

# Expanfloor\* Leveltop Plus

**Polymer modified, self-leveling cementitious floor leveling compound for exterior & interior in 4–35 mm**

## Uses

Expanfloor\* Leveltop Plus is polymer modified self-leveling floor leveling compound, designed to level uneven floor and can be applied in single application between 4 mm to 35 mm, for a wide variety of floor finishes. Typical floor finishes would include:

- Industry floor
- Car parks
- Warehouse floors
- Concrete pavement
- Uneven floor leveling for:
  - Tiles
  - Carpets
  - Vinyl sheeting
  - Linoleum
  - Rubber sheet flooring
  - epoxy floor toppings and screeds

## Advantages

- Rapid curing - accepts speedy access to foot traffic, thus encouraging progress of subsequent works
- Prevents dusting by sealing the surface
- Simple installation, easy to apply
- Fast application by pump or manual
- Consistent performance. single pack eliminates need for site batching and ensures consistency of mixed
- Self leveling, low shrinkage

## Description

Expanfloor\* Leveltop Plus, is a polymer modified cementitious floor leveling compound, blend of cement, graded sand and quartz, special additives and flowing agents.

## Technical support

Fospak Expanchem offers a comprehensive range of high performance, high quality flooring, jointing and repair products for both new and existing floor surfaces. In addition, the company offers a technical support service to specifiers, end users and contractors. It is also able to offer on-site technical assistance, an AutoCAD facility and dedicated specification assistance in locations all over the country.

## Specification

The cementitious floor underlay shall be Expanfloor\* Leveltop Plus by Expanchem Fospak. At 28 days the material should achieve a compressive strength of not less than 40 N/mm<sup>2</sup>, and an 'A' rating for the BRE (BS8204) Test for Impact Resistance. The floor shall be prepared and the product mixed and applied in accordance with the manufacturer's current data sheet.

## Design criteria

Expanfloor\* Leveltop Plus can be applied to both concrete substrates and sound, sand:cement screeds with a minimum compressive strength of 20N/mm<sup>2</sup>.

The relative humidity of the substrate should not exceed 80% at the time of installation - 75% if impermeable toppings or coverings such as epoxy floors screeds and vinyl tiles are being used. Cracks and holes should be repaired with recommended Expanchem Fospak products

When installed, the product will follow the existing floor gradient. If a floor with a particular slope is required, it will be necessary to use leveling equipment to obtain the desired gradient.

New concrete floors should be at least 21 days old, prior to application of Expanfloor\* Leveltop Plus.

The substrate onto which the Expanfloor\* Leveltop Plus is to be applied must be generally clean, sound and free from oil, grease and other contaminants.

## Properties

<b>Form</b>	: Grey powder
<b>Compressive strength</b>	: 42 N/mm <sup>2</sup> @28 days
<b>Flexural strength</b>	: 12 N/mm <sup>2</sup> @ 28 days
<b>BRE Impact Resistance:</b>	Class A at 28 days
<b>(BS 8204:Part 1:1987)</b>	Highest rating
<b>Minimum thickness</b>	: 4 mm
<b>Maximum thickness</b>	: 35 mm
<b>Traffic time (20°C-30°C)</b>	
<b>Foot traffic</b>	: 4 - 6 hours
<b>Overlay time</b>	: 18 - 24 hours

## Instructions for use:

### New concrete floors:

These should normally have been placed for at least 21 days and have a moisture content of less than 5%. Floors should be sound and free from contamination such as oil and grease, mortar and paint splashes or curing compound residues. Excessive laitance can be removed by light mechanical scabbling, grinding or grit blasting followed by thorough washing with clean water, vacuum cleaning and allowing the surface to dry. Light laitance can be removed by grinding, blasting or manual scrubbing followed by vacuum cleaning to remove dust debris. Light oil and grease staining can be removed with degreasers followed by washing with clean water.

### Old concrete floors:

Where deep seated contamination has occurred, mechanical methods such as blasting, grinding or scabbling should be used to provide a suitable clean surface.

Any necessary repairs should be carried out using Expanmortar\* S or Expanmortar\* FC depend on condition of repair area and repair thickness.

### Priming:

The substrate should be thoroughly prepared as detailed above. Normal substrate should be pre-soaked with clean water and prime with Expanprime\* 33. Before proceeding with the application of Expanprime\* 33, the surface should be in a saturated surface dry condition, with no free standing water.

The substrate must be primed using Expanprime\* 33 (1:5; primer to clean water ratio by volume) and allowed to dry. The primer should be brushed into the floor by broom. Spray or roller application is not recommended as insufficient material will be applied.

When the first coat of the primer is touch dry, a second coat of Expanprime\* 33 (1:3; primer to clean water ratio by volume) should be applied to the substrate in the similar manner. For highly porous substrates, a third coat of the primer may be applied with Expanprime\* 33 diluted at a ratio of 1:3.

Ponding of the primer must be avoided as this can lead to failure at the bond line.

For high traffic or impact resistant floor topping use of epoxy resin primer Expanbond\* EP is recommended, to get good grip and skid resistant topping broadcast a fine sand on fresh coat of Expanbond\* EP (Sand grading should be Sieve 30# pass and Sieve #50 retain), prior to the application of Expanfloor Leveltop Plus make sure that Expanbond\* EP is still tacky and not fully set.

The objective of priming the substrate is to 'seal it, and thereby prevent release of air, rising from the substrate, and thus forming bubbles or pinholes in the surface of the Expanfloor\* Leveltop Plus. Additionally it aids adhesion between the two surfaces.

## Installation by hand:

### Mixing

Only full bag mixing is permissible. Do not part mix, or add further water to the mixed material in order to prolong workability. Either of these actions will result in an incorrect water:powder ratio, and will compromise the final material performance.

Measure out 4 liters of cool, potable water, into a suitably sized mixing vessel and mix a full 20 kg bag of Expanfloor\* Leveltop Plus. It is suggested that the temperature of the water should not exceed 20°C, so that the temperature of the final mixed mortar is not greater than 30°C.

It is essential that Expanfloor\* Leveltop Plus is thoroughly mixed and that the temperature of the mixed material should not be allowed to exceed 30°C.

Always add the powder to the water never add water into powder. Mix for 3 to 5 minutes until fully homogenous mix is achieved, for mix use slow speed drill (400 to 500 rpm) fitted with Mixing Paddle.

Note: If the mix stiffens, it should be discarded. Do not attempt to re-mix with water.

### Application:

Pour the mixed material, immediately upon completion of mixing, on to the primed surface, spread with a trowel and allow to 'self-level'.

Roll the surface with a spiked roller to promote the release of any trapped air. Rolling should be done immediately after placement of the material. Do not over roll and do not attempt to float finish the setting surface.

The required thickness must be achieved in one application. For best results, the pouring and leveling should be a continuous process.

### Installation by pump:

This is a highly specialized activity and requires the use of an approved applicator, who has been fully trained in the use of product and equipment.

### Expansion joints:

Expansion joints in the existing substrate must be retained and continued through the Expanfloor\* Leveltop Plus. Expanchem Fospak has a range of joint sealants specifically designed for flooring, consult your local Fospak office for more details.

### Cleaning:

Tools and equipment should be cleaned immediately by flushing with water. Cured material can only be removed by mechanical means.

### Curing:

In normal conditions, Expanfloor\* Leveltop Plus does not require curing, but in harsh climatic conditions of direct sunlight, drying winds etc., freshly hardened surfaces should be covered completely with a polythene sheet for 2 days.

### Coating:

In areas that are subject to regular water immersion or chemical attack from acids or organic solvent, it will be appropriate to protect Expanfloor\* Leveltop Plus with an epoxy floor coating such as Expanfloor FC130, FC140, FC145 or FC150, for UV protection use Expanfloor PU150.

The first coat of the epoxy floor coating should be applied within 4-6 hours of installation of Expanfloor\* Leveltop Plus and the second coat should be applied after the first coat is dry, typically 12-18 hours.

### Hot weather working:

It is suggested that, for temperatures above 35°C, the following guidelines are adopted as good working practice:

- (i) Store unmixed materials in a cool (preferably temperature controlled) environment, avoiding exposure to direct sunlight.
- (ii) Keep equipment cool, arranging shade protection if necessary. It is especially important to keep cool those
- (iii) surfaces of the equipment which will come into direct contact with the material itself.
- (iii) Use ice cold water for mixing and also to soak the surface prior to the application of primer.
- (iv) Try to avoid application during the hottest times of the day.
- (v) Make sufficient material, plant and labour available to ensure that application is a continuous process.

### Estimating:

#### Supply

Expanfloor* Leveltop Plus	: 20 kg bags
Expanprime* 33	: 30 & 210 Ltr. Drum
Expanbond* EP	: 1 & 2.50 Kg. Pack
Solvent 102*	: 5 & 30 Ltr. Can

### Coverage:

Expanfloor* Leveltop Plus: 5 m <sup>2</sup> / Bag @ 2 mm thickness	
Expanprime* 35	: 4 - 6 m <sup>2</sup> / Ltr.
Expanbond* EP	: 3 – 3.50 m <sup>2</sup> / Kg.

(Primer coverage rate depend on surface condition)

### Limitations:

Concrete slabs onto which Expanfloor\* Leveltop Plus is to be applied must have a surface temperature of at least 5°C, with the air temperature maintained at 10°C, or more, during application.

Expanfloor\* Leveltop Plus should not be applied onto asphalt substrates.

If the substrate onto which Expanfloor\* Leveltop Plus is applied, moves or cracks, reflective cracking may occur.

Protect Expanfloor\* Leveltop Plus from freezing for 48 hours after placement.

For temperatures above 35°C refer to Hot Weather Working.

Only suitable for use out of direct sunlight and/or drying winds during application and initial curing period

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