

# Expanfloor\* FC150

**Solvent free, high build, epoxy resin floor coating**

## Uses

Expanfloor\* FC150 provides a hard wearing, chemical and abrasion resistant floor finish. It is ideally suited for use in wet areas where a high degree of resistance to chemicals, oils and grease is required such as:

- Dairies, meat and food processing plants
- Soft drinks production facilities
- Chemical manufacturing & pharmaceutical plants
- Power house, workshops, car parks

## Advantages

- Durable, low maintenance costs.
- Proven against a wide range of industrial chemicals.
- Solvent free, - no odour during application.
- Slip resistant - different textures available to suit conditions to avoid slipping.
- Non-toxic, suitable for food processing plant.
- Available in a wide range of colours to improve the working environment and identify slip hazard areas.

## Description

Expanfloor\* FC150 is a solvent free system based on epoxy resins and curing agents specially selected for their ability to withstand chemical attack. The system consists of pre-weighed base & hardener components and a Expanfloor colour pack, all of which contain reactive elements that are essential to the installation of the system.

A slip resistant texture can be provided by the use of one of a range of Expanfloor Anti-slip Grains which have been carefully graded to ensure an even texture

The product is available in a range of standard colours and is also available in a clear grade.

## Technical support

Expanchem Fospak 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 world.

## Design criteria

Expanfloor\* FC150 is applied as a floor coating system comprising of two top coats (depending on the substrate conditions a primer might be required), each top coat to be a minimum of 200 microns thick. To provide a slip resistant texture, the first top coat can be dressed with Expanfloor Anti-slip Grains.

## Specification

The epoxy resin floor coating shall be Expanfloor\* FC150 from Expanchem Fospak. The total dry film thickness of the coating shall be a minimum of 400 microns and shall have a compressive strength of 70 N/mm<sup>2</sup>, flexural strength of 40 N/mm<sup>2</sup> and a tensile strength of 14 N/mm<sup>2</sup>. The floor shall be prepared and the coating mixed and applied in accordance with the manufacturer's current data sheet.

## Properties

The values given below are average figures achieved in laboratory tests at 20°C and 30°C. Actual values obtained on site may show minor variations from those quoted.

	@ 20°C	@ 30°C
<b>Pot life*</b>	: 40 mins	20 mins
<b>Time between coats</b>	: 36 hrs	15 hrs
<b>Initial hardness</b>	: 30 hrs	16 hrs
<b>Full cure</b>	: 24 hrs	18 hrs
<b>Light traffic use after</b>	: 24 hrs	18 hrs
<b>Full traffic use after</b>	: 48 hrs	24 hrs
<b>Resistance to chemical</b>	: 7 days	5 days
<b>Compressive</b>	: 70 N/mm <sup>2</sup>	
<b>Flexural strength</b>	: 40 N/mm <sup>2</sup>	
<b>Tensile strength</b>	: 20 N/mm <sup>2</sup>	
<b>Water absorption (ASTM D570-98)</b>	: <0.06 %	
<b>Shore D Hardness (ASTM D2240:1996)</b>	: 77 - 85	

Note: After the pot life has expired, the material, although not hardened, increases in viscosity and the characteristics of the product change. Excess material should be discarded after this point.



CONSTRUCTION CHEMISTRY

## Chemical resistance

Fully cured Expanfloor\* FC150 samples have been tested in a wide range of aggressive chemicals commonly found in industrial environments. Tests were performed in accordance to ASTM D 543 standards over 168 hours (7 days at 23°C±2)

### Acids

<b>Lactic acid 10%</b>	: Resistant
<b>Citric acid 10%</b>	: Resistant
<b>Acetic acid 10%</b>	: Resistant
<b>Hydrochloric acid 50%</b>	: Resistant
<b>Sulphuric acid 50%</b>	: Resistant
<b>Nitric acid 25%</b>	: Resistant

### Alkalis

<b>Sodium hydroxide 50%</b>	: Resistant
<b>Ammonia (0.880) 10%</b>	: Resistant

### Solvents

<b>Petrol</b>	: Resistant
<b>Oil</b>	: Resistant
<b>Kerosene</b>	: Resistant
<b>Butanol</b>	: Resistant
<b>Skydrol</b>	: Resistant
<b>Industrial Methylated spirits</b>	: Resistant

### Others

<b>Saturated sugar solution</b>	: Resistant
<b>Urea (saturated)</b>	: Resistant
<b>Bleach 5%</b>	: Resistant

All the above properties have been determined by laboratory controlled tests and are in excess of those expected in practice. Nevertheless, success in use will be determined by the implementation of good housekeeping practices.

## Instructions for use

### Surface preparation

It is essential that Expanfloor\* FC150 is applied to sound, clean, dry substrates in order to achieve maximum adhesion between the floor coating and substrate. Because Expanfloor\* FC150 is a relatively thin coating, the substrate must be fine textured. Any surface irregularities may show through causing excessive wear on high spots and changing the perceived colour of the coating.

## New concrete floors

These should normally have been placed for at least 28 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 the use of mechanical methods. Dust and other debris should then be removed by vacuum cleaning.

## Old concrete floors

A sound, clean substrate is essential to achieve maximum adhesion. As for new concrete floors dry removal of laitance by use of mechanical methods is preferable. Oil and grease penetration should be removed by the use of a proprietary chemical degreaser or by hot compressed air treatment. Any damaged areas or surface irregularities should be repaired using one of the Expanmortar\* range of products.

## Steel substrates

Steel substrates should be grit blasted to surface quality SA 2½(BS 4232: Second Quality) and primed with a single coat of Expanprime\* 28.

## Priming

Priming is not normally required provided the substrate is sound, untreated and good quality nonporous concrete. If any doubts exist of the quality of the concrete, or if it is porous it should be primed with Expanprime\* 25. Contact the local Expanchem Fospak office for advice.

Expanprime\* 25 should be mixed in the proportions supplied. Add the entire contents of the hardener can to the base can. When thoroughly mixed, preferably using a slow speed drill and paddle, the primer should be applied in a thin continuous film, using rollers or stiff brushes. Work the primer well into the surface of the concrete taking care to avoid ponding or over application.

The primer should be left to achieve a tack-free condition before applying the top coat. A second coat of primer may be required if the substrate is excessively porous.

## Mixing

The base and hardener components of Expanfloor\* FC150 should be thoroughly stirred before the two are mixed together.

The entire contents of the hardener container should be poured into the base container and the two materials mixed thoroughly for at least 3 minutes. The use of a heavy-duty slow speed, flameproof or air driven drill fitted with a Mixing Paddle is desirable. Mix these components in the quantities supplied taking care to ensure all containers are scraped clean. Do not add solvent thinners at any time.



CONSTRUCTION CHEMISTRY

### Standard application

The first coat of Expanfloor\* FC150 should be applied using a good quality medium haired pile roller, suitable for epoxy application, or squeegee to achieve a continuous coating. Ensure that loose hairs on the roller are removed before use. A minimum film thickness of 200 microns should be applied. This can be increased where specifications demand.

When the base coat has reached initial cure (12 hours @ 20°C or 5 hours at 35°C). The top coat can be applied by medium haired roller, at minimum film thickness of 200 microns. Care should be taken to ensure that a continuous film is achieved.

### Anti-slip application

If a slip resistant texture is required, the base coat shall be applied as per the standard application, but at a minimum film thickness of 250 microns. The base coat should then be dressed with the chosen Expanfloor Anti-slip Grain. This should be done as soon as possible after laying. The recommended procedure is to completely blind the base coat i.e. apply excess dressing aggregate to completely obliterate the base coating.

Alternatively, the Expanfloor Anti-slip Grains can be broadcast in a light random dressing to provide a less dense finish.

When the base coat has reached initial cure (12 hours @ 20°C or 5 hours at 35°C), the excess aggregate should be vacuum cleaned from the surface.

The top coat can now be applied by medium haired roller, at a rate of 4.0m<sup>2</sup>/liter. Care should be taken to ensure that a continuous film is achieved and the rough surface, caused by the aggregate, is completely sealed. This top coat must be applied within 36 hours @ 20°C (15 hours @ 35°C) of the application of the first coat.

### Expansion joints

Expansion joints in the existing substrate must be retained and continued through the Expanfloor\* FC150 topping. Expanchem Fospak have a range of joint sealants specifically designed for flooring, contact local Expanchem Fospak office for advice.

### Cleaning

Expanfloor\* FC150 should be removed from tools and equipment with Expanchem Solvent 102 immediately after use. Hardened material can only be removed mechanically.

### Limitations

Expanfloor\* FC150 should not be applied onto surfaces known to or are likely to suffer from rising dampness or have a relative humidity greater than 75% as measured in accordance with BS 8203 Appendix A or by a Hammond concrete/mortar moisture tester type COCO.

Expanchem does not recommend acid etching as a method of floor preparation. If used, the method should be approved by the project consultant.

Expanfloor\* FC150 should not be applied to asphalt floors or PVC tiles or sheet. In common with all epoxy materials some slight shade changes may be experienced over the long term when placed in adverse exposure conditions. Any such change in shade is not regarded as being detrimental to performance.

Expanfloor\* FC150 should not be installed at temperatures below 5°C.

### Supply

<b>Expanfloor* FC150 (Including colour pack)</b>	: 2.50 and 5 Kg. Packs
<b>Expanprime 28</b>	: 1 and 2.50 Kg. Packs
<b>Expanprime 25</b>	: 1 and 2.50 Kg. Packs
<b>Expanfloor Anti-slip Grains</b>	: 20 kg bags
<b>Expanchem Solvent 102</b>	: 5 liter cans

### Standard coverage

<b>Expanfloor* FC150 (base coat)</b>	: 3 m <sup>2</sup> / Kg. @ 200 microns wft
<b>Expanfloor* FC150 (top coat)</b>	: 3 m <sup>2</sup> / Kg. @ 200 microns wft

### Coverage – Anti-slip (approx.)

(For medium texture)

<b>Expanprime 25</b>	: 5 – 7 m <sup>2</sup> / Kg.
<b>Expanfloor* FC150 (base coat)</b>	: 2.50 m <sup>2</sup> / Kg. @ 250 microns wft
<b>Anti-slip Grain No 2*</b>	: 1.25-3 m <sup>2</sup> / Kg
<b>Expanfloor* FC150 (top coat)</b>	: 2.50 m <sup>2</sup> / Kg.
<b>Estimated system thickness</b>	: 1.5 - 2.0mm

(For fine texture)

<b>Expanprime 25</b>	: 5 – 7 m <sup>2</sup> / Kg.
<b>Expanfloor* FC150 (base coat)</b>	: 2.50m <sup>2</sup> / Kg. @ 250 microns wft
<b>Anti-slip Grain No 3*</b>	: 1.25 - 3.5 m <sup>2</sup> / Kg.
<b>Expanfloor* FC150 (top coat)</b>	: 2.50 m <sup>2</sup> / Kg.
<b>Estimated system thickness</b>	: 0.75 - 1.5mm



CONSTRUCTION CHEMISTRY

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\* FC150, Expanprime\* 25 Expanprime\* 28 and Expanchem Solvent 102 have a shelf life of 12 months, if kept in a dry store between 5°C and 30°C in the original, unopened packs.

### Storage conditions

All products should be stored in accordance with local regulations.

### Precautions

### Health and safety

Expanfloor\* FC150, Expanprime 28 and Expanchem Solvent 102 should not come into contact with skin and eyes or be swallowed. Ensure adequate ventilation and avoid inhalation of vapours. Some people are sensitive to resins, hardeners and solvents. Wear suitable protective clothing, gloves, and eye protection.

If working in confined areas, suitable respiratory protective equipment must be used. The use of barrier creams provides additional skin protection. In case of contact with skin, rinse with plenty of clean water, then cleanse with soap and water. Do not use solvent. 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\* FC150 and Expanprime 28 are flammable. Keep away from sources of ignition. No smoking. In the event of fire, extinguish with CO<sub>2</sub> or foam. Do not use a water jet.

### Flash points

Expanfloor* FC150	: 23°C
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Expanprime* 25	: 25°C
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Expanprime 28	: 25°C
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Expanchem Solvent 102	: 33°C
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### Disposal

Spillages of component products should be absorbed onto earth, sand or other inert material and transferred to a suitable vessel. Disposal of such spillages or empty packaging should be in accordance with local waste disposal authority regulations. For further information, refer to the Product Material Safety Data Sheet.

\* Denotes the trademark registered.

## REGIONAL SALES OFFICES IN PAKISTAN:

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