



## TECHNICAL DATA SHEET

NOV 2025 Ver 01 - PALTB 25.11.25



### DEEP FILL THICK-BED FIBRE REINFORCED FLOOR LEVELLING COMPOUND

- Level from 2-80mm in a single pour
- Foot traffic > 3 hours | Tiling > 8 hours
- Vinyl coverings > 24 hours
- High early strength
- Ideal for use with underfloor heating systems

#### DESCRIPTION

**PALACE THICK-BED** floor leveller is a polymer-modified, fibre-reinforced, cement-based internal sub-floor smoothing underlayment, giving a consistently level screed from 2mm up to 80mm in one single application, which is then able to receive foot traffic after 3 hours. **PALACE THICK-BED** floor leveller is mixed with water to provide a smooth, flat finish over a comprehensive range of typically encountered floor surfaces such as tamped or worn concrete and sand/cement floor screeds as well as mastic asphalt, anhydrite screeds,\*flooring grade plywood, tile backer boards, existing tiles and similar dense impermeable surfaces. It is particularly suited to heated sub-floors where its thick-bed is usually sufficient to accommodate most types of wire or pipe fed heating systems.

#### TECHNICAL DATA

UNIT SIZE	20kg
COLOUR	Grey
FOOT TRAFFIC	3 hours*
READY FOR TILING	4 hours for a 3mm layer*
WORKING TIME	30 mins*
INITIAL SET TIME	1 hour @ 20°C*
APPLICATION TEMPERATURES	5 - 25°C
BED DEPTH THICKNESS	Up to 80mm
CLASSIFICATION	CT C25-F6

\* Dependent on temperature, substrate and site conditions

EN ISO 45001



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## SURFACE PREPARATION

The receiving floor surface must be hard, sound and free from grease, dust, loose coatings, floor polish and friable deleterious materials such as plaster spillages & loose flaky paint. Should any adhesive & coating residue remain, these must be strong, sound and well adhered to the substrate. Tests should be carried out to determine if they are "moisture affected" and if so, they must be removed as necessary. Prior to laying **PALACE THICK-BED** as a surface to receive floor coverings, the base concrete or sand/cement screed should be tested to confirm that it has had sufficient time to dry out to reach a consistent moisture reading of <75% R.H. (< 0.5% residual moisture content) - tested as per BS 8203:2017 - Annex B. Where it is not known whether an effective structural DPM is in place, or where the above moisture test results show values in excess of 75% R.H. (or > 0.5% residual moisture content), then a liquid damp-proof membrane such as **PALACE 1-COAT DPM** should be applied onto the cleanly prepared concrete sub-base, to ensure protection against damp. Especially where any "moisture sensitive" floor coverings will be laid. **PALACE THICK-BED** will bond readily to most solid, well prepared masonry sub-floors. The application of a primer on porous surfaces is advised to reduce the risk of pin holes in the level finish, whilst also maximising flow time & adhesion strength. **PALACE MULTI-PRIME** diluted 1:3 can be used for this purpose. Where Anhydrite Screed (Calcium Sulphate) based floors are being over-laid, the application of two coats of **PALACE MULTI-PRIME** (see Technical Data Sheet of **PALACE MULTI-PRIME** for more information) will be necessary to form a barrier & avoid any adverse interaction between the cement-based **PALACE THICK-BED** and the gypsum-based anhydrite screed beneath it.

## MIXING & APPLICATION

Add 4.0 to 4.2 litres of water to a clean mixing bucket and then gradually add all the powder from the 20kg sack of **PALACE THICK-BED** whilst stirring with an electric drill mixer until a smooth, creamy, lump free & fluid consistency is reached. The material should be mixed for a minimum of 2 minutes after the last of the powder is added and always ensure the mixing head is below the surface to minimise air entrapment. Pour the freshly mixed levelling compound onto the prepared surface and use a straight edged steel trowel / float to ensure the compound is evenly spread out over all areas and corners. **PALACE THICK-BED** will flow across a flat surface and smooth out trowel marks for about 20 to 30 minutes before it begins to firm up. Clean all tools immediately after use with water.

## COVERAGE

**PALACE THICK-BED** when applied over a smooth even non-absorbent floor will cover at a rate of up to 4.0M<sup>2</sup> per unit mix of a 20kg bag & 4.0 to 4.2 litres of water when laid as a 3mm layer. Setting and hardening times will vary depending on temperature and ventilation and will be shortened at high temperatures and extended at low temperatures. Coverage rates are for guidance and are based on a smooth non-absorbent substrate, since surface porosity, texture and preparation efficiency can all affect the eventual consumption of product.

## PRECAUTIONS

Do not allow the mixed material to stand for a prolonged period in the bucket as this will shorten its flow & open time. The use of a spiked roller will assist in removing air holes and help achieve a consistent smooth surface finish. Only spike roll whilst the product is still in its fluid state, usually for about 10 minutes after initial application. The maximum application thickness for this product is up to a depth of 80mm. In ideal conditions (20°C), it will remain flowable for 20 minutes and then, after about 3 to 4 hours, the laid screed will have reached initial set, before it is ready to receive the final floor covering after a minimum of 8 hours, depending on site conditions and floor covering to be laid (4 hours for tiles).

## STORAGE

Keep the product sealed until use in dry, well ventilated conditions at an ambient temperature and away from all sources of damp. When kept in its original sealed state in a permanently dry environment, this product will retain a shelf life of up to 12 months from date of manufacture. Should further technical information be required, contact the Palace Technical helpline on 0151 486 6101.

## SPECIFICATION

**PALACE THICK-BED** is recommended for application over a broad range of floor surfaces such as tamped or worn concrete and sand/cement floor screeds as well as the more challenging non-porous floors such as mastic asphalt, plywood and dense impermeable surfaces. **PALACE THICK-BED** provides a smooth finish making it a suitable surface for over-laying carpet underlay, vinyl tiles, wood laminates and other resilient floor coverings. (Consult **PALACE MULTI-PRIME** tech data sheet).

*See below for a range of substrate specifications...*

### \*ANHYDRITE [CALCIUM SULPHATE] BASED SCREEDS

Mechanically remove any loose material / laitance to give a clean, dry, solid dust-free surface prior to the application of **PALACE MULTI-PRIME** (first coat diluted 1:1 then 2nd coat neat) to ensure a protective barrier is established. Drying times of this class of screed can be at a rate of 1mm screed depth per day (2mm per day is > 40mm deep). Anhydrite screeds which already incorporate pre-installed underfloor heating systems can be use this heat source to reduce drying times, along with de-humidifiers operating in the room, which will also speed up the drying process. The relative humidity (%RH) test result in the subfloor should be less than 75% RH, (residual moisture content < 0.5%) however where this cannot be achieved within a manageable period of time the application of a Damp Proof Membrane (**1-COAT DPM**) is recommended to be applied after the **MULTI-PRIME** barrier preparation step (above) has already been completed.

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## FLOORING GRADE ASPHALT

New asphalt must be left for a minimum of 7 days and degreased to remove surface bloom. If cracks are visible repair will be necessary to give a strong subfloor. Check the floor is in good condition and that there are no signs of de-bonding and/or hollowness. Recently asphalted floors that are smooth & impermeable will benefit from a slurry coat of **PALACE MULTI-PRIME** mixed 1:1 with neat cement and blinded with sand to improve the bond & key.

## SAND/CEMENT SCREEDS

Recently installed sand/cement screeds must be allowed a minimum of 4 weeks to dry sufficiently. Ensure new sand/cement screed is confirmed dry via consistent moisture measurements across the whole surface. Sand/cement screeds must have a moisture reading of less than 75% relative humidity (RH) before any levelling compound can be applied over it. Remove any laitance from the surface mechanically and ensure that any other contaminants are cleared from the surface. Ideally by a vacuum cleaner. On porous or worn screeds, prime the surface with **PALACE MULTI-PRIME** diluted 1:3 parts water and then allow to dry.

## NEW CONCRETE

Floor slabs must be allowed at least 6 weeks drying time equivalent to 1 day per mm up to an overall depth of 50mm and 2 days per mm for anything above 50mm. Ensure new concrete is tested via consistent moisture readings across the whole surface whereby a reading of less than 75% relative humidity (RH) is advised before work can commence. Remove any laitance from the surface mechanically and ensure that oil, grease curing agents and any other friable materials are removed ideally by vacuum. If the surface is relatively porous prime the surface with **PALACE MULTI-PRIME** diluted as 1:3 parts water and allow to dry.

## DENSE OR POWER FLOATED CONCRETE

Ensure the surface has been allowed 7 days to cure. Ensure new concrete is confirmed dry via consistent moisture readings across the whole surface. Concrete screeds must have a reading of less than 75% relative humidity (RH) is advised before proceeding to over-lay. Remove any laitance or friable top finish from the surface mechanically whilst scoring & etching the surface before taking up all remaining dust residues by vacuum.

## PLYWOOD OVERLAY (INTERNAL ONLY)

Check that plywood overlay is flooring grade compliant to EN 314:2 Class 3 Exterior before applying **PALACE THICK-BED** and ensure that new or existing boards are pre-conditioned to the environment in which they will be used. Plywood sheets must be a thickness of 15mm minimum & screwed to a secure, stable substrate at 150mm centres. Ensure there is sufficient ventilation beneath substrate and that the plywood has been fitted competently and will take the weight of the leveller, adhesive and the final anticipated in-use loading without any risk or sign of deflection. It should be dry and free of any contaminants, loose dust or dirt. Existing plywood showing signs of wear or abrasion will require priming with

**PALACE MULTI-PRIME** diluted 1:3 with water. New, uncontaminated plywood does not require priming prior to over-laying with **PALACE THICK-BED**.

## COATED WITH A SURFACE DAMP PROOF MEMBRANE

Damp-Proof Membrane coatings such as **PALACE 1-COAT DPM** should be treated as non-absorbent substrates and applications of **PALACE THICK-BED** should be completed within 12 hours of the DPM being first applied (Consult **PALACE 1-COAT DPM** technical data sheet). Sand blinding the freshly applied DPM will assist with improving the bond to over-laid screeds.

## UNDERFLOOR HEATING SYSTEMS

Heating wires must be securely fixed to a sound consistent substrate such as cement backer board. **PALACE THICK-BED** should then be applied at a thickness which allows for a clearance above the elements of no less than 5mm depth of levelling compound to ensure a smooth even finish will be attained prior to laying the finished decorative or resilient surface. Always allow at least three weeks before the heating system is switched on at the lowest setting and then brought up to operating temperature at a rate of 5°C over the following week.

**Note:** When applying this product over any other floor type not specified above, please consult the Palace Technical department on 0151 336 9104 for advice specific to the floor surface, board type or UFH system the product is intended to be applied over. It is not advised to apply floor leveller over any "non-standard" flooring substrate or UFH system without checking its compatibility in advance.

## HEALTH & SAFETY



**DANGER** Contains Portland Cement

**Causes Serious Eye Damage. Causes Skin Irritation.**

**May Cause Respiratory Irritation. May Cause An Allergic Reaction**

Keep out of reach of children. Avoid breathing dust. Wear protective gloves/protective clothing/eye protection or face protection (mask). Use only outdoors or in a well ventilated area. IF IN EYES: rinse cautiously with water for several minutes, remove contact lenses, continue rinsing and immediately call for medical assistance. IF ON SKIN: Wash with plenty of water and soap. Take off contaminated clothing and wash before reuse. If skin irritation or rash occurs seek medical attention. If inhaled, remove victim to fresh air and keep at rest in a position comfortable for breathing. If you feel unwell, call for medical assistance.

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Always ensure that appropriate PPE & overalls are worn when applying this product. Wash hands after use and launder stained clothing. A complete PALACE material safety data sheet is available on request or online at [www.palacechemicals.co.uk](http://www.palacechemicals.co.uk).

## TECHNICAL ADVICE

For advice on tile installation products call the Palace Chemicals Technical Helpline on 0151 336 9104.

## TECHNICAL DATA

<b>COMPRESSIVE STRENGTHS</b> (N/mm <sup>2</sup> - To BS EN 13892-2)	1 day > 8.0 7 days > 21.0 28 days > 28.0
<b>FLEXURAL STRENGTHS</b> (N/mm <sup>2</sup> - To BS EN 13892-2)	1 day > 2.0 7 days > 5.0 28 days > 6.0
<b>COVERAGE</b> 20kg of THICK-BED powder, mixed with 4 litres of water	5.0m <sup>2</sup> at 3mm depth 2.5m <sup>2</sup> at 6mm depth 1.0m <sup>2</sup> at 10mm depth

## DISCLAIMER

The information provided by this Technical Data sheet is given in good faith and is to the best of our current knowledge true and accurate, however it is given without guarantee, as conditions of use and workmanship involved are both beyond our control. All information supplied is subject to the company's terms and conditions of sale, copies of which are available on request.

## APPROVED RECEIVING SURFACES

Concrete  
Sand / cement screed  
Tile backer boards  
Existing ceramic & stone tiles  
Existing vinyl tiles  
Green screed  
Concrete slabs  
Plywood overlay  
Under-floor heating  
Flooring grade asphalt  
Epoxy DPM  
Moisture stable adhesives

### Anhydrite screeds

Must be correctly prepared

## QUALITY & ENVIRONMENT

All Palace Chemicals products are manufactured under a BSI accredited ISO 9001:2015 Quality Management System, along with an ISO 14001 Environmental Management system continually working to reduce our carbon footprint.

## DISCLAIMER

The information provided by this Technical data sheet is given in good faith and is to the best of our current knowledge true and accurate. Our products are guaranteed against defective materials and manufacture and will be replaced or money refunded if the goods do not comply with our promotional literature. We cannot however accept responsibility arising from the application or use of our products because we have no direct or control over where and how our products are stored and used. All products are sold and guaranteed subject to our terms and conditions of sale, copies of which may be obtained on request.

## CLASSIFICATION

<b>UK</b> <b>CA</b>	<b>C</b> <b>€</b>	<b>UK</b> <b>NI</b>
1289 - 21		
Palace Chemicals Ltd, Speke Hall Industrial Estate, Speke, Liverpool L24 1YA		
DoP - 68-45		
<b>EN 13813 : 2002 - CT C25:F6</b> Cementitious screed material not intended as a wearing surface, for use internally in buildings		
Release of corrosive substances - CT		See MSDS
Compressive strength		C25
Flexural strength		F6
Abrasion resistance		NPD
Reaction to fire		Class E



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