

Chapter 6

Adhesives, sealants, tapes and AltroMastic 100

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6.1 Adhesive recommendations

Product	Porous (absorbent) subfloors (most wood subfloors and some concrete)	Non-porous (non-absorbent) Subfloors (most concrete, ceramic, terrazzo, moisture sealers, metal and existing flooring)
Safety sheet flooring	AltroFix 30/31 (excessively heavy rolling loads and/or excessively wet areas) EcoFix 35 spray (dry areas) EcoFix+ (dry areas) AltroFix ZERO	AltroFix 30/31 (excessively heavy rolling loads and/or excessively wet areas) EcoFix 35 spray (dry areas) EcoFix+ (dry areas) AltroFix ZERO
Smooth sheet flooring	EcoFix 35 spray (dry areas) EcoFix+ AltroFix ZERO (For heavy rolling loads contact Altro Technical Services.)	EcoFix 35 spray (dry areas) EcoFix+ AltroFix ZERO (For heavy rolling loads contact Altro Technical Services.)
Adhesive-free flooring	Altro adhesive-free floor system approved installation tape	Altro adhesive-free floor system approved installation tape
Altro Ollero	Altro adhesive for rubber flooring	Altro adhesive for rubber flooring
Altro Walkway 20 SD	AltroFix SD70 Conductive Acrylic	AltroFix SD70 Conductive Acrylic
Tile + LVT	Ecofix 65 Spray EcoFix+	Ecofix 65 Spray EcoFix+
Gulley angle/edges	Altro QuickFix 3042	Altro QuickFix 3042

Most concrete is considered to be non-porous (non-absorbent). To test for porosity, sprinkle a few drops of water on the subfloor, and if it is not absorbed within about one (1) minute, the subfloor should be treated as a non-porous/low absorbency surface. The final determination for subfloor porosity is the responsibility of the flooring contractor.

Please note:

- Adhesive coverage is only an approximation based on experience, manufacturers recommendations, and subfloor porosity, Altro does not warrant nor guarantee actual adhesive coverages.
- AltroFix 31 is a faster setting polyurethane adhesive and can also be used for repair and small installations of sheet material requiring a quicker set time.
- Altro QuickFix 3042 adhesive is the recommended adhesive choice for gulley edge/angle, alternatively AltroFix 30/31 adhesives can be used.
- Adhesive bond tests must be conducted with the flooring and adhesive specified to determine the compatibility of the adhesive with the prepared subfloor.
- Ecofix+ adhesive is acceptable up to 99% RH, Ecofix 65 Spray and 35 Spray are acceptable to 98% RH and Altrofix30/31 is acceptable up to 90% RH. AltroFix ZERO has no moisture limitations.
- For coved areas of flooring, Altro Contact tape is used to adhere coving for both porous and non-porous applications.
- Adhesive bond tests must be conducted with the flooring and adhesive specified to determine the compatibility of the adhesive with the prepared subfloor.

6.2 Polyurethane adhesives

AltroFix 30 and AltroFix 31

For installations of Safety Sheet Flooring in areas subjected to excessive spillage of water, floors with a drain(s), extreme temperature change, and extremely heavy rolling loads, AltroFix 30 adhesive is mandatory. AltroFix 31 is an extremely fast setting version of AltroFix 30.

Polyurethane adhesives, also known as reactive adhesives, are suitable for all approved subfloors including properly prepared metal. Polyurethane adhesives are generally not suitable for vertical surfaces due to their low initial grab.

6.3 1-part hybrid urethane adhesive

AltroFix Zero

AltroFix™ ZERO offers an effective solution to halt moisture-related delays. Crafted using a secure, single-part, moisture-curing formula, AltroFix™ ZERO presents a swifter and more user-friendly option compared to two-component epoxy systems. This 1-part hybrid urethane is expertly designed to withstand heavy rolling loads and the demanding conditions of wet environments.

6.4 Spray adhesives

EcoFix 65 Spray

Used for adhering tile and/or plank products in commercial and residential applications.

EcoFix 35 Spray

Used for adhering resilient sheet vinyl products in commercial and residential applications.

NOTE: Spray adhesives are not freeze-thaw stable.

6.5 Acrylic adhesives

EcoFix+

Transitional pressure sensitive adhesive (TPSA) goes above and beyond by withstanding severe moisture and alkalinity. Offering the upfront benefits of a TPSA, it quickly transitions into a hard-set to securely lock your flooring in place. With its aggressive, fast-grab design, Altro EcoFix+ handles the pressure of heavy rolling loads with ease and is suitable adhesive for resilient flooring.

NOTE: For use in dry areas.

6.6 Static conductive adhesives

A static conductive adhesive must be used with Altro Walkway 20SD, Altro's static dissipative safety flooring.

NOTE: Please contact your Altro distributor for the approved static conductive adhesive for specific applications.

6.7 Contact tapes

Vinyl cap strips, cove stick, and integral cove may be adhered using a quality contact tape.

6.8 Altro adhesive-free floor system approved installation tape

For adhesive-free installation, Altro adhesive-free floor system approved installation tape is used to adhere the sheet vinyl backing to clean, dust free substrates.

6.9 Important adhesive terms

Coverage is the amount of adhesive applied to a given surface. To obtain a good bond, the right amount of adhesive has to be applied with the appropriate trowel, in accordance with the manufacturer's recommendations.

If not enough adhesive is applied, the bond will be too weak and there will be insufficient contact between the adhesive and the material. If the substrate is porous and a fluid adhesive is used, the adhesive may be absorbed by the substrate, leaving insufficient coverage for proper bonding. If the surface to be bonded is rough, sufficient adhesive has to be applied to ensure that it penetrates into all the nooks and crannies.

If too much adhesive is applied, water may remain trapped inside and not evaporate properly. As a result, the adhesive will not harden at the proper rate, causing blisters or even ungluing. In addition, too thick an application may result in indentation or pockmark problems.

To obtain the correct coverage, the installer must use the appropriate trowel. Furthermore, the notches of the trowel must not be worn down, which will occur when steel trowels are used on hard substrates. When the notches are worn, the trowel will not apply enough adhesive. Worn-out trowels should be replaced. Renotching is not always a good alternative since labor sometimes costs more than a new trowel. Renotching a trowel or spreader is inconsistent. This will result in an incorrect amount of adhesive being applied and could lead to failure.

Pot life applies only to reactive adhesives (epoxy, polyurethane, polyester, and dry-set mortars). The pot life is the length of time that an adhesive remains usable after the components are mixed. Depending on the product formula, the chemical reaction will begin immediately or soon after mixing.

Factors affecting pot life include:

Temperature: The higher the temperature, the shorter the pot life, since heat accelerates the chemical reaction producing hardening.

Size of Mixture: In the case of certain products, an exothermic, or heat-generating reaction occurs, with the amount of heat generated increasing in proportion to the mass of the mixture. If too much product is mixed at one time, the reaction could accelerate substantially, causing the adhesive to set prematurely. Therefore, when working with such products, it is advisable to spread the adhesive in a thin coat. This allows the heat of the reaction to escape, thus prolonging the working time.

Tackifying time is the interval of time between the spreading of the adhesive on the substrate and the installation of the material. During this time, the water begins to evaporate. As a result, the adhesive thickens and becomes tacky, producing sufficient cohesion so that the material can be installed without the risk of it lifting.

The tackifying time for various adhesives on the market ranges between 0 and 40 minutes, depending on the type of formula used.

Factors affecting the tackifying time include:

Temperature and humidity: If it is hot and dry, water will evaporate rapidly and the material must be installed faster. The opposite is true when it is cool and humid.

Absorbency of substrate: If the direct glue down method is being used to apply an adhesive in emulsion or solution, the installer must verify the absorbency of the substrate and the material to ensure that the water is able to evaporate out or be absorbed after installation. If not, blistering or bubbling may occur.

Installer must always respect tackifying time.

Open time begins when the adhesive is spread and ends when it loses its adhesive properties. Therefore, the interval of time during which the material can be installed depends on the tackifying and open time, as shown in the diagram:

Factors affecting the open time include:

Temperature and humidity: Heat shortens the open time by accelerating the evaporation of the water. Cold prolongs open time.

Humidity: In the case of emulsion adhesives, humidity increases open time by slowing the evaporation of water.

High absorbent substrates: High absorbents shorten open time by absorbing more adhesive.

Initial tack is an adhesive's ability to hold the flooring in place as soon as it is installed, so that it does not lift or move. Sufficient initial tack is particularly important for difficult areas such as seams, edges, end-curl, etc. If the adhesive does not have enough initial tack, the material will lift after being installed and the installer will have to roll the area again and/or may have to weight the area down until the adhesive has set.

When an adhesive is first spread, it has little tack, but the tack increases along with the tackifying time.

Setting mechanism is the process in which an adhesive begins to cure.

Setting mechanisms include:

Catalyst: One part of a two-part adhesive that, when combined, reacts and hardens. Our Altrofix 30 and 31 are two-part polyurethane adhesives consisting of a resin (part A) and a catalyst (part B).

Setting stages: There are several stages of setting. See diagram below.

Adequate: When the work site can be opened to light foot traffic (in general, a few hours after application, except in the case of reactive adhesives).

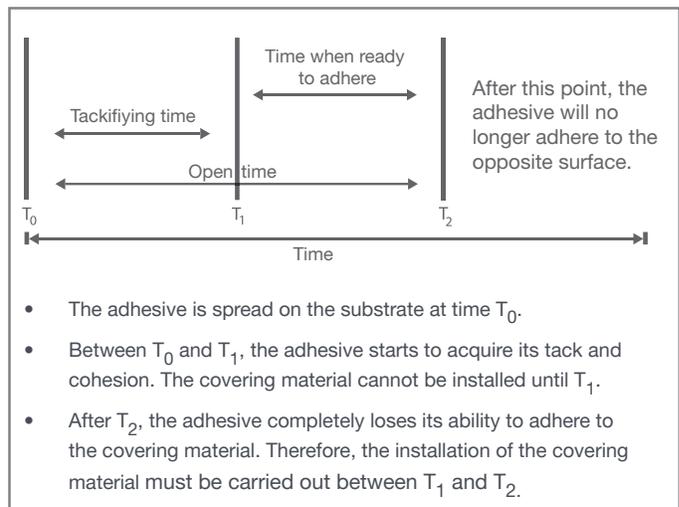
Complete: When the adhesive has acquired 90% or 100% of its maximum properties, including its maximum pull strength. At this stage, the heat can be turned back on without risk of the material lifting and in the case of wet areas, the floor covering can be thoroughly washed with water if required.

Substrate permeability: When selecting an adhesive, the absorbency of the substrate must be taken into account.

Porous material on a porous substrate: This is no problem, since the water can evaporate from both sides.

Non-porous material on a porous substrate: Excess water will be absorbed into that substrate.

Non-porous material on a non-porous substrate: The water MUST be totally evaporated before the material is installed. If not, the adhesive will never set and the water trapped inside may cause blistering or bubbling.



Another solution is to use a reactive adhesive (two-part polyurethane, AltroFix 30/31), which does not require evaporation to set.

Notes

6.10 AltroMastic™ 100

AltroMastic™ 100 is used for sealing around pipes and other adjacent surfaces. It is not to be used for sealing seams of Altro high performance floor covering, around drains or internal and external corners. AltroMastic 100 is available in a variety of colors similar to standard Altro colors. Please contact your Altro distributor for the closest color match.

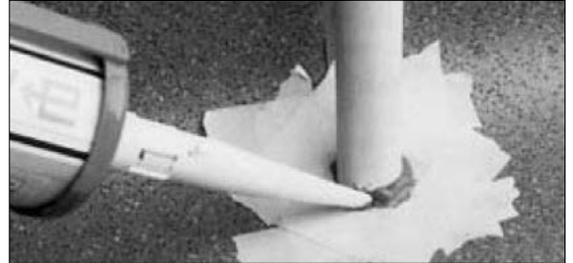
Overview

- Altro floor covering is to be fitted to pipes and other adjacent surfaces with close-butted seams. Cut a 1/8" (3mm) channel around the object to receive the AltroMastic 100. Ensure the channel is free from foreign matter.
- Cover the surface of the Altro floor covering around the area to receive AltroMastic 100 with masking tape to ensure it does not come into contact with surfaces where AltroMastic 100 is not required.
- Nozzle on tube must be cut back to allow approximately 1/8" (3mm) bead of AltroMastic 100 to flow from the cartridge.
- Place nozzle and tube in caulking gun. Nozzle can then be moved along channel at sufficient speed to ensure the channel is completely filled.
- Smooth the AltroMastic 100 before it skins over by running a wet finger along it.S
- After application, it is important to remove masking tape before the AltroMastic 100 skins over.
- One cartridge should cover approximately 130 linear feet (40 linear meters) with a 1/8" (3mm) bead. Skin-over time is approximately 20 minutes.
- AltroMastic 100 completely cures in 1 to 3 days. Do not allow contact with AltroMastic 100 until at least 8 hours after application.
- Store and apply AltroMastic 100 at a minimum temperature of 41°F (5°C) and a maximum of 77°F (25°C) in cool, dry conditions.

Instructions for use

1. AltroMastic 100 is a specially formulated sealing compound for use where Altro floorings abut edges, skirtings, wall surfaces, or where the flooring is cut around pipes, door frames, etc.
2. AltroMastic 100 is not recommended for use in trafficked areas, as a welded joint will give superior performance. Where flooring abuts drainage channels, access covers, quarry tiles etc., a clamping or welding system should be used.

3. AltroMastic 100 should only be used to seal joints in Altro floorings where obstructions prevent the use of a hot air welding gun.



Viscosity	Thixotropic
Density	1.01
Cure time	24-72 hours
Skin time	20 minutes
Storage	Store between 40°F (5°C) to 77°F (25°C) in cool, dry conditions
Shelf life	At least 12 months, in an airtight container, from date of manufacture
Coverage	Approximately 130 linear feet (40 linear meters) per 1/8th" (3mm) bead
Working temperature	Between 40°F (5°C) to 104°F (40°C)
Full bond	4 days
Contains	9.8oz (290ml)

Procedure

1. Surfaces to be sealed must be dry and free from dirt, oil, or grease.
2. All areas to be sealed should be masked with masking tape.

Note: Wet spillage of AltroMastic 100 can be removed using adhesive clean-up wipes.

Contains no solvent or isocyanate

Can cause irritation by inhalation, skin contact and ingestion:

- When using do not eat, drink or smoke
- Do not empty into drains
- Keep out of reach of children