technicaldatasheet

floor it
industrial

bed thickness
5-50mm

working time
30-40mins

forklift traffic
24hrs



leveller

5

DESCRIPTION

floor it industrial is a single part, polymer modified, rapid setting & rapid drying, fibre reinforced, flexible deep fill and smoothing finishing compound. The product's unique formulation consists of a powdered blend of high specification cements, micro fibres, graded fillers and additives, and a pre-gauged polymer liquid. **floor it industrial** is suitable for depths between 5-50mm.

USES

Specifically designed for use over a wide variety of subfloors including: concrete, sand & cement, calcium sulphate/anhydrite/hemihydrate screeds, damp proof membranes and underfloor heating systems. Can be used as a deep fill leveller from 5 – 50mm and as a finished wear surface. Ready to receive resin finishes after 24 hours. Its protein free formulation means that it can be used in biologically sensitive areas.

SURFACE PREPERATION: ASSESSMENT

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 must 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 DPC then floorit dpm or UltraFloor Suppress IT must be applied (see relevant floor it product technical datasheet). BS8204-3 recommends a minimum surface tensile strength of 0.8N/mm^2 for concrete bases to receive wearing or levelling screeds. For heavy duty locations or where a subsequent resin coating may be applied, the minimum surface tensile strength should be 1.5N/mm^2. The area should also be dust free prior to any primer application.

floor it 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.

SUBSTRATES

Power Floated Concrete: Should be treated as non-porous. Mechanically abrade (shotblast or scarify) to remove surface hardeners and expose the cement/aggregate. Apply UltraFloor Prime IT MSP neat in a thin uniform coating, allowing it to dry fully (usually 1-2 hours).

Existing Sand & Cement Screeds and Smoothing Compounds: These should be strong enough for an application of **floor it industrial**. Weak, friable or damaged screed should be uplifted and repaired. **floor it industrial** can be used over most intact cementitious compounds. Remove adhesive residues and treat as an absorbent floor. Apply UltraFloor Prime IT MSP diluted 3:1 with clean water and allow to dry fully (1-2 hours). Apply a second coat diluted 1:1 with clean water allowing it to dry to a pink film (1-2 hours).

NOTE: Application is only suitable on subfloors that are in equivalent strength to **floor it industrial**.

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 or 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 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).

Radiant Electrical Underfloor Heating Systems: Cables must be secured to a sound strong mechanically fixed cement faced backer board. It may also be used where electrical underfloor heating is used over cementitious or calcium sulphate subfloors (see calcium sulphate screed section). In all cases floor it industrial 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): Where UFH systems are incorporated, they 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 finished floor surface.

PRIMING

UltraFloor recommend that subfloors should be primed prior to the application of **floor it industrial**.

Absorbent Subfloors (concrete, sand & cement, etc): Prime with UltraFloor Prime IT Multi-surface Primer (MSP) apply first coat typically diluted 3 parts water, 1 part primer and allow to fully dry (usually 1-2 hours). Apply a second coat diluted 1:1 with clean water allowing it to dry to a pink film (1-2 hours). On highly porous substrates a third coat may be required diluted at 1:1 and allow to fully dry.

Non-absorbent Subfloors (power floated concrete, epoxy resin, damp proof membranes, etc): Priming with UltraFloor Prime IT MSP is required when applying **floor it industrial** onto non-absorbent or dense substrates. Apply one coat neat and allow to fully dry (usually 1-2 hours).

MIXING

Mixing ratios of powder and water should be controlled to ensure a free flowing material. Do not use excess water as this will affect the product performance and finish. For trowel/hand application mix in a clean bucket using clean cold water, as warm water will greatly reduce the product's working time and may result in shrinkage. Pour 5.5-5.7 litres of water into an oversized bucket (20+ litres), and then gradually add the powder whilst mixing continually with an electric drill with power whisk. When all powder is added mix for a further 2 minutes, keeping the whisk below the surface (to minimise air entrapment), until a lump free creamy material is attained.

APPLICATION

Site Conditions: The drying characteristics of cementitious smoothing underlayment's 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.

floor it industrial should not be applied on projects unless it can be guaranteed that subfloor and air temperatures do not drop below 6°C during application and throughout curing (normally 7 days minimum). The use of radiant heaters is recommended to attain ideal application temperatures. Do not use fuel burning space heaters. Light ventilation is recommended, particularly in enclosed areas. Avoid strong draughts as this can cause localised rapid drying and may result in surface crazing.

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 air flow within the build without causing drafts is essential to reduce high temperature build up.

floor it industrial can be applied both by hand mixing of individual units or by continuous pumping. Do not use warm water as this will reduce the products working time and may result in shrinkage.

For hand mixing application pour 5.625 litres of clean cold water into a clean oversized bucket (20+ Ltrs), and then gradually add the powder whilst mixing continually with an electric drill with power whisk. When all powder is added mix for a further 2 mins, keeping the whisk below the surface (to minimise air entrapment), until a lump free creamy material is attained. The product can then be poured onto the floor and, using a smooth steel trowel, spread out to the desired application depth. A spiked roller can be used

whilst the product is still fluid to minimise air entrapment and “marry” wet edges together to give a uniform finish.

For pump application follow pump manufacturer’s recommended set up guidelines. Ensure the correct water ratio is used by carrying out a flow tube test at the beginning of the project and at regular intervals throughout (ideally once per pallet) to check that ideal flow is being maintained. We recommend the logging of flow test results, site conditions, batch numbers and pump equipment for future reference, a template for which is available from www.ultra-floor.co.uk.

When using an Ultra Floor flow tube of capacity 200ml then a flow rate of 250 to 280 mm is acceptable.

When using other flow tubes we recommend that a single unit be mixed by hand as above and the flow rate of the mixed unit be assessed with the specific flow tube.

For large projects it is recommended that the area be sectioned off into manageable sized bays where a wet edge can be maintained throughout the pumping process.

JOINTS

All joints within the subfloor that are designed for movement MUST be followed through to the surface of the **floor it industrial**. It is recommend that subfloor joints should be marked out prior to applying **floor it industrial** and re-established by disc cutting after 24 -48 hours. It is also recommended that a movement joint also be incorporated at all perimeters, columns and at door threshold to ensure building movement does not result in the **floor it industrial** cracking.

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. **floor it industrial** is ready to receive light foot traffic normally after 120 minutes based on a 5mm thick application.

SURFACE SEALER

While **floor it industrial** is a resilient material designed to accept vehicular traffic, it will need to be surface protected against staining from spillages such as oils, greases and any other penetrating or surface contaminant. Therefore, if aesthetics are of importance, then the cured product should be protected by the application of a surface floor sealer or coating suitable for use over cementitious floors.

COVERAGE RATES		
Applied Thickness	Coverage Per Unit	Consumption Per 100m^2 Area
5mm	3m^2	33 units
15mm	1m^2	100 units
50mm	0.3m^2	330 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.

TECHNICAL DATA	
Specification	BS EN 13813:2002
Screed Classification	CT-C35-F8-AR.05
Working time at 20°C	30-40 mins
Walk on hardness time at 20°C	120 mins
Ready to receive resin finishes (based on 15mm application)	24 hours
Compressive Strength (N/mm^2): (to BS EN 13892-2)	1 Day: 21.7 7 Days: 34.3 28 Days: 39.8
Flexural Strength (N/mm^2): (to BS EN 13892-2)	1 Day: 5.3 7 Days: 8.2 28 Days: 8.7
Flow properties using a 200ml capacity Ultra Floor flow tube (48mm int diameter, 106mm height)	250-280mm
Packaging:	25kg bag

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.

HEALTH, SAFETY AND ENVIRONMENTAL

Please ensure that appropriate PPE is used when preparing, mixing and applying products. Always wash your 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 datasheet relating to this product is available from instarmac.co.uk.

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.

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