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Altro Grip™ 1mm slip-resistant, Altro Grip™ 1.25mm slip-resistant

High build slip resistant epoxy coating
Technical and installation data sheet

September 2016

Product description
FeRFA type 4

Altro Grip is a multi-layer floor system providing a textured gloss surface. The 1mm slip-resistant variant is available in a range of single coloured finishes and the 1.25mm slip-resistant variant is available in either single or multi-coloured decorative finishes.

Both variants use a high build epoxy coating of Altro Tect standard coloured in conjunction with the appropriate sized grip aggregate before a seal coat is applied.

It is used in medium duty wet areas where there is risk of a slip.

Standard colours

Altro Grip 1mm slip-resistant variant is available in 25 standard colours.

Altro Grip 1.25mm slip-resistant variant is available in 25 standard colours and 18 multi-coloured decorative finishes. Bespoke colour systems require a minimum lead time and acceptance of a sample.

In common with other epoxy resin finishes, pale colours may show some cosmetic discolouration on exposure to UV light.

Non-standard colours

Safety Yellow, Safety Red.

Safety Red, Safety Yellow and Black are intended for line marking and small areas of demarcation only. Bright lighting and dark colours in particular black will highlight any defects such as roller lines scratches and marring. Bespoke non-standard colours will be subject to additional lead time and possibly increased cost.

Typical areas of use

- Wet production areas
- Wet packing and workshop areas
- Ramps
- Warehouse entry aprons

Advantages

- Fully sealed surface
- Low odour
- Abrasion resistant
- Good chemical resistance
- Attractive range of colours
- Variable traction

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.

Chemical resistance

Altro Grip offers resistance to a range of commonly used chemicals. However, premature or prolonged contact with chemicals (including water during curing) may give rise to discolouration, staining and variation in gloss. In all cases of chemical spillage, it is essential that the spillage be immediately removed and the surface washed down with clean water, removing water by wet vacuum after operation. Although some chemicals may cause discolouration, this may not affect the durability and integrity of the resin screed. Please refer to Altro and FeRFA Guidance Note No.3 for further information.

Typical physical properties

Speed of cure	Light foot traffic Full cure	24 hours @ 20°C 7 days @ 20°C
Application temperature		10°C to 25°C
Usable working life		30 minutes @ 20°C
Intercoat period		18 to 24 hours @ 20°C
Bond strength	EN 4264	B3,5
Slip resistance	BS 7976 PTV Altro Grip 1mm slip-resistant Altro Grip 1.25mm slip-resistant	 ≥40 ≥50

Packaging

Altro Grip 1mm slip-resistant single-colour variant comprises Altro Tect standard variant, coloured is available in a 6.3kg or 10kg two-part composite pack.
Altro Grip aggregate C52 is available in a 25kg bag.

Altro Grip 1.25mm slip-resistant single-colour variant comprises Altro Tect standard variant, coloured is available in a 6.3kg or 10kg two-part composite pack.
Altro Grip single colour quartz 0.4-0.8mm is available in a 20kg bag.

Altro Grip 1.25mm slip-resistant multi-colour variant comprises Altro Tect standard variant, coloured is available in a 6.3kg or 10kg two-part composite pack.
Altro Grip single colour quartz 0.4-0.8mm is available in a 20kg bag.

Altro Tect standard variant, clear is available in a 5.3kg two-part composite pack.

Coverage

Altro Grip 1mm slip-resistant single-colour variant
Altro Tect standard variant, coloured base coat 20m^2 /6.3kg
Altro Grip aggregate C52 (blind) 8.3kg/m^2
Altro Tect standard variant, coloured
1st coat 12.5m^2/6.3kg
Altro Tect standard variant, coloured
2nd coat 19m^2/6.3kg

Altro Grip 1.25mm slip-resistant single-colour variant
Altro Tect standard variant, coloured base coat 20m^2/6.3kg
Altro Grip single colour quartz 0.4-0.8mm (blind) 10m^2/20kg
Altro Tect standard variant, coloured
1st coat 12.5m^2/6.3kg
Altro Tect standard variant, coloured
2nd coat 19m^2/6.3kg

Altro Grip 1mm slip-resistant multi-colour variant
Altro Tect standard variant, coloured base coat 20m^2/6.3kg
Altro Grip multi- colour quartz 0.4-0.8mm (blind) 10m^2/20kg
Altro Tect standard variant, clear
1st coat 10.5m^2/5.3kg
Altro Tect standard variant, clear
2nd coat 16m^2/5.3kg

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. Priming of porous substrates will improve the coverage rates. Pale colours may require additional coats to cover a dark substrate.

Although stringent quality assurance 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 Grip 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. FeRFA, The Resin Federation, does not recommend Calcium Sulphate, Anhydrite or Hemi-hydrite screeds for overlayment with synthetic resin surfaces.

Substrate requirements

Substrates should be dry, structurally sound and free from contamination, friable materials or laitance which may affect either the adhesion or penetration of the resin system.
All residues of old paint coatings and dust must be removed. The substrates should achieve 26N/mm^2 compressive strength (BS EN 12504-2) and surface tensile strength 1.5N/mm^2 (BS EN 13892-8). Substrates must include an integral effective damp-proof membrane and contain residual moisture not greater than 5% by weight (75% R.H.) to BS 8203 (see Altro Proof™ for installations above 75% R.H.). Because of their method of application, synthetic resin floorings such as Altro Grip will inevitably follow the profile of the underlying substrate. This will affect the appearance and wear. Variable porosity and profile of the substrate will affect both coverage rates and final appearance. Please consult Altro or FeRFA Guide to the Specification and Application of Synthetic Resin Flooring for further information.

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 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 premature wear. Excessive profiles as a result of inappropriate surface preparation may significantly affect application, coverage and performance. 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 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 and simulated site conditions. However, when installations 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 15°C and 20°C. It is not advisable to mix and lay epoxy resin products outside that range. Ambient conditions should be maintained at least 3°C above dew point or below 75% R.H. during the initial stages of cure. At site temperatures below 10°C cure times will be substantially increased unless some form of external heating is used. 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 pre-mixed 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 either a large roller tray, or lay a river of the material onto the prepared substrate. 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. Begin on the side of the main light source and work away from the light. Finish using a roller in the direction of the light source to ensure that a uniform and even coverage is achieved.

Ensure the resin left on the surface is uniform ready to accept the Altro Grip aggregate. Into the wet resin the Altro Grip aggregate should be broadcast at the guide coverage or until the surface is fully blinded. Care should be taken not to throw the aggregate too close to the surface of the resin system in order to avoid unsightly clumping of the aggregate on the surface.

Allow the system to cure for a minimum of 18 hours at 20°C. The system must be sealed with Altro Tect standard coloured or clear depending on the variant used. Ensure the surface of the resin screed is contamination free and all loose aggregate removed and thoroughly vacuumed as necessary.

Pour the contents of the hardener into the base unit, and using a slow speed drill and paddle thoroughly mix the contents for 2 minutes. Apply the 1st seal coat to the screed from a paint tray taking time to work the seal into the surface, ensuring that all porous areas of Altro Grip are fully satisfied. Roll the surface with a short nap synthetic roller. Failure to remove excess may affect the slip resistance and appearance of the finished system.

Leave to cure for not longer than 24 hours at 20°C. Mix and roller apply the finishing seal coat from a paint tray to leave a uniform closed film across the floor where all excess is removed. Failure to remove excess may affect the slip resistance and appearance of the finished system.

Do not flood seal the Altro Grip variant as this can cause staining or discolouration, in the seal system.

Joints

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. All joints should be filled with Altro Expand™ flexible jointing compound. Please see Altro Expand data sheet for further information.

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 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 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

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.

Regular cleaning regime

- 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 or slow-speed (< 400rpm) scrubbing machine and 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

In some circumstances the customer may decide to use a high solids acrylic-emulsion surface dressing as a barrier layer to ease cleaning and / or maintain gloss. It should be noted that this will also reduce the surface texture and therefore the slip-resistance of the floor finish. This control of slip-resistance, in such cases, rests with those who determine cleaning regime and the application of surface dressings.

Please refer to material safety data sheets prior to installation.

Always wear correct PPE whilst installing Altro products.

To order E-mail ResinSalesDesk@altro.com

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If you'd like any more information or guidance
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