



# Altro Expand™ standard, Altro Expand™ vertical

Chemical resistant jointing sealant  
Technical and installation data sheet

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## Product description

**Altro Expand** variants are chemically resistant, epoxy flexible jointing compounds, specifically designed for industrial flooring. It is available in two grades, Altro Expand standard is a pourable variant and Altro Expand vertical variant is thixotropic allowing for vertical application using a knife or sealant gun.

Altro Expand accommodates normal thermal and vibration movement while providing sufficient strength to protect joints from damage and erosion. It is suitable for use in most areas where all live movement joints need to be brought through an installed Altro resin system. It can be used in conjunction with Altro polyurethane and epoxy resin systems.

## Standard colours

Available in 26 standard single colours, with options for bespoke colours.

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

## Typical areas of use

- Factories
- Warehouses
- Workshops
- Hangars

## Advantages

- Chemical resistant
- Easy to apply
- Low odour
- Excellent adhesion
- Flexible to accommodate normal movement

## 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.

## Chemical resistance

Altro Expand variants provide good resistance to a range of commonly used chemicals. However, premature contact with chemicals (including water) during the curing process 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 coating. Please refer to Altro and FeRFA Guidance Note No.3 for further information.

## Typical physical properties

Speed of cure	Light foot traffic	24 hours @ 20°C
	Full cure	7 days @ 20°C
Application temperature		10°C to 25°C
Usable working life		45 minutes @ 20°C

## Packaging

**Altro Expand standard** variant is available in a two part composite pack in 1kg, 2.5kg and 5kg sizes.

**Altro Expand vertical** variant is available in a two part composite pack in 2.5kg size.

## Coverage

Depth (mm)	Linear metres/kg						
	Joint width (mm)						
	5	10	15	20	25	30	35
5	28	14	9.4	7	5.6	4.7	4
7	20	10	6.7	5	4	3.3	2.8
12	11.8	5.9	3.9	2.9	2.3	1.9	1.7
15	9.4	4.7	3	2.3	1.9	1.6	1.3
20	7	3.5	2.3	1.7	1.4	1.1	1
25	5.6	2.8	1.8	1.4	1.1	0.9	0.8

The joint width and depth should be agreed before installation (generic guide in depth = 1.5 X joint width).

The coverage rate of Altro Expand will be directly dependant on the porosity and profile of the substrate as well as other contributory factors such as ambient and substrate temperature. Stated coverage rates should be referred to for guidance only and cannot be relied upon to determine exact quantities.

## 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 Expand variants can be applied to a variety of substrates including, but not limited to, concrete, polymer modified cementitious screeds, terrazzo, 25mm marine grade plywood (consult Altro for further guidance). 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-hydrate 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. Substrates to achieve 26N/mm<sup>2</sup> compressive strength (BS EN 12504-2) and surface tensile strength 1.5N/mm<sup>2</sup> (BS EN 13892-8). Substrates must include an 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.). Variable porosity and profile of the substrate will affect coverage rates. 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. Where necessary, a firm backing rod should be used when filling deeper joints. Joint fillers must be well compacted. The joint must be dry, sound and free from laitance, dust and any loose matter. All residual dust from joint cutting should be removed. 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. 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 10°C and 25°C. It is not advisable to mix and lay epoxy resin products outside this 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. (Avoid using heating sources that give rise to high levels of humidity). 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 \* A smaller paddle may be required for 1kg pack sizes.

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

## Priming the substrate

The joint should be primed with Altro Prime standard prior to installation of the Altro Expand variant. Allow the primer to become tacky in nature and then apply the Altro Expand into the primer.

## Product installation

Pour all of the hardener into the base and thoroughly mechanically mix for 2 minutes. Fully incorporate all the material from the sides of the bucket and mix for a further minute to ensure that the product cures consistently. Ineffective mixing can lead to yellow staining. 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. Ensure both sides of the joint are taped prior to installation so as to avoid over spill. (Remove all tape before the product cures fully).

### **Remember to always use the correct PPE.**

**Altro Expand standard:** Transfer the mixed material into a suitable pouring jug. Pour the mixed material from the jug into the joint allowing time for the material to settle and find its level and top up if required.

**Altro Expand vertical:** Apply the material directly using a spatula or knife or alternatively from a clean mastic tube and gun into place. Altro Expand vertical is suitable for both vertical and horizontal applications.

Allow the system to cure for a minimum of 18 hours at 20°C, but no longer than 48 hours at 20°C before over-coating if required. If the over-coating time period is exceeded, the surface should be lightly abraded and vacuumed before further coats are applied.

## 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.

## 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. 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. The resin system should have cured for at least 48 hours prior to placing the protection. 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 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)

Textured surfaces will require mechanised cleaning or the use of a long-handled scrubbing brush; 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. Correct maintenance and entrance matting should enhance the longevity of the floor.

- 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.
- 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](mailto:ResinSalesDesk@altro.com)**

**Call 01300 320620**

**Fax 01300 321122**

**NOTE:** "Altro Ltd" ("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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