

TECFLOOR® ET 2000

2.0 mm Thick, Self-Leveling, Epoxy Resin Based Floor Topping



TECFLOOR® ET 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.

Uses

TECFLOOR® ET 2000 is designed for use in a 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
- Kitchens
- Plant rooms
- Light Industrial Plants

Benefits

- **Fast application** - Minimizes downtime
- **Chemically resistant**- good resistance to a wide range of chemicals
- **Durable**- Good abrasion resistance
- **Hygienic**- provides a dense, impervious, seamless floor surface which is easily cleanable
- **Attractive**- available in a wide range of colours to enhance the working environment.

Technical Support

Thermax 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 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 country.

Specification

Self-leveling, Flow-applied Epoxy Floor Topping

The designated floor areas shall be surfaced with TECFLOOR® ET 2000, a 2.0mm thick floor-applied epoxy resin floor topping. The topping shall achieve a compressive strength of 50 N/mm² and a flexural strength of 30 N/mm² at 7 days when tested to BS 6319. At 35°C, it shall be capable of accepting foot traffic at 24 hours and vehicular traffic at 48 hours.

Design Criteria

TECFLOOR® ET 2000 is designed for application at a nominal thickness of between 2.0mm. Substrates should be dry and not suffer, or be likely to suffer, from rising dampness. 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 achieved in laboratory tests. Actual values obtained on site may show minor variations from those quoted.

| | | |
|---|--|---------------|
| Pot Life | 40-60 min @ 30°C | |
| Complete Cure | 7 days @ 23°C | 5 days @ 35°C |
| Compressive Strength 7 Days (BS 6319 Pt. 2) | 50 N/mm ² | |
| Flexural Strength 7 Days (BS 6319 Pt. 3) | 30 N/mm ² | |
| Tensile Strength 7 days (BS 6319 Pt. 7) | 18 N/mm ² | |
| Adhesion Strength (ASTM D4541) | 1.5 N/mm ² (Concrete failure) | |
| Shore D Hardness (ASTM D 2240) | 80 | |
| Abrasion Resistance (ASTM D 4060) | 230 mg/1000 cycles | |

Chemical Resistance

TECFLOOR® ET 2000 is resistant to spillages of the following, when tested in accordance with ASTM D1308 Cl. 3.1.2.

| Acids (m/v) | |
|--------------------------------------|-----------|
| HCl, 18% | Resistant |
| H ₂ SO ₄ , 25% | Discolors |
| Citric Acid, 25% | Resistant |
| Acetic Acid, 10% | Resistant |

| Alkalis (m/v) | |
|---------------|-----------|
| NaOH, 50% | Resistant |
| KOH, 50% | Resistant |

| Solvents & Organics | |
|---------------------|-----------|
| Petrol | Resistant |
| Skydrol | Resistant |
| Diesel | Resistant |
| Brake Fluid | Resistant |
| Engine Oil | Resistant |
| Ethylene Glycol | Resistant |
| Propylene Glycol | Resistant |
| Kerosene | Resistant |

| Aqueous Solutions | |
|-------------------------------|-----------|
| Water (Tap/Distilled/Potable) | Resistant |
| Sodium Chloride (Saturated) | Resistant |
| Urea Solution (Saturated) | Resistant |

For details of other chemicals, please contact your local Thermax office. TECFLOOR[®] ET 2000 has good resistance at ambient temperatures to a wide range of other 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.

Instructions for Use

TECFLOOR[®] ET 2000 should be applied by specialist contractors who must follow the procedures laid down in the Product Method Statement. Thermax works with a network of such applicators who have been trained in the correct installation procedures. The following steps are involved in the application which would normally take place over a 2 to 3 day period.

Surface Preparation

It is essential that TECFLOOR[®] ET 2000 is applied to sound, clean and dry surfaces in order that maximum bond strength is achieved between the substrate and the flooring system. All dust and debris should be removed prior to application of the product or its primer.

New Concrete Floors

New concrete, or cementitious substrates, should be at least 28 days old and have a moisture content not exceeding 5%. Laitance deposits on new concrete are best removed by light grit blasting, mechanical scabbling or grinding.

Old Concrete Floors

Existing concrete floors which require refurbishment must be prepared to ensure a strong adhesive bond between the flooring system and the existing floor. Mechanical cleaning methods are strongly recommended particularly where heavy contamination by oil and grease has occurred or existing coatings are present. To ensure adhesion, all contamination should be removed. Proprietary chemical degreaser may be used on small areas of light contamination only.

Steel Surfaces

Steel surfaces should be degreased and grit blasted to SA2½ finish immediately prior to application. The prepared surface should then be treated with one coat of TECFLOOR[®] PR.

Priming

All surfaces to be treated with TECFLOOR[®] ET 2000 should be primed with TECFLOOR[®] PR designed for maximum absorption and adhesion to concrete substrates.

Add the entire contents of the hardener tin to the base tin 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.

Allow the primer to dry (see table below) before proceeding to the next stage, do not proceed while the primer is 'tacky' as this will lead to unsightly marks in 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 (see table below).

The 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.

| | |
|------|------------|
| 20°C | 6-24 hours |
| 30°C | 3-16 hours |
| 40°C | 2-10 hours |

Mixing

TECFLOOR® ET 2000 flooring is supplied in four pre-weighed packs (Resin, hardener, filler & Pigment) which are ready for immediate on-site use. 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. All such equipment should be of a type and capacity approved by Thermax. 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 homogenous material is obtained.

Application

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 - see “**Properties**” section.

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 - consult the local Thermax office for more details.

Cleaning

TECFLOOR® PR and TECFLOOR® ET 2000 should be removed from tools and equipment with Cleaning Solution immediately after use. Hardened material can only be removed mechanically.

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 50°C.

Limitations

- TECFLOOR® ET 2000 should not be applied on to surfaces known to, or likely to suffer from, rising dampness, potential osmosis problems or have a relative humidity greater than 75% as measured in accordance with BS 8203 Appendix A, or Protimeter Thermohygrometer.
- In areas where significant thermal shock is likely to occur, for e.g. cold rooms etc. please consult the local Thermax office.
- TECFLOOR® ET 2000 should not be installed at temperatures below 10°C or above 45°C. If in doubt, or for application outside these temperature limits, please consult your nearest Thermax office.
- TECFLOOR® ET 2000 should not be applied to asphalt, weak or friable concrete, unmodified sand/cement screeds, PVC tiles or sheet or substrates known to move substantially e.g. steel walkways.
- In common with all epoxy materials some light 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.

Health and Safety Instructions

TECFLOOR[®] ET 2000, TECFLOOR[®] PR and Cleaning Solution should not come in contact with the 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.

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

TECFLOOR[®] PR and Cleaning Solution 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.

TECFLOOR[®] ET 2000 is non-flammable.

Flash Points

| | |
|--------------------------|------|
| TECFLOOR [®] PR | 30°C |
| Cleaning Solution | 33°C |

Disposal

Spillages of component products should be absorbed on to 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.

Storage

Shelf Life

TECFLOOR[®] ET 2000 has a shelf life of 12 months if kept in warehouse conditions at 30°C in the original, unopened pack.

Storage Conditions

Store in dry conditions between 5°C and 30°C.

It should be kept away from sources of heat and naked flames, in the original, unopened packs, If stored at high temperatures the shelf life will be reduced.

Packing

TECFLOOR[®] ET 2000: 15 ltr pack

TECFLOOR[®] PR: 1 & 4 ltr packs

Cleaning Solution: 5 & 20 ltr pack

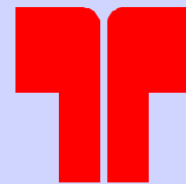
Coverage

TECFLOOR[®] ET 2000: 7.5 m²/pack @ 2 mm thickness

TECFLOOR[®] PR: 5.5 - 6.5 m²/ltr

Note: The coverage figures given are theoretical - due to wastage factors and the variety and nature of possible substrates, practical coverage figures will be reduced Typically, an additional 10% should be allowed for surface irregularities and wastage although this will vary with site conditions.

TECFLOOR[®] ET 2000



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