



# ULTRALEVEL ESL 2000

## 2mm Self Levelling Seamless, Epoxy Floor System

### TECHNICAL DATA SHEET

#### DESCRIPTION

Ultralevel ESL 2000 consists of graded aggregates bound in a pigmented epoxy resin binder. It is supplied as a four component system, pre-weighed for on-site mixing.

When laid, it provides a smooth, light-reflective surface. It is available in a range of standard colours.

#### USE

Ultralevel ESL 2000 is designed for use in wide range of industrial environments where a lasting solution to floor maintenance problems is required. It provides a dense, impervious, coloured and chemically resistant floor surface which is hygienic and easy to clean. Typical applications include:

- Clean rooms
- Laboratories
- Hospitals
- Plant rooms
- Light industrial plants

#### ADVANTAGES

- Fast application** - minimizes downtime
- Chemical resistance** - good resistance to a wide range of chemicals
- Durable** - good abrasion resistance
- Hygienic** - provide a dense, impervious, seamless floor surface which is easily cleaned
- Attractive** - available in a wide range of colours to enhance the working environment

#### PROPERTIES

|                                      |                |
|--------------------------------------|----------------|
| Colour                               | Desired colour |
| Pot life at 27 +/- 2°C, hours        | 30 minutes     |
| Minimum hardening temperature °C     | 10             |
| Curing time, in days, minimum        | 7              |
| Cure time – foot traffic, hours      | 24             |
| Cure time – vehicular traffic, hours | 72             |
| Compressive strength ASTM C-109      | 55 N/sq.mm     |
| Tensile strength ASTM C-307          | 20 N/sq.mm     |
| Flexural strength ASTM C-78          | 30 N/sq.mm     |

#### Chemical Resistance

Ultralevel ESL 2000 has excellent resistance at ambient temperatures to a wide range of industrial chemicals. Specific data is available on request.

**Note that it is especially important that spillage is cleaned up quickly since much higher concentrations of chemicals may occur on evaporation**

#### APPLICATION INSTRUCTIONS

##### Surface preparation:

Concrete surfaces should be free from laitance and dust by sandblasting. In case sand blasting is not possible, thorough abrading with a hard wire brush can be used, though it is not as efficient. All laitance should be removed by etching with etching agents and wire brushing. In some cases, it may be necessary to remove the concrete by chipping. If the substrate is contaminated with oil or grease, these should be removed by using a strong industrial detergent or organic degreaser. Then the surface should be washed thoroughly with water and dried before the application of ESL 2000.

The pre-requisites for good adhesion of the coating are cleanliness, roughness and dryness of the surface. Unless these are ensured by proper surface preparation, a successful performance can not be guaranteed.

The degree of dampness of the surface must be less than 4%.

## **APPLICATION**

### **Priming:**

All surfaces to be treated with Ultralevel ESL 2000 should be primed with Primer E1, an epoxy resin primer designed for maximum absorption and adhesion to concrete substrates.

Add the entire contents of the hardener to the base and mix the two primer components thoroughly for at least 2 minutes. Under no circumstances should part mixing be considered.

Once mixed, the primer should be applied immediately to the prepared substrate using stiff brushes and/or rollers. The primer should be well 'scrubbed' into the substrate to ensure full coverage, but care should be taken to avoid over application or 'ponding'.

Allow the primer to dry before proceeding to the next stage. Do not proceed whilst the primer is 'tacky' as this will lead to unsightly marks on the finished surface.

Porous substrates may require a second primer coat - when the first coat is directly absorbed into the substrate - but minimum over coating times must still be observed. The minimum over coating times will vary slightly according to the porosity of the substrate. However, they should be in accordance with the following ambient application temperatures.

### **Mixing:**

Ultralevel ESL 2000 flooring is supplied in four pre-weighed packs (base, hardener, colour paste and aggregate) which are ready for immediate on-site mixing. Part mixing of these components is not acceptable and will affect both performance and appearance of the finished floor.

Mixing should be carried out using either a forced action mixer; or a heavy duty, slow-speed drill fitted with mixing paddle. The components should be mixed in a suitably sized mixing vessel.

The colour pack should be added to base container and mixed for 30 -35 sec until homogeneous. The hardener pack should be added to the base container and mixed for 30 - 45 seconds, until homogeneous. Thereafter, the contents of the graded aggregate pack should be slowly added and mixing carried out for a further 3 minutes until a completely homogenous material is obtained.

The applicator should ensure that there are sufficient supplies of plant, labour and materials to make the mixing and subsequent application process a continuous one for any given, independent floor area.

Once mixed, the material must be used within its specified pot life.

The material should be poured onto the prepared and primed substrate as soon as mixing is complete. It should be spread to the required thickness using a serrated trowel; with care taken not to overwork the resin, spreading evenly and slowly. Immediately after laying, the material should be rolled, using a spiked nylon roller, to remove slight trowel marks, and to assist air release. The rolling should be carried out using a 'back and forth' technique along the same path. An overlap of 50% with adjacent paths is recommended.

Further light rolling may be required to remove surface imperfections, or for subsequent release of trapped air, but should be prior to the setting of the product.

## **FLOOR JOINTS**

All existing expansion or movement joints should be followed through the new floor surface.

Joint sealant & joint geometry should be compatible with the floor type used, intended exposure conditions and likely movement characteristics of the substrate.

## **CLEANING**

Immediately after application of Ultralevel ESL 2000, clean the tools, equipment and the mixing container using solvents like Bostik Thinner E otherwise, removal of dried / hardened epoxy material is difficult.

## **MAINTENANCE**

The service life of a floor can be considerably extended by good housekeeping. Regular cleaning may be carried out using a rotary scrubbing machine with a water miscible cleaning agent at

temperatures up to 500C.

**Note:**

- 1.If the atmospheric temperature falls below 10 oC then both base and hardener components should be warmed to 25 oC in hot water bath before mixing.
2. When working in closed areas like inside containers or silos, good ventilation must be provided.
3. After the application, Ultralevel ESL 2000 should be protected from rain and dew for a period of 6 hour
4. On application, the relative humidity should not exceed 75%.

**PACKING**

Ultralevel ESL 2000 - 17 kg

**COVERAGE**

5 sq.m per pack @ 2 mm thickness

**STORAGE & SHELF LIFE**

Ultralevel ESL 2000 Base and Hardener as supplied shall be stored in a cool and dry place away from sunlight, moisture and high humidity and have a shelf life of 12 Months in the original packing.

**HEALTH & SAFETY:**

Ultralevel ESL 2000 contains organic resins and hardeners which may cause sensitization by skin contact. Avoid contact with skin and eyes and inhalation of vapour. In case of contact, wash liberally with water and seek medical advice, if required. Wear suitable protective clothing, gloves and goggles while handling.

**FIRE**

Ultralevel ESL 2000 is inflammable. No naked flame should be allowed near the site.  
Do not smoke during use.

**WARRANTY**

Whilst Bostik India (P) Ltd., strives to ensure that any advice, information or recommendation given are appropriate and correct, it cannot accept any liability directly or indirectly arising out of the products, since the method and place of application of the products are beyond its control. Its guarantee is therefore limited to the quality of materials delivered.

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