



# RUGBY®

## DEEP FILL LEVELLING COMPOUND

CEMEX is a world leader in sales of packed cement and cementitious products, backed with technical expertise in their use.

Rugby® Deep Fill Leveller is a rapid setting and hardening, high strength, single part, cementitious smoothing underlayment incorporating recycled raw materials.

Rugby® Deep Fill Leveller may be mixed up and applied as single units and is especially suited to larger projects where it is ideal for pumping applications and can be applied up to depths of 50mm.

The Deep Fill Leveller is suitable for use in industrial, commercial and domestic flooring installations.



### FEATURES

- FAST SETTING
- MOISTURE TOLERANT
- BUILDS DEPTH OF UP TO 50MM
- JUST ADD WATER

### BENEFITS

- CONTAINS RECYCLED MATERIAL
- QUICK WORKING TIME (30-40 MINUTES)
- INCREASED PRODUCTIVITY
- PUMP OR TROWEL APPLIED
- WALK ON IN 3 HOURS

### APPLICATIONS

- SUITABLE FOR UNDERFLOOR HEATING SYSTEMS
- INTERNAL SUBFLOORS
- USED ON CURED AND DRY CALCIUM SULPHATE SCREEDS

### STORAGE

Store in a dry place between 5-30°C. When stored correctly and used within 6 months of the date shown on the bag, the reducing agent activity will be maintained and the product will contain, when mixed with water, no more than 0.0002% (2 ppm) soluble Chromium (VI) of the total dry weight of the cement. Note: The use of this product after the end of the 6 month storage period may increase risk of an allergic reaction. The information contained within this product technical datasheet is given in good faith, based on our knowledge and experience and is offered to help select and use the most appropriate product. However, CEMEX cannot control site conditions or workmanship and cannot accept liability due

to inappropriate use. If there are any concerns we advise that a trial area be carried out to ensure the performance of the materials under specific circumstances. It is the responsibility of both the supplier and the end user to ensure the products are safely stored in a suitable environment to prevent damage and deterioration, including during transportation and placement on site.

### 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 out of the reach of children and animals. Please dispose of packaging and waste appropriately.

## CLEANING

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

## QUALITY ASSURANCE

All products are manufactured in a plant, the quality management system of which is certified/registered as conforming with BS EN ISO 9001, ISO 14001 and OHSAS 18001. UltraFloor products are guaranteed against defective materials and manufacture and will be replaced or money refunded if the goods do not comply with our claims. 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 UltraFloor products are sold subject to our Terms & Conditions of Sale which are available from [ultra-floor.co.uk](http://ultra-floor.co.uk).

## RECOMMENDED USES

Rugby® Deep Fill Leveller is a single part smoothing underlayment that has an application depth of between 5mm to 50mm. It is for internal use only, substrate should be clean fully primed, do not apply to wooden surfaces. Deep Fill Leveller is suitable for small or large jobs and can be applied by trowel or pumped by machine. The mixed material has a 30-40 minutes working time and can be walked on after 3 hours. Deep Fill Leveller can be used in conjunction with underfloor heating systems.

## USES

When mixed with clean cold water, Rugby® Deep Fill Leveller is a product that can be trowel or pump applied, to smooth and level, sound and strong internal subfloors can be used as the finished floor prior to application of high build resin coating (consult CEMEX technical department).

It is a protein free formulation so maybe used in biologically sensitive areas and can be applied to most cementitious subfloors including those incorporating fully commissioned warm water underfloor heating systems. It may also be used over fully cured and dry calcium sulphate screeds. Rugby® Deep Fill Leveller should be applied at a minimum application thickness of 5mm and can be applied up to a maximum of 50mm.

## SUBFLOOR PREPARATION: ASSESSMENT

Rugby® Deep Fill Leveller has a moisture tolerant formulation and can be applied to cementitious subfloors where there is an absence of a base DPM provided there is no risk of hydrostatic pressure from the subground. If systems incorporating Rugby® Deep Fill Leveller are to receive resin coatings or floor coverings then the product must be protected from rising moisture including residual construction moisture by the application of a DPM Rapid Curing Primer Membrane to the subfloor.

Any surface laitance, adhesive residue, paints, existing smoothing underlayments and any other materials which will hinder Rugby® Deep Fill Leveller's bond with the subfloor should be mechanically removed. The subfloor should be clean, dry and sound and have a minimum compressive strength of 30N/mm<sup>2</sup>. The area should also be dust free prior to any primer application.

## SUBFLOOR PREPARATION: PRIMING SUMMARY

Subfloors should always be primed prior to applications of Rugby® Deep Fill Leveller with surface primer. This will enhance the application characteristics and improve the adhesion between Rugby® Deep Fill Leveller and the substrate. Primer applications should be in a thin uniform coating avoiding pooling and puddling of primer. The dry film should be a clear translucent film. All dilution ratios are water:primer. Drying times are for guidance only and will be subject to subfloor absorbency, temperature, building humidity and airflow. Rugby® Deep Fill Leveller applications must be made within 36 hours of primer curing.

## SUBFLOOR PREPARATION: WHICH SUBSTRATE?

Rugby® Deep Fill Leveller can be applied to strong sound cementitious substrates and also to fully cured, dry calcium sulphate screeds. It can also be used in conjunction with Ultra Floor Level IT TOP where a finished wearing surface is required (see relevant technical datasheet).

**NOTE:** Where warm water UFH (Underfloor Heating) 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.

## CONCRETE SUBFLOORS

Power floated concrete should be fully opened up to expose the cement/ aggregate matrix. This may be achieved by shotblasting or mechanically scarifying. Consult a subfloor preparation specialist for suitable equipment and methods.

Apply Prime IT MSP diluted 3:1 with clean water and allow to dry fully (time subject to site conditions, typically overnight). Apply a further application of Prime IT MSP diluted 1:1 with water. Allow to dry.

Tamped or pan floated concrete should be treated as porous. Any laitance or weak material should be mechanically removed to ensure a sound, dry and dust-free surface. Apply Prime IT MSP diluted 3:1 with clean water and allow to dry fully (time subject to site conditions, typically overnight). Apply a further application of Prime IT MSP diluted 1:1 with water. Allow to dry.

## SCREED SUBFLOORS

**Sand/Cement Screeds:** These should be strong enough for an application of Rugby® Deep Fill Leveller (minimum 30N/mm<sup>2</sup> compressive strength). Weak, friable or damaged screed should be uplifted and repaired. Apply Prime IT MSP diluted 3:1 with clean water and allow to dry fully (time subject to site conditions, typically overnight). Apply a further application of Prime IT MSP diluted 1:1 with water. Allow to dry.

**Calcium Sulphate/Anhydrite/Hemihydrate Screeds:** These screeds must be confirmed dry, below 75%RH when tested in accordance with BS 8203, and have a compressive strength of greater than 30N/mm<sup>2</sup>. Rugby® Deep Fill Leveller applications must not exceed 10mm. Mechanically remove any laitance or weak material to leave a clean, dry and dust-free surface. We recommend an STG machine with suitable mesh grinding disc of 60-100 grade grit. Apply Prime IT MSP diluted 3:1 with clean water and allow to fully dry overnight. Apply a 2nd coat diluted 1:1 with clean water allowing it to dry to a clear film (usually 1-2 hours).

## APPLICATION: CONDITIONS

Rugby® Deep Fill Leveller 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 (nominally 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.

Rugby® Deep Fill Leveller 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 4.25 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 the 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. When applying at thicker sections a long handled float or dapple bar is preferred. 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. The depth of spike must be a minimum of 30% longer than the application depth of product otherwise it will not be able to rotate in the product. This is particularly important in deeper applications (15mm +).

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 ultra-floor.co.uk.

When using an Ultra Floor flow tube of capacity 200ml then a flow rate of 250mm to 280mm 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 flooring system. It is recommended that subfloor joints should be marked out prior to applying Rugby® Deep Fill Leveller and re-established by disc cutting after 24-48 hours.

It is also recommended that a movement joint be incorporated at all perimeters and at door threshold to ensure building movement does not result in the Rugby® Deep Fill Leveller cracking.

## CURING AND DRYING

All curing and drying times are based on applications of Rugby® Deep Fill Leveller in good ambient conditions of 20°C, 65% air humidity and good ventilation. Cold, humid or damp sites, or those with poor airflow, will prolong curing and drying times, so make adequate allowances for such.

Rugby® Deep Fill Leveller is ready to receive foot traffic after 2 to 3 hours and applications of Level IT TOP after 24 hours.

Rugby® Deep Fill Leveller is ready to receive floor finishes after 24 hours (on applications between 5mm and 15mm), 48 hours (on applications between 15mm and 30mm) and 72 hours (on applications between 30mm and 50mm).

It is also recommended that the substrate be tested for moisture before applying floor finishes. Typically a moisture content of 5% or lower is required.

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HOW MUCH MATERIAL?		
APPLIED THICKNESS	COVERAGE PER UNIT	CONSUMPTION PER 100M <sup>2</sup> AREA
5mm	3m <sup>2</sup>	33 bags
15mm	1m <sup>2</sup>	100 bags
20mm	0.75m <sup>2</sup>	133 bags
50mm	0.3m <sup>2</sup>	333 bags

Coverage rates are based on 4.25 litre water addition and will vary according to the condition of the substrate. 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-F6
Application thickness	5-50mm
Working time @ 20°C	30-40 minutes
Walk on hardness time @ 20°C	2-3 hours
Ready to received floor coverings	24 hours (5-15mm)
	48 hours (15-30mm)
	72 hours (30-50mm)
Compressive Strength (N/mm <sup>2</sup> ) (to BS EN 13892-2)	1 Day: 27
	7 Days: 32
	28 Days: 37
Flexural Strength (N/mm <sup>2</sup> ) (to BS EN 13892-2)	1 Day: 3.5
	7 Days: 4
	28 Days: 6
Flow properties using a 200ml capacity UltraFloor flow tube (48mm in diameter, 106mm height)	250mm-280mm
Packaging	25kg bags

All figures above are based on tests carried out under quality controlled environments using Rugby® Deep Fill Leveller with the correct water ratios. Actual results attained will be subject to site conditions and allowances should be made accordingly.

BS EN13813:2002

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

### For further information please contact Customer Services on:

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