

Expanfloor* Leveltop



CONSTRUCTION CHEMISTRY

Cement based, self leveling, thin layer, underlayment

Uses

Expanfloor* Leveltop is designed as a thin layer, 2mm to 5mm underlayment, for a wide variety of floor finishes. Typical floor finishes would include :

- 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.
- Simple installation - eliminates time consuming and labour intensive sand cement screeds.
- Stable - can be installed in large joint-less areas.
- Consistent performance - single pack eliminates need for site batching and ensures consistency of mixed

- Self leveling - minimal finishing required.

Description

Expanfloor* Leveltop is a blend of selected cements, hard-wearing graded aggregates modified with polymers and flow agents. It is supplied as a dry, grey powder which requires only the addition of water to produce a self smoothing, free flowing material.

Expanfloor* Leveltop may be applied by hand or by use of a continuous mixer pump.

Expanfloor* Leveltop Plus is also available for large thickness application 5 - 30 mm

Specification

The cementitious floor underlay shall be Expanfloor* Leveltop by Expanchem Fospak. At 28 days the material should achieve a compressive strength of not less than 20 N/mm², 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.

Properties

The following results have been derived under laboratory conditions, and may vary slightly from those achieved

Compressive strength : 20 N/mm² @28 days
(40 mm cubes cured at 20°C)

BRE Impact Resistance : Class A at 28 days
(BS 8204:Part 1:1987) Highest rating

Minimum thickness : 2 mm

Maximum thickness : 5 mm

Traffic time (20°C-30°C)

Foot traffic 4-6 hours

Overlay time 24 hours

Design criteria

- Expanfloor* Leveltop can be applied to both concrete substrates and sound, sand:cement screeds with a minimum compressive strength of 20N/mm².
- 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.
- The substrate onto which the Expanfloor* Leveltop is to be applied must be generally clean, sound and free from oil, grease and other contaminants.



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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 or blasting 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.

Priming

The substrate should be thoroughly prepared as detailed above. The substrate should be presoaked with clean water for 4 hours immediately prior to application of 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 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. Additionally it aids adhesion between the two surfaces.

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.

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 litres of cool, potable water, into a suitably sized mixing vessel and mix a full 20 kg bag of Expanfloor* Leveltop. 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 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. Mix for 3 to 5 minutes until fully homogenous, using a 1 KW, slow speed drill (400 to 500 rpm) fitted with a Expanchem Mixing Paddle attachment.

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 dry, 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, supplied by Expanchem Fospak.

Expansion joints

Expansion joints in the existing substrate must be retained and continued through the Expanfloor* Leveltop. Expanchem Fospak has a range of joint sealants specifically designed for flooring, consult your local Expanchem 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 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 with an epoxy floor coating such as Expanfloor FC130 or Expanfloor FC140.

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

In areas where high chemical resistance is required, the first coat shall be Expanfloor FC130 with the second coat being Expanfloor FC140.

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 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.

Limitations

- Concrete slabs onto which Expanfloor* Leveltop 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 should not be applied onto asphalt substrates.
- If the substrate onto which Expanfloor* Leveltop is applied moves or cracks, reflective cracking may occur.
- Protect Expanfloor* Leveltop 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

Technical support

Expanchem Fospak offers a comprehensive 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 world.

Estimating

Supply

Expanfloor* Leveltop : 20 kg bags

Expanprime* 33 concentrate : 30 Ltr. containers

Coverage and Yield

Expanfloor* Leveltop : 11.75 litres per 20 kg bag

Expanprime* 33 concentrate : 5m²/ltr per 2 priming coats
3m²/ltr per 3 priming coats

Note: Coverage figures given are theoretical - due to wastage factors and the variety and nature of substrates, practical coverage figures may be reduced, this will vary with site and application conditions.

Storage

Shelf life

Expanfloor* Leveltop has a shelf life of 6 months and Expanprime* 33 has a shelf life of 12 months, when stored in warehouse conditions below 20°C in the original, unopened packs.



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Storage conditions

Store under warehouse conditions, below 20°C in the original, unopened packs.

Precautions

Health and safety

Expanfloor* Leveltop contains certain powders which, when mixed with water or become damp, release alkalis which can be harmful to the skin.

During use, avoid inhalation of the dust and contact with the skin or eyes. Wear suitable protective clothing - eye protection, gloves and respiratory equipment (particularly in confined spaces).

The use of barrier creams to provide additional skin protection is also advised. In case of contact with the skin, rinse with plenty of clean water, then cleanse thoroughly with soap and water.

In case of contact with eyes, rinse immediately with plenty of clean water and seek medical advice. If swallowed seek medical attention immediately - do not induce vomiting.

Fire

Expanfloor* Leveltop is non-flammable.

For further information, please refer to the respective Product Material Safety Data Sheet.

Additional Information

Expanchem Fospak manufactures a wide range of complementary products which include :

- waterproofing membranes & waterstops
- joint sealants & filler boards
- cementitious & epoxy grouts
- specialised flooring materials

Expanchem Fospak additionally offers a comprehensive package of products specifically designed for the repair and refurbishment of damaged concrete. Expanchem Fospak's 'Systematic Approach' to concrete repair features the following :

- hand-placed repair mortars
- spray grade repair mortars
- fluid micro-concretes
- chemically resistant epoxy mortars
- anti-carbonation/anti-chloride protective coatings
- chemical and abrasion resistant coatings

For further information on any of the above, please consult your local Expanchem Fospak office - as below.

* Denotes the trademark registered.

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Important note

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