PYTHON HP

LEVELLING COMPOUND

Document No:	**HP.TDS.v3.0**
Document Type:	Technical Datasheet
Publish Date:	23/01/2024
Product Name:	Python HP

GET A GRIP!

PYTHON ADHESIVES

Python HP is a semi rapid curing, high performance free flowing single part smoothing levelling compound. The product's unique formulation consists of a powdered blend of cements, polymers, graded fillers and additives.

It incorporates Envirobead® technology which is made with 20% recycled material for improved application and reduced environmental impact.

BASIC ATTRIBUTES

Designed for use with Underfloor Heating
Apply floor coverings after 4 hours (based on 3mm application)
Suitable for use over old adhesive residues
Contains recycled materials
Excellent adhesion to almost all substrates
No need to prime
2.5 hours set time

TECHNICAL DATA

Unit Size	20kg Bags
Colours	White & Grey
Conforms to	BS EN 13813:2002
Screed Classification	CT-C12-F5
Bed Thickness	2mm - 30mm
Working time	Approximately 45 minutes at 20°C
Walk on time	2-2.5 hours at 20°C
Compressive Strength (N/mm²) to BS EN 13892-2	1 Day: 10 7 Days: 12 28 Days: 15
Flexural Strength (N/mm²) to BS EN 13892-2	1 Day: 2 7 Days: 3 28 Days: 5
Pot Life	45 minutes at 20°C
Application Temperatures	5°C to 25°C

References to BS EN13813:2002 confirms the minimum compressive and flexural strengths that the product will attain when tested to the standard.

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DESCRIPTION

Python HP is a semi rapid curing, high performance free flowing single part smoothing underlayment. The product's unique formulation consists of a powdered blend of cements, polymers, graded fillers and additives.

It incorporates Envirobead® technology which is made with 20% recycled material for improved application and reduced environmental impact. Python HP is suitable over a wide range of subfloors at depths between 2-12mm and up to 30mm over good solid substrates such as concrete.

It is designed for use over a wide variety of subfloors including: concrete, sand & cement, calcium sulphate/ anhydrite/hemihydrate screeds, existing cementitious underlayments, damp proof membranes, surface electrical radiant heating systems, flooring grade plywood, rigid steel, flooring grade asphalt and hard sound bitumen residues, cement or thermal backer boards, porcelain, ceramic, quarry or terrazzo floors and moisture tolerant adhesive residues.

Decorative floor coverings can be applied to the internal subfloors in as little as 4 hours after application. Its protein free formulation means it is ideal for use in biologically sensitive areas. A moisture tolerant formulation makes it suitable for the pre-smoothing of floors prior to the application of surface damp proof membranes (DPM) and moisture vapour suppressants (MVS).

Due to its excellent adhesion characteristics it can be used on most common substrates without the need to prime.

COVERAGE

COVERAGE		
Applied Thickness	Coverage Per Unit (approx.)	Consumption Per 100m² Area
3mm	**4.0m²**	**25 units**
5mm	**2.4m²**	**42 units**
12mm	**1.0m²**	**100 units**
30mm	**0.4m²**	**250 units**

Coverage is for guidance only based on a smooth, non-absorbent subfloor. Substrate texture and absorbency can affect consumption variations. As with all raw materials, colour variation may occur. Please note that this does not affect the consistency or characteristics of the product.

SURFACE PREPARATION

All surfaces must be dry and in a sound and stable condition free from contaminants that may prevent adhesion such as dust, oils, grease, surface laitance, water soluble adhesive residues and weak smoothing underlayments etc. Smooth dense surfaces can be roughened by mechanical scabbling to enhance the key. Subfloors should be tested in accordance with BS8203 to ensure a moisture reading of less than 75% RH is achieved.

Where this has not been attained or where there is uncertainty that the subfloor design incorporates a Damp Proof Course (DPC) then Python PR must be applied.

Python recommend consultation with subfloor preparation equipment suppliers to ensure correct equipment for the substrates is selected. All substrates must be at a minimum temperature of 5°C before, during and after application of the primer to ensure film forming and bonding is achieved.

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PRIMING

Absorbent Subfloors (concrete, sand & cement, plywood etc): Priming is not required for the purpose of adhesion. Note: To ensure a pinhole free surface is attained priming can be carried out using Python PR.

Where this is not important such as applications of textiles or loose lay laminate flooring, priming may be omitted.

Subfloors must be sound, stable, free from dust, grease and all debris. Any remaining residues should be firmly bonded, hard and not soluble to water. Specific priming requirements are needed for calcium sulphate/anhydrite/hemihydrate screeds.

Non-absorbent Subfloors (epoxy resin damp proof membranes, moisture tolerant adhesive residues, flooring grade asphalt, porcelain, ceramic, quarry and terrazzo floors, steel mezzanine decks, access panels etc): Priming is not required for the purpose of adhesion.

MIXING

Pour 4 litres of cold clean water into an oversized bucket (20 litres or more capacity).

Gradually add the powder whilst continually mixing using an electric drill fitted with a power whisk, suitable for use with cement materials. After completely adding the powder, continue mixing for a further 2 minutes, keeping the whisk below the surface of the product to minimise air entrainment, until a lump free, creamy material is attained.

Never add water after initial mixing, as this will impair the strength of the product. Only mix small quantities at a time until you have become accustomed to the fast setting nature of the product. Product that has started to set must be discarded.

APPLICATION

Pour onto the floor and spread with a smooth edge steel trowel. Python HP has exceptional flow characteristics, a spiked roller may be used to further improve the finish particularly between adjacent units of product. Only spike roll whilst the product is still in its fluid state, typically up to 20 minutes after application.

Calcium Sulphate/Anhydrite/Hemihydrate Screeds: Mechanically remove any laitance and provide a sound, clean, dry and dust-free surface. The relative humidity within the subfloor must read below 75% RH prior to the application of a barrier primer (damp proof membranes and moisture vapour suppressants are not recommended). These types of screeds often incorporate warm water underfloor heating systems (see relevant manufacturers' technical datasheet) which can be used, along with dehumidifiers, to speed up the drying process. Manufacturers normally suggest this can be conducted after 7 days minimum curing. Apply Python PR diluted 3:1 with clean water and allow to fully dry overnight.
Apply a second coat diluted 1:1 with clean water allowing it to dry to a clear film (usually 1-2 hours).

Plywood/Tile Backer Board: Plywood must be of flooring grade and mechanically fixed to a sound strong base. Python HP is only recommended for use with plywood of 15mm thickness and greater.

Tile backer boards of 6mm thickness. Plywood must be sealed on the underside and along all edges to ensure moisture absorption from beneath is kept minimal. For thinner flooring grade plywood subfloors contact our technical department and we'll be happy to help.

Plywood and tile backer board absorbency differs depending on the nature of the surface. Normally a diluted coat of Python PR (3:1 with clean water) is recommended. For dense surfaces of very low absorbency apply Python PR neat in a thin uniform coating. Allow primer coats to fully dry.

Flooring Grade Asphalt: New asphalt must be left for a minimum of 7 days and degreased to remove surface bloom. Existing asphalt should be assessed for cracks. If cracks are present they need to be repaired to give a continuous strong subfloor. The use of epoxy resins bulked out with sand is normally sufficient.

Non-flexing Steel Floors (e.g. mezzanine decks): Mechanically abrade using a suitable mechanical machine (STG or shot blast) or a wire brush to give an abraded shiny corrosion free surface and remove all excess traces of metal.

Patching prior to Plywood Overlays: Sound stable subfloors including T and G floor boards that are to be overlayed with flooring grade plywood may first be smoothed or patch filled with Python HP.

Pre-smoothing of Subfloors: Where there is an absence of a DPC, pre-smoothing can be carried out provided

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APPLICATION CONTINUED

there is no risk of hydrostatic pressure and all previous materials have been removed to leave the cementitious base. If in any doubt, please apply a suitable DPM directly to the original subfloor. Pre-smoothing is not suitable over old adhesive residues (with the exception of cementitious based adhesive residues).

Surface DPM and MVS: These are considered as non-absorbent substrates. Applications should be carried out within 12 hours of chosen DPM.

Radiant Electrical Underfloor Heating System: Python HP can also be used over electrical UFH systems where the cables are fixed to a sound strong mechanical fixed cement faced backer board.

Apply Python PR diluted 3:1 with clean water and allow to dry fully (usually 1-2hours). It may also be used where electrical UFH is used over cementitious or calcium sulphate subfloors. Priming should be as per the substrate. In all cases Python HP must be applied at a thickness of 5mm above the cables for resilient, textile and timber applications and a minimum of 3mm for application of stone, ceramic or porcelain products.

Warm Water Underfloor Heating (UFH): Systems must have been fully commissioned and brought up to their maximum temperature, and ideally switched off 48 hours before application. In the absence of other heat sources, the UFH may be set to 'cutback' position to achieve an air temperature of 15°C. Any expansion or movement joints must be carried through to the floor covering surface. Aluminium/foil faced UFH boards should be primed using Python PR Primer. Please note: The installation of underfloor heating systems needs to sound, solid and secure to ensure no movement. Please refer to manufacturer's installation guidance.

Vinyl Tiles: Not all vinyl tile flooring is suitable to be levelled/tiled over. Cushioned or flexible vinyl tiles should not be overlaid and must be removed along with the adhesive residue. Hard vinyl tiles should be lightly abraded and then primed with Python PR neat. Tiles should be cleaned thoroughly to remove any dirt/grease or any other bond-inhibiting contaminants. The existing vinyl tile must be fully bonded to the substrate, to be able to withstand the tension bond of a leveller or tile adhesive.

MATERIAL SUITABILITY GUIDE

SUBSTRATES			
CALCIUM SULPHATE/ANHYDRITE/ HEMIHYDRATE SCREEDS*	✓	DAMP PROOF MEMBRANES	✓
CONCRETE	✓	ADHESIVE AND BITUMEN RESIDUES	✓
PLYWOOD / TILE BACKER BOARDS*	✓	SAND AND CEMENT	✓
FLOORING GRADE ASPHALT	✓	PORCELAIN/CERAMIC/QUARRY/TERRAZZO FLOORS	✓
RIGID STEEL	✓	VINYL TILES*	✓
CONCRETE SUBFLOORS	✓	WARM WATER UNDERFLOOR HEATING	✓
RADIANT ELECTRIC UNDERFLOOR HEATING SYSTEMS*			✓
* Prime with Python PR			

CURING AND DRYING

All curing and drying times are based on good site conditions i.e. an air temperature of 20°C, air humidity of 65% RH and good ventilation. Sites that are cold, humid or damp or in areas where the airflow is poor, will prolong drying and curing times, so allowances should be made accordingly.

Applications to non-absorbent substrates and at thicker application depths will take longer to dry.

Note: Avoid strong draughts and direct sunlight during curing.

Python HP is ready to receive light foot trafficking normally after 2-2.5 hours, based on 3mm thick application. Floor coverings can be bonded in as little as 4 hours.

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CLEANING

Clean surplus levelling compound as soon as possible, set compound will become increasingly difficult to remove.

Clean tools after use with water.

Product for professional use only.

STORAGE

Store in a dry place at temperatures between 5°C and 30°C.

Under the above storage conditions this product has a shelf life of 8 months.

High temperatures and high humidity will lead to a reduced shelf life.

SITE CONDITIONS

The drying characteristics of cementitious smoothing underlayments are directly influenced by ambient air and floor temperatures. Cement within the smoothing underlayment cures through a process of hydration using moisture. Extreme site conditions can affect this process i.e. below 5°C and above 30°C.

Ideal ambient air and floor temperatures for application are between 10°C and 22°C. These temperatures should be maintained throughout application and curing periods. Outside of these temperatures consideration should be given to the following guidelines for good practice. Floor temperatures will be slower to respond to ambient air temperature so should be considered in advance.

High humidity and low temperature prolongs evaporation of moisture from the freshly applied smoothing underlayment and therefore extends drying times. This may ultimately delay installation of floor coverings.

In such conditions planned heating (not gas heating) may be required before, during and after application of the product in order to promote ideal site conditions. Heat should be directed into the air not direct to the floor creating hot spots.

Good ventilation without direct drafts will also assist removal of moisture in the air from the building. Failure to adopt such practices in such adverse site conditions may result in damp patches, slow drying and potential surface bleed within the curing smoothing underlayment.

Low humidity and high temperature conditions will speed up drying by fast removal of moisture from freshly applied smoothing underlayment. Such conditions may cause rapid loss of moisture, required for the curing process, leading to irregular structure and strength build up. Such tensions within the drying smoothing underlayment could leave hairline surface defects. Under such conditions, smoothing underlayments should be protected from direct sunlight and draughts across its surface. Good air flow within the build without causing d draughts is essential to reduce high temperature build up.

HEALTH AND SAFETY

Please ensure that appropriate PPE is used when preparing, mixing and applying products.

Always wash hands before consuming food and make sure that materials are kept safely out of reach of children and animals. Please dispose of packaging and waste appropriately.

A full Material Safety Data Sheet relating to this product is available from pythonadhesives.co.uk

Python HP Adhesive contains cement. Contact with moisture or gauging water sets off an alkaline reaction which may cause skin irritation and/or caustic burns to mucous membranes (e.g. eyes).

Irritant to respiratory system. Risk of serious damage to eyes, therefore avoid contact with eyes and prolonged contact with skin. Do not breathe dust. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of water and soap. Wear suitable gloves (e.g. cotton gloves soaked in nitrile) and eye/face protection. If swallowed, seek medical advice immediately and show this container or label.

Keep out of reach of children. For further information refer to the Material Safety Data Sheet.

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NOTES

The information contained on this spec sheet is given voluntarily and in good faith. It is to the best of our knowledge true and accurate; however it may contain information which is inappropriate under certain conditions of use. The company cannot accept responsibility for any loss or damage due to inappropriate use or the possibility of variations of working conditions and of workmanship outside our control.

All products are manufactured in a plant whose quality management system is certified as being in conformity with BE EN ISO 9001.

Python Adhesives 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 continuous control over where and how our products are used.

All Python Adhesives products are sold subject to our terms and conditions of sales, copies of which may be obtained upon request.