeegee. Remove puddles and squeegee lines with the squeegee. **DO NOT BACKROLL.**
2. Lightly broadcast Stonhard 6222 medium aggregate at ½kg/m<sup>2</sup> to create a gritted surface for improved adhesion of the Stonclad UL.
3. If the substrate is porous and contains no DPC, it is recommended to apply Stonprime 786OPR prior to Stonprime SL-739.
4. Sealed surface should be free of air holes or depressions. If necessary, patch cracks and blowholes with Pro-Struct 30/35NS Quickset Epoxy Paste.
5. Allow to cure for 8 hours at 25°C, and within 16 hours before overcoating.

## MIXING

Mixing station must be set up to deliver a kit of material to the applicators every 3 minutes. A well displayed clock or timer is necessary to ensure consistent supply. Remove all lids from resin components and open pigment packs and aggregate bags. Two 25 litre clean dry mixing drums and spiral impellers fitted to a high torque, variable speed 550 rpm AGP-EV160 mixer should be used for thorough mixing.

Empty the entire contents of the Base and Activator components into the 25 litre container. Mix mechanically for 30 seconds, then add the pigment pack, continue mixing for a further 30 seconds. Pour in the aggregate and mix for another 90 seconds. Immediately send the mixed material to the application floor area and within 30 seconds start another mix in the second 25 litre container. Every 3 minutes a new batch should be made.

## APPLICATION

1. The use of floor lights is critical during application to ensure even spread and levelling is achieved.
2. Divide the floor into panels not greater than 5m wide. This will ensure that fresh product is applied onto the wet edge of the previous kit.

3. Apply one kit of Stonclad UL at 4,5m<sup>2</sup>/kit by pouring the mixture in a line onto the floor and raking out using a 10mm notched trowel, spreading evenly at a thickness of 4mm. This application should not take longer than 1 minute.
4. Ensure material is level before spike rolling the 1<sup>st</sup> kit for a full 5 minutes.
5. The spike rolling team wearing "spiked shoes" will be standing in the material, rolling backwards and forwards in a uniform direction, moving every 5 minutes from one applied kit to the next. Failure to follow a uniform spiking period will lead to an uneven appearance.
6. Do not re-roll material after 8 minutes of application.
7. Allow to cure for 12 hours at 25°C before re-cutting joints and seal with Pro-Struct 748 Non-moving Sealant.
8. An easy cleaning mild non-slip finish can be achieved by overcoating with Stonseal 722 Non-slip Clear Sealer at approximately 8m<sup>2</sup>/litre/coat.

## COLOUR UNIFORMITY

Erratic periods of mixing and variable times of spike rolling will lead to an uneven colour and non-uniform appearance. The use of a well displayed clock and fully trained staff is essential.

## CURING

If temperatures are between 16 – 30°C, the coating system can be exposed to light traffic after 24 hours. Excessive traffic, aqueous cleaning and exposure to aggressive chemicals should only take place after 4 to 5 days when full cure has been achieved.

## RECOMMENDATIONS

- **DO NOT** attempt to install material if temperature of components and substrate are not within 16-30°C. The cure time and application properties of the material are severely affected.
- **DO NOT** use water or steam in the vicinity of the application. Moisture can seriously affect the working time and other properties.
- Protect areas from dust and isolate access. Contamination between layers will affect the final appearance.
- Avoid contact with all liquid Parts A and B as they may cause skin and/or eye irritation. Workmen should cover hands with protective creams or rubber gloves and wear safety glasses.
- Use only with adequate ventilation.

## NOTES

- Procedures for maintenance of the flooring system during operations are described in "StonCor Cleaning Procedures".
- Specific information regarding chemical resistance is available in the Chemical Resistance Guide for Stonclad UL.
- Material Safety Data Sheets are available on request.
- A staff of technical service engineers is available to assist in installation or to answer questions related to our flooring products specifically or flooring problems in general.
- Requests for technical service or literature can be made through local sales representatives and offices, or corporate offices located throughout the world.

## COLD CONDITIONS

Low temperatures decrease flow, delay set and affect water resistance and final appearance. Materials should be conditioned for 16 hours at 21-27°C; heaters should be utilised to warm floors.

**CAUTION: MAY CONTAIN FLAMMABLE SOLVENTS. KEEP AWAY FROM SPARKS AND OPEN FLAMES. IN CONFINED AREAS WORKMEN MUST WEAR FRESH AIRLINE RESPIRATORS. HYPERSENSITIVE PERSONS SHOULD WEAR GLOVES OR USE PROTECTIVE CREAM. ALL ELECTRONIC EQUIPMENT AND INSTALLATIONS SHOULD BE MADE AND GROUNDED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE. IN AREAS WHERE EXPLOSION HAZARDS EXIST, WORKMEN SHOULD BE REQUIRED TO USE NONFERROUS TOOLS AND TO WEAR CONDUCTIVE AND NONSPARKING SHOES**



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