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# AltroProof Solo™ Universal

Universal one coat DPM

Nominal thickness 250 microns

Technical and installation guide

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## Product description

**AltroProof Solo Universal** is a single coat, high-build epoxy Surface Damp-Proof Membrane for application to substrates with high moisture content, isolating residual construction water and allowing early installation of moisture sensitive floor coverings. An effective single coat application provides protection across a range of moisture contents from relative humidity of more than 75% to 97% wet, (surface-dry).

Altro safety flooring, resin systems, smooth vinyl and rubber floorings are universally suitable for installing directly over AltroProof Solo Universal. Typically Altro safety, smooth vinyl and rubber floorings are used in conjunction with a water resistant levelling screed which may in normal circumstance be applied on the same day. Suitable water resistant smoothing compounds may be applied beneath AltroProof Solo Universal.

When used with Altro safety flooring, resin systems, smooth vinyl and rubber floorings as part of the Altro system, the AltroProof Solo Universal warranty matches the product warranty.

## Standard colours

AltroProof Solo Universal is supplied as a Dawn Grey two-pack single coat system.

## Sustainability

Altro's steps to sustainability program seeks to optimise our performance with respect to the planet's resources. Please refer to [www.altro.com](http://www.altro.com) for further information.

## Advantages

- Single coat quick and easy to apply
- Cost and time effective single coat application
- Allows early installation of flooring on and cement and concrete substrates with a moisture content >75% RH
- Affords tolerance to residual construction moisture, accommodates hygrometer readings up to 97%
- Suppresses residual construction moisture
- Facilitates progression of fast track construction projects, reducing application schedules to as little as 21 days subsequent to concrete installation
- Protects moisture sensitive flooring systems from rising damp in buildings with no structural DPM included as part of the construction
- Outstanding adhesion to concrete under adverse conditions
- Excellent resistance to water and hydrolysis
- Suitable for heated concrete screeds (see under-floor heating section below)
- Provides for monolithic construction
- Ease of mixing & application: rapid application by notched trowel, roller, squeegee etc.; low viscosity
- Allows for early overlayment
- Excellent adhesion under adverse conditions

## Typical areas of use include

- Fast track construction - to facilitate the early overlayment of green concrete
- Refurbishment projects - when combined with a thick section polymer or epoxy screed as a remedial measure on existing substrates in the absence of a satisfactory damp-proof membrane (refer to Altro Technical Services)
- As a combined sandwich bonding agent / DPM to ensure monolithic construction, i.e. new to old concrete adhesive, bonding rapid setting screeds, self-levelling overlayment etc

## Typical physical properties

Application temperature		15°C to 25°C
Usable working life		20 ± 5 minutes @ 20°C
Overlayment period	@ 25°C minimum 20 hours maximum 24 hours	@ 15°C minimum 30 hours maximum 36 hours

### Packaging

AltroProof Solo Universal is available in a 6kg two-part composite pack.

### Guide coverage

Not more than 18m<sup>2</sup> @ 6 kg per unit.

A minimum thickness of 250μ must be applied.

Material usage is dependent upon temperature, surface profile and porosity; the stated coverage rates should be referred to for guidance only and cannot be relied upon to determine exact quantities.

We do not recommend exceeding 3m<sup>2</sup>/kg.

### Storage

Ensure that the product is received in good order. Store in a dry, frost-free environment and condition to between 15°C and 25°C for at least 24 hours before laying. Excessively high and low storage temperatures will affect the application and performance of the product.

### Suitable substrates (resin flooring) (When used beneath resin systems)

AltroProof Solo Universal is an effective primer for all Altro Resin Systems. Where the substrate has been fully satisfied with AltroProof Solo Universal it shall replace additional system primers providing the overlayment period has been followed. All aspects of the installation must be in accordance with the requirements of BS8204-6 (Synthetic resin floorings – Code of practice).

### Suitable substrates (resilient flooring) (when used beneath vinyl and rubber and other non-resinous synthetic overlayment)

AltroProof Solo Universal may be applied to a variety of substrates including concrete, polymer modified screeds, fine concrete, sand and cement screeds, cementitious terrazzo, granolithic stone, levelling screeds / surface smoothing compounds.

If there is a requirement for improved substrate uniformity, then where it is consistent with the intended floor finish and timetable a suitable, water resistant smoothing compound may be applied prior to the application of AltroProof Solo Universal, at a depth of not less than 3mm and in strict accordance with the manufacturer's recommendations. In fast track projects, where early installation of the floor covering is the priority, it is generally preferred that suitable water resistant levelling compounds are applied to the hardened AltroProof Solo Universal soon after the minimum overlayment time, in strict accordance with the manufacturer's recommendations.

In order to achieve good adhesion it is important not to exceed the maximum overlayment period of the AltroProof Solo Universal. Where the maximum overlayment time is exceeded an additional coat will be necessary. All aspects of the installation must be in accordance with the requirements of BS8204, BS8203 (Installation of Resilient floor coverings).

## Under floor heating

Under floor heating must be commissioned a minimum of 7 days in accordance with BSEN1264-4 and BS8204-1 the heating must be tested and restricted to a maximum surface temperature of 27°C (see BS8203 and BS5325). Under floor heating must be turned off for 48 hours before and after installation.

FeRFA, The Resin Federation, does not recommend Calcium Sulphate, Anhydrite or Hemi-hydrate screeds for overlayment with synthetic resin surfaces

## Substrate requirements

On substrates liable to direct hydrostatic pressure e.g some basements, low lying buildings, in the absence of an integral DPM, a more substantial installation may be required. Substrates should be dry, structurally sound and free from contamination, friable materials, laitance and contaminants which may affect either the adhesion or penetration of the AltroProof system. All residues of old paint coatings and dust must be fully removed mechanically in order to achieve maximum adhesion.

Substrates to achieve 26N/mm<sup>2</sup> compressive strength (BS EN 12504-2:2001) and surface tensile strength 1.5N/mm<sup>2</sup> (BS EN 13892-8:2002). New ground supported concrete should incorporate an integral physical functioning DPM within the construction in accordance with building regulations.

Concrete floors must be constructed in accordance with the British Standards BS8204 Part 1:2008 Code of Practice.

The slab should preferably be a minimum of 21 days old and the moisture content should be measured and recorded - RH of up to 97% (when measured using a hygrometer in accordance to BS 8203:2001).

## Substrate preparation

Surface preparation is the most vital aspect of resin flooring application. Inadequate preparation may lead to loss of adhesion and failure. The substrate in question will dictate the method of preparation.

All surface contamination, old coatings, oil paint rubber and chemicals should be thoroughly removed in order to achieve a sound stable interface with exposed aggregates.

In the case of a concrete floor, preparation by dust enclosed diamond floor grinder may be appropriate, or if of a sufficient area for economic reasons, should be lightly shot blasted to leave a textured surface free from contamination.

If the floor has been treated with a cementitious surface improver, then the surface should be prepared in accordance with the manufacturer's recommendations, or abraded with an STR machine followed by thorough vacuuming.

Treatment of local repairs such as cracks and holes, improvement or modification of levels and removal of high spots, should be undertaken prior to the flooring installation. Thin coatings will reflect the surface texture. High spots may lead to local under-thickness and reduced performance. Excessive profiles as a result of inappropriate surface preparation may significantly affect application, coverage and performance.

**NOTE: Special care should be taken where contaminants are present that may be detrimental to the bond line in terms of penetration and degradation i.e. mould release, oils, acids and solvents. Acid etching is NOT an appropriate method of preparation to receive AltroProof Solo Universal. Please consult Altro or FeRFA's Guide to the Specification and Application of Synthetic Resin Flooring for further guidance.**

## Planning

Before proceeding with the installation, careful consideration should be given to determining the best way of installing the Altro system, and optimise the open time of the product (i.e. minimise the distance between mixing and laying). It is best to also consider the effect of external influences on the final installation (i.e. direction of light from windows etc.).

## Application

The following application guide is based on laboratory, simulated site conditions and experience. However, when installation conditions differ appreciably from those detailed by Altro, the performance characteristics of both mixing and laying may vary. To achieve the best results at all times please endeavour to establish the correct site conditions which in turn will allow the materials to be laid effectively, and meet your customer's expectations.

## Installation conditions

Apply in well ventilated areas. Both the slab and air temperature should be greater than 10°C and up to 25°C. It is not advisable to mix and lay AltroProof Solo Universal outside the range 10°C to 25°C. Room temperature should be established and stabilised 72 hours before, during and after. Ambient conditions should be maintained at least 3°C above dew point or below 75% RH during the initial stages of cure.

At site temperatures above 30°C, application is not advisable. It must be recognised that the concrete slab temperature will generally be lower than the air temperature, often by as much as 10°C, and this will govern the rate of cure. As the resin flooring cures, in condensing conditions moisture vapour may condense onto the surface and cause 'blooming', which may adversely affect adhesion. Cold, wet or humid conditions, and limited air-flow, can result in condensation on the part-cured floor.

## Mixing equipment

- Slow Speed Drill (200-500rpm), such as MM17 \*
- Mixing paddle, such as MR2 60B \*

\* All tool number references relate to Refina Ltd 01202 632 270

## Product installation

**Ensure that the correct PPE is worn at all times.**

Using a slow speed drill and paddle thoroughly mix the base colour for 30 seconds. Pour all of the hardener into the pre-mixed base and mix for a further 4-5 minutes. Ensure the material is fully mixed around the sides and bottom of the container. (Vigorous mixing should be avoided as this can lead to bubbles and pinholes). If the mixing area is not adjacent to the laying area the time required to transfer the mixed material will reduce the open installation time. When fully mixed, immediately pour all the mixed material onto the floor in a ribbon. Use a 2mm x 5mm notched trowel or dense foam rubber squeegee to distribute the material evenly then use a low-loss medium pile synthetic roller that has been pre-wetted with AltroProof Solo Universal to uniformly and fully treat the surface. Check that sufficient material and the minimum thickness has been applied. Allow the AltroProof Solo Universal to cure and carefully inspect the applied film for defects i.e. pinholes and areas of under thickness. If necessary, apply additional AltroProof Solo Universal locally. Allow curing for the minimum overlayment period prior to the application of a water resistant levelling screed or apply the floor covering using a suitable water resistant adhesive.

## Joints

All joints should be treated with a suitable flexible jointing compound e.g. AltroExpand™ which has been pre-primed with AltroProof Solo Universal.

## Protection

Whilst of an extremely durable nature these floor systems must be thoroughly protected from damage during ongoing contractual works. AltroProof Solo Universal should not be breached mechanically in any way.

The resin floor should reach full chemical cure in 7 days at 20°C. Untreated felt paper will suffice as protection from light traffic, however if protection is required from other trades then the following protection option should be considered. Where heavier access is required then a more suitable medium to take the loadings, such as shuttering ply or Correx by Cordek, should be placed on top of the untreated felt paper.

No polyethylene sheets, linseed-treated hardboard, print or dyed card should be placed in contact with the resin surface. All joints in the protection medium should be taped, and all accidental spillages should be recovered immediately by removal and reinstatement of the protection. Damage will occur to the system if the advice given above is not followed.

## Cleaning (during installation)

All tools and equipment should be regularly cleaned using AltroSolve EP™ to reduce build up and maintain the quality of the installation. **Ensure that the correct PPE is worn at all times.**

## Disposal

Due diligence must be adopted if accidental spillages occur. Recover using absorbent granules, transferring into a suitably marked container. Disposal of all empty containers and accidental spillages should be in accordance with the local waste disposal authority.

## Adhesives (Resilient floor coverings)

AltroFix™ 19 Plus (Two-part Polyurethane)

AltroFix 41 (Two-part Epoxy) are the preferred adhesives for use in conjunction with AltroProof.

AltroFix 365 Pressure sensitive acrylic may be suitable for direct overlayment when used with the 'dry lay' technique.

Water based adhesives should be used in accordance with the manufacturer's instructions on impervious surfaces.

## Handling and storage

The material described herein should be stored in a dry place between 5°C and 25°C, and conditioned to between 15°C and 20°C for a minimum of 24 hours prior to application.

All components should be protected from water and frost. Given the above and that the material are kept in the original, sealed containers, a shelf life of 12 months is to be expected.

Please obtain the correct MSDS from Altro prior to beginning the installation.

### **Always wear correct PPE whilst installing resin products.**

Please refer to Altro or FeRFA's Guide to PPE for use with in situ Resin Floors and Surface Protection.

### **To Order**

**E-mail enquiries@altro.com**

**Call 01462 707600**

**Fax 01462 707515**

**NOTE:** "Altro Limited" ("Altro") endeavours to ensure that advice and information given in Product Data Sheets, Method Statements and Material Safety Data Sheets (all known as Product Literature) is accurate and correct. However, where Altro has no control over the selection of its products for particular applications, it is important that any prospective customer, user or specifier, satisfies him/herself that the product is suitable for the intended application. In this process, due regard should be taken of the nature and composition of the background/base and the ambient conditions both at the time of laying/applying/installing/curing of the material and when the completed work is to be brought into use.

However, as site conditions and the execution of the work are beyond our control, we accept no resultant liability.

Altro's policy is one of continuous research and development and we reserve the right to update our products and information at any time without prior notice.

If you'd like any more information or guidance please get in touch, we're here to help.

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