



CONSTRUCTION CHEMISTRY

Expanfloor* Dissipative*

Epoxy resin static dissipative floor with resistance between 1×10^6 and 1×10^9 ohms

Uses

Expanfloor* Dissipative is suitable for use in areas where a static dissipative floor with a resistance between 1×10^6 and 1×10^9 ohms is required as a measure to control static electricity. Typical areas of use include electronics manufacture and assembly, computer rooms and clean rooms.

For conductive floors with different electrical characteristics, the use of Expanfloor* Conductive should be considered (see separate datasheet).

Advantages

- Static control - provides an effective passage to earth
- Seamless - smooth, hygienic surface which is easily cleaned, unlike vinyl tiles which are not seamless
- Durable - long term performance, accepts fork lift traffic, more durable than vinyl tiles
- Attractive - wide range of colours enhances working environment
- Resists most chemical spillage



Standards compliance

Expanfloor* Dissipative has a surface resistance between 1×10^6 and 1×10^9 ohms when measured in accordance with ASTM F150- 78. Expanfloor* Dissipative also satisfies BS 2050.

Description

Expanfloor* Dissipative is a 2 mm thick epoxy resin floor topping with controlled dissipative properties.

The system comprises an epoxy primer, a conductive epoxy undercoat and a 2 mm thick epoxy top coat. It is available in a wide range of attractive colours and provides a highly durable, chemically resistant and seamless floor.

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, Expanchem Fospak offers a technical support package to specifiers, end users and contractors, as well as on-site technical assistance in locations all over the world.

Design criteria

Expanfloor* Dissipative is designed for application at a nominal thickness of 2 mm. It should be installed where a static dissipative floor with resistance between 1×10^6 and 1×10^9 ohms is required.

Expanfloor* Dissipative is designed to dissipate static electricity from the source to earth.

Substrates should be dry and should not suffer, or be likely to suffer, from rising damp. If necessary, suitable damp-proof membranes should be installed to prevent this. Substrates should not have a relative humidity greater than 75% at the time of installation.

Properties

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



Physical properties

Compressive strength (BS 6319)	: 55 N/mm ²
Flexural strength (BS 6319)	: 35 N/mm ²
Tensile strength (BS 6319)	: 16 N/mm ²
Abrasion resistance Fed. Spec. 141A (CS 17 wheel, 1000 g, 1000 cycles)	90 mg weight loss 0.03 mm depth of wear
Impact resistance (BS 8204 Pt 1)	: 0.2 mm indentation
Cure time -	20°C 35°C
Foot traffic	: 24 hours 18 hours
Vehicular traffic	: 48 hours 36 hours
Electrical properties	
Surface resistance (ASTM F150-78)	: 1 x 10 ⁶ to 1 X 10 ⁹ ohms
Bulk resistance (DIN 51953)	: 1 x 10 ⁶ to 1 X 10 ⁹ ohms
(ASTM F150-78)	: 1 x 10 ⁶ to 1 X 10 ⁹ ohms

Chemical properties

Expanfloor* Dissipative provides excellent resistance to a wide range of industrial chemicals.

For details of specific chemical resistance, consult the local Expanchem Fospak office.

Maintenance

The service life of a floor can be considerably extended by good housekeeping and regular cleaning. The ability of a dissipative floor to effectively control static electricity can be affected by a surface layer of dirt, grease or other residue.

Expanfloor* Dissipative floors should not be treated with waxes or polishes. For specific floor maintenance schedules consult the local Expanchem Fospak office.

Specification clauses

Static dissipative epoxy floor topping

Where mentioned in the contract documents, the designated floor areas shall be surfaced with Expanfloor* Dissipative, a 2 mm thick flow-applied epoxy resin floor topping. The topping shall provide a surface and bulk resistance between 1 x 10⁶ and 1 x 10⁹ ohms when tested to DIN 51953 and ASTM F150-78 respectively.

When tested to BS 6319, it shall achieve a compressive strength of 55 N/mm², a flexural strength of 35 N/mm² and a tensile strength of 16 N/mm². When tested to Federal Specification 141 A it shall exhibit a weight loss no greater than 97 mg and depth of wear no greater than 0.03 mm after 1000 cycles using a CS 17 wheel of 1000 g weight. When tested to BS 8204, Pt 1, the floor shall exhibit an indentation after impact no greater than 0.2 mm. At 20°C, it shall be capable of accepting foot traffic at 24 hours and vehicular traffic after 48 hours.

Mixing

Top coat

Mixing should be carried out using either a forced action mixer; or a heavy duty, slow-speed drill fitted with Expanchem mixing paddle. All such equipment should be of a type and capacity approved by Expanchem Fospak. The components should be mixed in a suitably sized mixing vessel.

The colour pack should be added to the base container and mixed for 15-30 seconds, until homogeneous. Then add the hardener and mix for further 30 seconds, until an even colour and texture is obtained.

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.

Under coat

The individual components of Expanfloor* Dissipative should be thoroughly stirred before the two are mixed together. The entire contents of the base container should be poured into the hardener container and the two materials mixed thoroughly for at least 3 minutes. The use of a heavy duty slow speed drill fitted with a Expanchem Mixing Paddle is desirable.



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Application instructions

Expanfloor* Dissipative should be installed by specialist applicators who must follow the Product Application Guide. Expanchem Fospak works with a network of such applicators who have been fully trained in the correct installation procedures. The following steps are involved which would normally take place over a 3 to 5 day period.

Thoroughly prepare the floor surface. Correct surface preparation helps to achieve the necessary adhesive bond between the substrate and the new floor.

All existing expansion or movement joints should be followed through the new floor surface. Joints should be cleaned and prepared.

Apply Expanprime* 25 and allow to cure. Porous substrates may require two coats of primer.

Install joint and earthing connections in full accordance with Expanchem Fospak's Product Application Guide.

Apply Expanfloor* Dissipative undercoat. This provides a dissipative passage to earth and correct application and strict adherence to coverage rates are critical to the final electrical properties of the completed floor.

Apply the Expanfloor* Dissipative topping. The material is poured on to the undercoat and spread with a steel trowel to achieve a 2mm seamless topping. Allow to harden.

Install the appropriate Expanchem Fospak joint sealant. This will depend on the anticipated movement accommodation factor and the end use of the new floor. For further advice, consult the local Expanchem Fospak office.

Installation time will vary with site conditions, the size of the area involved and the system chosen.

Cleaning

Expanfloor* Dissipative undercoat should be removed from tools and equipment with clean water immediately after use.

Expanprime* 25 and Expanfloor* Dissipative top coat should be removed from tools and equipment using Expanchem Solvent 102. Hardened material can only be removed mechanically.

Limitations

Expanfloor* Dissipative should not be applied to slabs less than 28 days old or surfaces known to, or be likely to suffer from, rising damp conditions or have a relative humidity greater than 75% when measured in accordance with BS 8203: 1987, Appendix A or by a Vaisalat hermo hygrometer type HM 131.

Expanfloor* Dissipative should not be applied to asphalt, unmodified sand/cement screeds, PVC tiles or vinyl.

For information on other substrates, consult the local Expanchem Fospak office.

Expanfloor* Dissipative should not be installed at temperatures below 10°C.

Estimating

Supply

Expanfloor* Dissipative is supplied in packs as follows-

Expanfloor* Dissipative top coat : 15 Litres

Expanfloor* Dissipative undercoat : 4.5 Litres

Expanprime* 25 : 1 and 4 Litre packs.

Expanchem Solvent 102 : 5 Litre Drums

Storage

Shelf life

Expanfloor* Dissipative products and Expanprime* 25 have a shelf life of 12 months if kept in a dry store in the original, unopened packs. Expanprime* 25 and Expanprime* 30 also have a shelf life of 12 months if kept in a dry store in the original, unopened packs.

Storage conditions

Store in dry conditions between 5°C and 30°C, away from sources of heat and naked flames, in the original, unopened packs. If stored at high temperatures the shelf life may be reduced.



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Precautions

Health and safety

Expanfloor* Dissipative, Expanfloor* Dissipative undercoat, Expanprime* 25 and Solvent 102 should not come into contact with the skin and eyes, or be swallowed. Ensure adequate ventilation and avoid inhalation of vapors. 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 provide 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* Dissipative base component and Expanfloor* Dissipative undercoat, are non-flammable.

Expanfloor* Dissipative hardener component, Expanprime* 25 and Expanchem Solvent 102 are flammable. Keep away from sources-of ignition. No smoking. In the event of fire extinguish with CO² or foam. Do not use a water jet.

Flash points

Expanfloor* Dissipative hardener : 39°C

Expanprime* 25 : 59°C

Expanchem Solvent 102 : 33°C

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 regulations.

For further information, refer to the 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
- specialized 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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