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Altro Tect™ moisture-tolerant

Moisture-tolerant high build coating system
Technical and installation data sheet

October 2016

Product description

FeRFA type 3

Altro Tect moisture-tolerant variant is a moisture tolerant high-build, solvent-free epoxy coating system. It has been developed for use in high moisture situations, isolating water to provide protection for coatings.

Altro Tect moisture-tolerant is used as a self-priming first coat for high build coatings such as the Altro Tect variants and ensures long term integrity and performance. This system offers good chemical and abrasion resistance for light to medium duty industrial applications.

Standard colours

AltroTect moisture-tolerant is supplied in a range of standard colours.

Typical areas of use

- Fast track construction - to facilitate the overlayment of green concrete with consequent benefits as a first coat
- Factory refurbishment projects
- Light to medium duty general industry
- Warehouses
- Aircraft hangars
- Vehicle workshops
- Storage
- Defence

Advantages

- Offers tolerance to residual construction moisture (accommodating hygrometer readings up to 97%)
- Retards the transmission of water vapour
- Facilitates progression of fast track construction projects, reducing application schedules to as little as 21 days subsequent to concrete installation
- Outstanding adhesion to concrete under adverse conditions
- Excellent resistance to water and hydrolysis
- Provides for monolithic construction
- Ease of mixing & application: rapid application by roller, squeegee etc.; low viscosity
- Low odour
- Tailored top coat to suit application

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 for further information.

Typical physical properties

Application temperature	10°C to 25°C	
Usable working life	20 ± 5 minutes @20°C	
Overlayment period	@ 25°C minimum – 20 hours maximum – 24 hours	@ 10°C minimum – 30 hours maximum – 36 hours

Packaging

Altro Tect moisture-tolerant (1st coat) is available in a 6kg two-part composite pack.

Altro Tect standard (2nd coat) is available in a 6.3kg or 10kg two-part composite pack.

Altro Tect slip-resistant (2nd coat) is available in a 6.3kg two-part composite pack.

Coverage

Altro Tect moisture-tolerant:

1st coat 18m² per 6kg

Do not exceed 3m² /kg

Altro Tect standard:

2nd coat 25m² per 6.3kg

Altro Tect slip-resistant

2nd coat 25m² per 6.3kg

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. processes are employed, when colour consistency is essential a single batch should be used where possible.

Storage

Ensure that the product is received in good order and store in a dry, frost free environment, ideally between 15°C and 20°C for at least three days before laying. Excessively high and low storage temperatures will affect the laying performance of the product.

Suitable substrates

Altro Tect moisture-tolerant may be applied to a variety of substrates including, but not limited to, concrete, polymer-modified cementitious screeds and terrazzo. For all proprietary subfloor systems refer to the manufacturer for recommendations and seek further guidance from Altro.

NOTE Where other subfloors are to be used, including those with underfloor heating, please discuss with Altro Technical services.

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

Substrate requirements

Substrates should be structurally sound and free from contamination, friable materials, laitance and contaminants which may affect either the adhesion or penetration of the system. All residues of old paint coatings and dust must be fully removed mechanically. Substrates should achieve 26N/mm² compressive strength (BS EN 12504) and surface tensile strength 1.5N/mm² (BS EN 13892-8).

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.

On substrates liable to direct hydrostatic pressure such as some basements, low lying buildings, in the absence of an integral DPM, a more substantial installation may be required.

Substrate preparation

Surface preparation is the most vital aspect of resin flooring application. Inadequate preparation will lead to loss of adhesion and failure. The substrate in question will dictate the method of preparation. In the case of a concrete floor, preparation by dust enclosed shot blasting equipment is recommended to leave a textured surface free from laitance and contamination. If of a reduced area, for economic reasons, a diamond floor grinder may be appropriate, but all grinding slurry and / or dust must be thoroughly removed, by vacuum and / or mechanised washing with vacuum water-recovery.

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 premature wear. Excessive profiles as a result of inappropriate surface preparation may significantly affect the application, coverage and performance.

Please consult Altro or FeRFA's Guide to the Specification and Application of Synthetic Resin Flooring for further guidance. 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. 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.

Planning

Before proceeding with the installation, careful consideration should determine the best way of installing the Altro system. Efforts should be made to minimise day joints 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.). Time spent at this stage will be invaluable towards the success of your installation.

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 not be as expected. To achieve the best results at all times please endeavour to establish the correct 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 between 10°C and 25°C. It is not advisable to mix and lay AltroTect moisture-tolerant outside of this range space. The room temperature should be established 72 hours before and maintained during and after the installation. Ambient conditions should be at least 3°C above dew point or below 75% R.H during the initial stages of cure. It must be recognised that the concrete slab temperature will generally be lower than the air temperature, often 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', a permanent clouding of the surface. Cold, wet or humid conditions, and limited air-flow, can result in condensation on the part-cured floor. The workability, open-time, cure development and return to traffic will be significantly affected by ambient conditions.

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

Using a slow speed drill and paddle thoroughly mix the base colour for 30 seconds. Pour all of the hardener into the premixed base and mix for a further 2 minutes. Excessively vigorous mixing should be avoided as this can lead to undesirable air entrainment. 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. Remember to always use the correct PPE.

Pour all the mixed material into roller tray. Using either a low-loss medium pile synthetic roller, or dense foam rubber squeegee, distribute the material evenly and uniformly to fully treat the surface. Finish using a roller to ensure that a fully uniform and even coverage is achieved. Care should be taken not to exceed the coverage rate of 18m²/6 kg unit.

Allow the Altro Tect moisture-tolerant to cure and carefully inspect the applied film for defects i.e. pinholes and areas of under thickness. If necessary, apply additional coats. Allow the system to cure for a minimum of 20 hours at 20°C, but no longer than 24 hours at 20°C before over-coating with another high build coating such as Altro Tect. If the overcoating time period is exceeded, the surface should be lightly abraded and vacuumed before further coats are applied. Please see the relevant installation and technical data sheet for the over-coating variant.

Joins

The spacing of movement joints must be determined by the design of the subfloor. All live movement joints in the subfloor must be continued through the resin flooring. In all instances the type and positioning of movement joints should be agreed at the design stage between all parties concerned.

Please refer to Altro or FeRFA's Guide to the Specification and Application of Synthetic Resin Systems for further guidance.

Protection

Whilst of an extremely durable nature these floor systems must be thoroughly protected from the rigours and abuse that exist during the ongoing contractual works. 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 above guidance is not followed.

Cleaning (during installation)

All tools and equipment should be regularly cleaned using Altro Solve™ 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 of resin solvent 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.

Cleaning guidance (for the completed Altro resin system)

Optimum slip resistance and appearance can only be maintained with regular cleaning. The slip-resistant variant will require mechanised cleaning; mop cleaning will not be effective.

Steam cleaners and / or hot pressure cleaners should not be used on the floor or walls. A cold / ambient pressure washer may be used if required, but the pressure should not exceed 1400psi. Warm water will offer improved cleaning, but the water temperature should not exceed 60°C.

Entrance matting will reduce cleaning requirements and should also enhance the longevity of the floor, when combined with correct maintenance.

- Sweep or vacuum the floor to remove debris
- For normal cleaning, dilute an alkaline detergent such, as Altro Clean 44 or similar, by 1:40 in clean water
- Alternatively, dilute by 1:10 for infrequent heavy cleaning
- Liberally apply the water and detergent solution to the floor, scrubbing with a deck scrubber, Altro UniPad or similar
- Pay particular attention to areas where residues may accumulate, such as internal corners of perimeter coves and around columns etc
- If possible, allow the detergent solution to remain on the floor for several minutes to break down deposits, but not sufficiently long to allow the solution to evaporate
- Remove the solution by wet vacuum recovery and follow this with a fresh water rinse, or rinse the solution into drains if permissible
- It is important that all detergent residue is removed from the textured surface of the floor. Detergent may become slippery which affects safety, or sticky which attracts and holds more dirt

Altro Clean 44 and Altro Unipads are available through the Resins Sales Desk.

Please refer to the most up-to-date technical documents, including safety data sheets, for the Altro resin variant prior to beginning your installation.

To order

E-mail ResinSalesDesk@altro.com

Call 01300 320620

Fax 01300 321122

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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