



Level



HYDRA BOND SEMI-RAPID

HIGH PERFORMANCE SMOOTHING UNDERLAYMENT

Suitable for use over a wide range of subfloors
Classification: CT-C12-F5

TECHNICAL DATASHEET

- Specially formulated with Envirobead® technology - a unique recycled material
- Ready to receive bonded floor coverings after 4 hours
- Priming not required*
- Use over most common subfloors, including old adhesive residues and bitumen
- Moisture tolerant, low odour and protein free
- Designed for underfloor heating
- Extended working time of 45 minutes for optimal usability
- Advanced performance, fibre reinforced water mix, with exceptional flow and ease of application

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INFORMATION

UltraFloor Level IT Hydra Bond is a semi-rapid, fibre reinforced, high performance free flowing, single part smoothing underlayment. It incorporates Envirobead® technology which is made with 20% recycled material for improved application and reduced environmental impact. The product's unique formulation consists of a powdered blend of cements, polymers, graded fillers and additives. UltraFloor Level IT Hydra Bond 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 specifically 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 the application of UltraFloor Level IT Hydra Bond. Its protein free formulation means it is ideal for use in biologically sensitive areas.

This 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.

SUBFLOOR 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 BS203 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 UltraFloor DPM IT or UltraFloor Suppress IT must be applied (see relevant UltraFloor product technical datasheet).

UltraFloor 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.

Please refer to Level IT Hydra Bond's datasheet for subfloor preparation of various substrate types, available at www.ultra-floor.co.uk

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 UltraFloor

Prime IT Multi-surface Primer (MSP), 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 (see Substrate section - 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, it is also not required with applications to UltraFloor DPM IT or UltraFloor Suppress IT as long as UltraFloor Level IT Hydra Bond is applied within 12 hours of application and it is trafficable

SUBSTRATES

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 UltraFloor Prime IT Multi-surface Primer (MSP) 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 pink film (usually 1-2 hours).

Plywood/Tile Backer Board: Plywood must be of flooring grade and mechanically fixed to a sound strong base. UltraFloor Level IT Hydra Bond 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 UltraFloor's technical department. Plywood and tile backer board absorbency differs depending on the nature of the surface. Normally a diluted coat of UltraFloor Prime IT Multi-surface Primer (MSP) (3:1 with clean water) is recommended. For dense surfaces of very low absorbency apply UltraFloor Prime IT Multi-surface Primer (MSP) 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



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are to be overlaid with flooring grade plywood may first be smoothed or patch filled with UltraFloor Level IT Hydra Bond.

Pre-smoothing of Subfloors: Where there is an absence of a DPC pre-smoothing can be carried out provided 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 UltraFloor DPM IT (see relevant UltraFloor product technical datasheet) directly to the original subfloor. Pre-smoothing is not suitable over old adhesive residues.

Surface DPM and MVS: these are considered as non-absorbent substrates. Applications should be carried out within 12 hours of UltraFloor DPM IT and/or UltraFloor Suppress IT application (see relevant UltraFloor product technical datasheets).

Radiant Electrical Underfloor Heating Systems: UltraFloor Level IT Hydra Bond can also be used over electrical UFH systems where the cables are fixed to a sound strong mechanical fixed cement faced backer board. Apply UltraFloor Prime IT Multi-surface Primer (MSP) diluted 3:1 with clean water and allow to dry fully (usually 1-2 hours). 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 UltraFloor Level IT Hydra Bond 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 Systems (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.

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 UltraFloor Prime IT Multi-surface Primer (MSP neat).

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. Do not add further water.

APPLICATION

Level IT Hydra Bond can be pump or trowel applied. Pour onto the floor and spread with a smooth edge steel trowel. UltraFloor Level IT Hydra Bond 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.

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 drafts and direct sunlight during curing. Level IT Hydra Bond 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.

COVERAGE RATES		
Applied Thickness	Coverage Per Unit	Consumption Per 100m ² Area
2-3mm	5.0m ²	20 units
5mm	2.4m ²	42 units
12mm	1.0m ²	100 units
30mm	0.4m ²	250 units

CLEANING

Tools should be thoroughly cleaned in water to remove excess materials immediately after use.

STORAGE

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

SHELF LIFE

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

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 drafts across its surface. Good airflow within the build without causing drafts is essential to reduce high temperature build up.

HEALTH, SAFETY AND ENVIRONMENTAL

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 responsibly and in accordance with local authority requirements. A full material safety data sheet relating to this product is available from instarmac.co.uk.

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QUALITY ASSURANCE

All products are manufactured in a plant whose quality management system is certified/registered as being in conformity with BS EN ISO 9001, ISO 14001 and ISO 45001. 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 continuous control over where and how projects are used. All products are sold subject to our conditions of sales, copies of which may be obtained upon request.

TECHNICAL DATA	
Specification	BS EN 13813:2002
Screed Classification	CT-C12-F5
Working time at 20°C	45 minutes
Walk on hardness time at 20°C	2-2.5 hours
Ready to receive floor coverings	4 hours (based on 3mm application)
Compressive Strength (N/mm ²): (to BS EN 13892-2)	1 Day: 10 7 Days: 12 28 Days: 15
Flexural Strength (N/mm ²): (to BS EN 13892-2)	1 Day: 2 7 Days: 3 28 Days: 5
Packaging:	20kg bag

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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