

X-Shield LevelCem HD

Polymer modified cement based floor leveling compound

Product Description

X-Shield LevelCem HD is a blend of selected cements, graded aggregates, polymers and flow agents. It is supplied as a dry, grey powder which requires only the addition of water to produce a self smoothing, free flowing material. X-Shield LevelCem HD may be applied either by hand, or via the use of a continuous mixer pump.

Advantages

- Meets SCAQMD Rule 1113 & LEED VOC Limits
- Formaldehyde free
- Rapid curing
- Simple installation
- Highly durable
- Versatile
- Consistent performance
- Specially formulated for use in Middle East conditions.

Uses

- Forklift trafficked floors
- Light industrial floors
- Car parks
- Walkways and pavements
- High bay warehousing floors
- Garage and workshops
- Underlayment for vinyl sheet, tiles, carpets etc.

Specification Compliance

SCAQMD Rule 1113
LEED NC2009 IEQ 4.2

At 28 days the material should achieve a compressive strength of not less than 35 N/mm², and an 'A' rating for the BRE (BS 8204) test for Impact Resistance. The floor shall be prepared and the product mixed and applied in accordance with the manufacturer's current data sheet.

Application Properties

Compressive strength (50mm cubes cured at 35°C)	35 N/mm ² at 28 days
BRE Impact Resistance (BS 8204: Part 1: 1987)	Class A at 28 days highest rating
Minimum thickness	4 to 12mm
Time to foot traffic at 35°C	16 hours
Building Regulations 1985 Document B—"Fire", Paragraph A8(b)	Class 0 surface

Theoretical Coverage

X-Shield LevelCem HD: 15 liters per 25kg bag.
X-Roc BondCure : 10m²/litre per coat

Note: Coverage figures given are theoretical - due to wastage factors and the variety and nature of substrates, practical coverage figures may be reduced, this will vary with site and application conditions.

Packaging

X-Shield LevelCem HD: 25 kg bags.
X-Roc BondCure: 25 litre containers.

Shelf Life

6 months when stored in warehouse conditions below 20°C in original, unopened packs.

Installation Guidelines

NCC X-Calibur provides detailed method statements on all its products for use in various applications. These must be referred to prior to starting work. The information below is a summary intended for guidance only.

New concrete floors

These should normally have been placed for at least 21 days and have a moisture content of less than 5%. Floors should be sound and free from contamination such as oil and grease, mortar and paint splashes or curing compound residues. Excessive laitence can be removed by light mechanical scabbling, grinding or grit blasting. Light laitence can be removed by grinding or blasting and then by vacuum cleaning.

Old concrete floors

Where deep seated contamination has occurred, mechanical methods such as blasting, grinding or scabbling should be used to provide a suitable clean surface. Any necessary repairs should be carried out using X-Roc Repair Mortar.

Priming

The substrate should be primed in order to prevent air release and to provide a bond for the X-Shield LevelCem HD. Priming is achieved by coating the floor with a solution of X-Roc BondCure diluted 1:1 with potable water. If, after treatment an even sheen is not evident on the floor an additional application of primer should be made.

Installation by hand

Mixing

Only full bag mixing is permissible. Do **not** part mix, or add further water to the mixed material in order to prolong workability. Either of these actions will result in an incorrect water:powder ratio, and will compromise the final material performance. It is essential that X-Shield LevelCem HD is thoroughly mixed and that the temperature of the mixed material should not be allowed to exceed 30C.

Measure out 6.5 litres of cool, potable water, into a suitably sized mixing vessel and mixing a full bag of X-Shield LevelCem HD. It is suggested that the temperature of the water should not exceed 20C so that the temperature of the final mixed mortar is not greater than 30°C.

Always add the powder to the water. Mix for 3 to 5 minutes until fully homogenous, using a 1 KW, slow speed drill (400 to 500 rpm) + NCC X-Calibur mixing paddle attachment.

Application

Pour the mixed material on to the dry, primed surface, spread with a trowel and allow to 'self-level'. Roll the surface with a spiked roller to promote the release of any trapped air. Best results are achieved when the pouring and levelling is a continuous process.

Installation by pump

This is a highly specialised activity and requires the use of an approved applicator, who has been fully trained in the use of product and equipment by NCC X-Calibur.

Expansion joints

Expansion joints in the existing substrate must be retained and continued through the X-Shield LevelCem HD. NCC X-Calibur have a range of joint sealants specifically designed for flooring, consult your local NCC X-Calibur office for more details.

Hot weather working

It is suggested that, for temperatures above 35C, the following guidelines are adopted as good working practice:

- (i) Store unmixed materials in a cool (preferably temperature controlled) environment, avoiding exposure to direct sunlight.
- (ii) Keep equipment cool, arranging shade protection if necessary. It is especially important to keep cool those surfaces of the equipment which will come into direct contact with the material itself.
- (iii) Try to avoid application during the hottest times of the day.
- (iv) Make sufficient material, plant and labour available to ensure that application is a continuous process.
- (v) Use ice cold water for mixing.

- (iv) Pre-soak the surface prior to application of primer

Curing

Curing is essential. Freshly hardened surface should be covered completely with polythene sheet for 3 days.

Coating

In areas that are subject to regular water immersion or chemical attack from acids or organic solvent, it will be appropriate to protect X-Shield LevelCem HD with an epoxy floor coating such as X-Shield EpoxySeal WDE.

Clean Up

Tools and equipment should be cleaned immediately by flushing with water. Cured material can only be removed by mechanical means.

Limitations

Concrete slabs onto which X-Shield LevelCem HD is to be applied must have a surface temperature of at least 5°C, with the air temperature maintained at 10°C, or more, during application.

Protect X-Shield LevelCem HD from freezing for 48 hours after placement.

For temperatures above 35C refer to **Hot Weather**

Working.

Only suitable for use out of direct sunlight and on internal floors.

Health and Safety

This product is for industrial use only by trained operatives. It is potentially hazardous if not used correctly. Please refer to the Material Safety Data Sheet (MSDS) prior to the purchase and use of this product. The MSDS can be obtained via our website www.ncc.com.eg

Authorized Technical Specialist

Please note that only NCC X-Calibur Authorized Technical Support Specialists ('ATSS') are permitted to change any of the information in this data sheet or to provide written recommendations concerning the use of this product. Visit www.ncc.com.eg for a full list of NCC X-Calibur ATSSs.

Datasheet Validity

NCC X-Calibur makes modifications to its product datasheets on a continuous basis. Please check the datasheet update section on www.ncc.com.eg to ensure you have the latest version.

Warranties

X-Calibur supplies products that comply with the properties shown on the current datasheets. In the unlikely event that products supplied are proved not to comply with these properties, then we will replace the non-compliant product or refund the purchase price.

X-Calibur does not warrant or guarantee the installation of the products as it does not have control over the installation or end use of the products. Any suspected defects must be reported to X-Calibur in writing within five working days of being detected. X-Calibur

Construction Systems Inc. **makes no warranty as to merchantability or fitness for a particular purpose and this warranty is in lieu of all other warranties express or implied.** X-Calibur Construction Systems

Inc. shall not be liable for damages of any sort including remote or consequential damages, down time, or delay.
