



Issue – 01-2/0418

THICK-BED



- **Fast Setting, flexible & Fibre reinforced performance.**
- **High early strength takes foot traffic after 3 hours.**
- **Can be laid from 3mm up to 80mm bed depth.**
- **Ideal for use with underfloor heating systems.**
- **Single-Part, protein free for pump & trowel application.**
- **Receives tiles after 4 hours & vinyl coverings after 24 hours**

Description:

PALACE THICK-BED floor leveller is a polymer-modified, fibre re-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 ready to receive foot traffic after 3 hours. **PALACE THICK-BED** floor leveller incorporates specially blended cements, graded sands, built-in polymer, anti-shrink agents, micro-fibres and organic super-plasticisers and is mixed only with water to give ideal properties 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, Cement Backer boards, existing tiles and similarly dense impermeable surfaces. It is particularly suited when installing heated sub-floors where its' thick-bed is usually sufficient to accommodate most types of heating system.

Surface Preparation:

The receiving floor surface must be hard, sound and free from grease, dust, floor polish and loose deleterious materials such as worn surface coatings, plaster. Any adhesive & coatings residues must first be tested to determine if they are "moisture sensitive" and then removed if necessary. Prior to laying **PALACE THICK-BED** as a surface to receive moisture sensitive 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. (< 3.0% actual residual moisture content – carbide test) - 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 > 3.0% residual moisture content), then a liquid damp-proof membrane such as moisture suppressant **PALACE 1-COAT DPM** should be applied onto the prepared concrete. Where the floor is relatively uneven and provided there is no risk of hydrostatic pressure, **PALACE THICK-BED** floor leveller is moisture tolerant & can be laid directly to the sub-floor giving an easier surface to be over-coated with **PALACE 1-COAT DPM** to ensure protection for any subsequently over-laid "moisture sensitive" floor coverings. **PALACE THICK-BED** can be laid directly to the sub-floor and the flat level finish it provides then gives an easier surface to be over-coated with **PALACE 1-COAT DPM** to ensure protection for subsequently applied moisture sensitive floor coverings.

Specific Substrate Preparation:

Although **PALACE THICK-BED** will bond readily to most solid sub-floors, the application of a primer on highly porous surfaces will reduce the risk of pin holes in the level finish whilst also maximising flow time & adhesion strength. **PALACE MULTI-PRIME** diluted 1 to 3 can be used for this purpose, also where Anhydrite Screed (Calcium Sulphate) based floors are being over-laid, the application of two coats of **MULTI-PRIME** will be necessary to form a barrier & avoid any adverse interaction between the cement-based **PALACE THICK-BED** and the gypsum-based screed beneath it. (Consult **MULTI-PRIME** tech data sheet).

*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 to 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 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 (**PALACE 1-COAT DPM**) is recommended to be applied after the **MULTI-PRIME** barrier preparation step (above) has already been completed.

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.

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 as 1-part primer to 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 part to 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:

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



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EMS 85788

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Floors 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 elements are switched on at the lowest setting and then only raise the temperature progressively by 2°C per day over the following week.

Mixing:

PALACE THICK-BED floor leveller should be added to clean water in a clean container and mixed thoroughly with a power whisk fitted to an electric drill to give a smooth, lump-free, flowable & pourable levelling compound which should be applied to the intended area without delay. The recommended mixing proportions are **4.0 litres of water per 20kg sack** and exceeding this recommendation will result in excess bleed and a weaker mix. The material should be mixed for a minimum of 2 minutes after the last of the powder is added ensuring the mixing head is below the surface to minimise air entrapment. Allow the mix to stand for 1 minute after which time the free-flowing screed will be ready for application directly onto the prepared substrate.

Application:

Pour the freshly mixed levelling compound onto the prepared surface and use a straight edged steel float to ensure the compound is evenly spread into all areas and corners. PALACE THICK-BED will readily flow across a flat surface and smooth out trowel marks for about 20 to 30 minutes before it begins to firm up. 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 pin-bubbles and achieving a consistent smooth surface finish, particularly between adjacent mixes of product. Only spike roll whilst the product is still in its fluid state, usually for about 10 minutes after initial application. The maximum total 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 hours, the laid screed will have reached final set sufficient to take light foot traffic. Do not mix or apply this product if site & surface temperatures are below 5°C or greater than 35°C or likely to be less than 5°C for the first 24 hours.. All tools & mixing equipment should be washed immediately after use with clean running water before the material reaches its' initial setting time.

Curing & Drying:

PALACE THICK-BED when applied at 20°C & 65% RH under ideal site conditions will allow for a working time of up to 20 minutes and then reach initial set after 1 hour. Under the above conditions it will rapidly cure and harden to allow light foot traffic after 3 hours and will be ready to receive tiles after 4 hours and soft flooring after 24 hours.

Coverage:

PALACE THICK-BED when applied over a smooth even non-absorbent floor at an average 3mm depth will cover at a rate of one 20kg bag per 5.0M². PALACE THICK-BED is not recommended as a final wearing surface. Adequate ventilation is essential during the drying process and any draughts or exposure to excessive heat sources must be eliminated to ensure consistent drying.

Precautions:

Both units have a storage life of not less than 12 months if stored in dry, un-opened and frost-free conditions at temperatures between 5°C & 30°C. PALACE THICK-BED is not recommended as a final wearing surface. Note: this product is not suitable for directly over-laying soft flexible vinyl, rubber, cork or any similar moisture sensitive very soft floor coatings & unstable adhesive residues.

Storage & Packaging:

PALACE THICK-BED is supplied in 20kg moisture resistant bags and should have a storage life of not less than 12 months if stored in dry, un-opened and frost-free conditions.

Health & Safety:

Always ensure that appropriate PPE is worn when mixing & applying this product to ensure protection from airborne dust and skin contact with the mixed liquid product. Wash hands after use and launder stained clothing. Do not consume food when working with this material and keep children & animals away from any possible risk of contact. A complete PALACE material safety data sheet is available on request or online at www.palacechemicals.co.uk

Technical Data:

Specification:	BS EN 13813:2002
Classification:	CT-C25-F6
Working time @ 20°C	20 - 30min
Flow properties: (using a 30mm x 50mm flow ring)	>130mm
Initial set	60 mins
Foot Traffic	180 mins
Ready for Tiling:	4 Hours for a 3mm layer
Compressive Strengths: (N/mm² – to BS EN 13892-2)	1 day >8.0 7 days >21.0 28 days >25.0
Flexural Strengths: (N/mm² – to BS EN 13892-2)	1 day >2.0 7 days >5.0 28 days >6.0
Coverage:	20kg of Thick Bed powder mixed with 4 litres of water will cover as follows
	5.0M ² at 3mm depth 2.5M ² at 6mm depth 1.0M ² at 10mm depth
Application Temps:	>5°C and <35°C
Pack size:	20kg
Compatible substrates:	
✓ Sand / Cement screeds	✓ Concrete Slabs
✓ Tile backer boards	✓ Plywood Overlay
✓ Existing ceramic & stone tiles	✓ Under-floor heating
✓ Existing Vinyl tiles	✓ Flooring grade asphalt
✓ Anhydrite screeds *	✓ Epoxy DPM
	✓ Moisture stable adhesives

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.

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.



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