



altro



Detailing guide for commercial kitchens

With information on high moisture areas, drains, clean outs and excessive temperature environments

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Product overview

1.1 Altro safety flooring

Altro safety flooring is a unique combination of plasticized vinyl, aluminum oxide grains and silicon carbide grains with a glass fiber reinforcement. Some ranges also include quartz aggregates.

The underfoot safety of any floor is dependent on the coefficient of friction between the floor surface and the sole of the shoe or bare foot. The safety performance of Altro safety flooring relies on the way in which the vinyl compresses under load, leaving the abrasive grain protruding above the surface to provide a reliable grip.

It is important to remember that suitable floor maintenance also plays a

vital part in safety underfoot.

Altro Easyclean makes Altro flooring easy to maintain while continuing to provide superior slip resistance for many years.

1.2 Product limitations

Altro flooring is not normally recommended for use in the following areas:

- Areas exposed to certain conditions that may cause staining. For example, areas such as newly applied asphalt in driveways or parking lots, or antioxidants in certain types of rubber used in mats, wheels and tires. Certain dark colors of Altro flooring may minimize this effect.
- Areas which may be subjected to hot objects that may burn or melt vinyl flooring. Vinyl floor covering must be protected from excessive heat, or items exceeding 140°F.
- Areas subject to excessive spillages of alcohol, ketones or other solvents harmful to vinyl.

Altro can not accept responsibility for floor damage resulting from excessive moisture or the use of inappropriate, improperly designed or inadequate floor protection devices. It is the responsibility of the equipment manufacturer to provide suitable floor contacts to prevent indentation or de-lamination and the responsibility of the end-user/maintenance provider to assure excessive water does not penetrate or damage the finished flooring.

Heavy rolling loads

Altro flooring is sometimes installed in areas where heavy static and rolling loads occur, as well as in severe surface moisture areas. In commercial kitchen environments, carts and other associated equipment are a prime example of heavy loading on the floor that must be recognized and addressed.

While the supplied wheels or floor contact points of commercial equipment should properly diffuse weight, installation precautions can minimize indentation, delamination and minimize failure.

Please consult Technical Services for adhesive selection and installation method.

Severe surface moisture areas

Areas to be subjected to severe surface moisture after installation, or where at least one floor drain exists, Altro safety flooring must be installed with Altrofix 30/31, QuickFix 3042 for certain small areas or repairs, or other Altro approved wet area adhesive.

Contact an Altro representative for installation information concerning these areas.

1.3 How to handle joints in concrete

Control / contraction joints

Control (or contraction) joints are planned saw-cuts into the slab which allow for controlled cracking caused by the natural drying and shrinkage process. In other words, if the concrete does crack, you want to have an active role in deciding where it will crack and that it will crack in a straight line instead of randomly. Joints are cut 25% of the depth of the slab. A 4" thick slab should have joints 1" deep.

These are to be filled with either a quality Portland cement compound or with an appropriate epoxy or polyurethane joint filling compound. Follow the manufacturer's directions on their application. No product will guarantee that they will remain flat and flush to the concrete, as there is no structural integrity with the slab. These joints may eventually telegraph through the finished flooring depending on future expansion and contraction of the slab.

Some suitable product manufacturers may include Ardex, Mapei, Sonneborn and others; Altro makes no specific product recommendations or guarantees of a particular manufacturer's product nor do we provide warranties or guarantees of performance for these products.

Isolation / expansion joints

Isolation (or expansion) joints are used to relieve flexural stresses due to vertical movement of slab-on-grade applications that adjoin fixed foundation elements such as columns, building or machinery foundations, etc. Expansion joints are used primarily to relieve stress due to confinement of a slab. If the slab is placed adjacent to structures on more than one face of the slab, an expansion joint should be placed to relieve stress. For example, if a slab were placed between two buildings, an expansion joint should be placed adjacent to the face of at least one of the buildings. This allows for thermal expansion and contraction without inducing stress into the system.

These joints will require some form of joint that allows for the expected movement between the two slabs. We recommend a top-set type, such

as Balco USA manufacture. This joint is not part of a flooring contractor's scope of work.

Construction joints

Construction joints are stopping places in the process of construction. The adjoining slabs are usually held flush by means of reinforcing bars placed inside the concrete so they protrude into both slabs, thus minimizing vertical movement. These joints will be prone to movement laterally. They can either be treated as a control joint and hope that any movement will be minor and/or fixable later, or in anticipation of movement may be treated like an expansion joint.

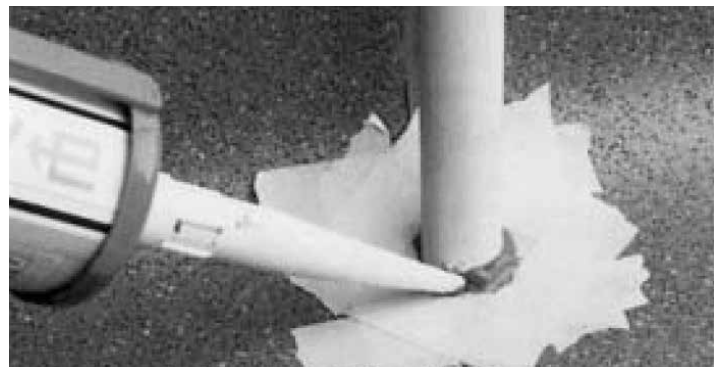
Recommended products

- Ardex Joint Sealants / www.ardexamericas.com
- BASF TF-100 / www.basf.com
- Balco Expansion Joint Systems / www.balcousa.com



Photo source: news.thomaset.com

AltroMastic™ 100



Instructions for use

1. AltroMastic is a specially formulated sealing compound for use where Altro floorings abut edges, skirtings, wall surfaces etc., or where the flooring is cut around pipes, door frames etc.
2. AltroMastic 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 should only be used to seal joints in Altro flooring where

obstructions prevent the use of a hot air welding gun.

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 tape.

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

AltroMastic 100 is used for sealing around pipes and other adjacent surfaces. It is not to be used for sealing seams of Altro flooring, around drains or internal and external corners. AltroMastic 100 is available in a variety of colors similar to standard Altro colors.

Altro flooring 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 flooring 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.
- Use a wet finger to smooth the AltroMastic 100 before it skins over. Wet finger with water or a soapy liquid before touching the applied AltroMastic 100.
- After application, it is important to remove masking tape before the AltroMastic 100 skins over.
- One cartridge should cover approximately 150 linear feet (46 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.

Technical specifications of AltroMastic 100

Viscosity:	Thixotropic
Density:	1.01
Cure Time:	24-72 hours
Skin Time:	20 minutes
Full bond:	4 days
Contains:	9.8oz (290ml)
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 150 linear feet (48 linear meters) per 1/8th" (3mm) bead

Working temp: Between 40°F (5°C) to 104°F (40°C)

Warnings

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
- Contains no solvent or isocyanate

Altro QuickFix 3042



Instructions for use

- Use a dual plunger 400ml cartridge gun to dispense approximately 8" of Altro QuickFix 3042 to ensure a complete missing of adhesive before applying it to the saw cut or area of repair.
- Areas to receive Altro QuickFix 3042 adhesive must be free from water, concrete silt and any other contaminants that could compromise adhesive adhesion.
- The saw cut that the gully angle/edge is going to be fit into, the surface of the concrete where it will be applied and all other areas that the Altro QuickFix 3042 adhesive will be bonding to must be completely and permanently dry before adhesive application can take place.
- Altro QuickFix 3042 adhesive may also be used for certain small area gluing.
- All gully angle and/or gully edge must be pre-cut to ensure proper fit prior to the beginning of adhesive application.
- Apply the Altro QuickFix 3042 adhesive on the top edge and in the saw cut of the gully angle and/or gully edge installation area.
- Install the gully angle and/or gully edge into the saw cut making certain it is completely embedded into the adhesive. Firmly roll gully with hand roller/seam roller making certain that the gully is fitted tightly to the substrate.
- Using a small scraper or putty knife, remove any excess adhesive. If adhesive is on the surface of the gully, remove using a small amount of isopropyl alcohol (IPA), mineral spirits or acetone to remove excess wet adhesive. These chemicals must be thoroughly cleaned and rinsed off immediately after use as they will cause damage to the flooring or gully edge/angle.
- It may also be necessary to weigh down the gully until the adhesive has a chance to setup. This will ensure that the gully is fully seated

into the adhesive with no voids.

- Always allow the adhesive to setup completely (typically 30 to 60 minutes) prior to cutting and fitting the Altro safety floor into the gully. Note: The flooring material should be scribed or trace cut into the gully to ensure a net fit.

Drains + cleanout

Cutting the flooring material up to, or around, a drain, cleanout, trench drain, and other plumbing fixtures, is not a recommended installation method and will void the Altro Warranty. Please refer to the below section and our installation guide for the correct detailing or contact Altro technical services.

Cutting the concrete

Cutting the concrete for the use of gully angle/edge at floor sinks, trench drains and other abutments that will require gully edge/angle to finish the floor in a watertight fashion.

Using a small hand held electric grinder or circular saw equipped with a diamond saw blade (wet type preferred), cut a 1" deep x 3/32nd" wide saw cut in the concrete substrate to receive the Gully Angle/Edge. Two (2) passes may be necessary to achieve the correct width of groove unless the saw blade is 3/32nd" wide. Note: The use of wet type saw blade would, if used correctly, reduce the amount of airborne dust created while cutting concrete. Dry cutting can be done if a dust recovery cutting system is utilized. Follow all local, state and federal regulations and laws for containing dust created by cutting, sanding or grinding concrete.

If the area to be saw cut is in a doorway or abutting a wall, the saw/grinder will be unable to cut all the way to the door casing or wall. In this case, a series of 1" deep holes may be drilled in the concrete substrate using a 3/32nd" masonry drill bit and then chiseled out to allow Gully Angle/Edge to seat flush with the subfloor. You may also cut back the leg of the Angle/Edge to be inserted within 1" of the ends.

1. If the area to be saw cut is at floor drains or trenches, the cut must be directly up against the drain or trench.
2. On all types of cuts, it's helpful to use some form of straight edge or guide to create a straight saw cut allowing for a professional fit and finish.
3. All water and concrete silt must be removed/vacuumed from the saw cut. The area in and around the saw cut must be allowed to dry completely before gluing can take place.

Recommended surface membrane clamping drains

For Altro flooring to be successfully installed in wet areas (i.e. kitchens, showers, bathrooms, etc) all penetrations must be finished properly to prevent moisture from leaking under the floor. This is done by mechanically fastening the flooring in place with surface membrane clamping plumbing fixtures. These fixtures clamp and seal the flooring edge to prevent moisture from penetrating underneath the flooring.

It is imperative to mechanically fasten the Altro flooring to the drainage system whether in new or remodel construction. This includes round drains, cleanouts, square and trench drains and floor sinks. **Simply cutting next to any of these fixtures provides an inadequate seal against water penetration.**

Some fixture manufacturers offer surface membrane clamping models for use with sheet vinyl flooring as noted below or in our Drains Supplement available at www.altro.com/downloads. For existing fixtures that are not of the flash-clamping type, Altro recommends certain details that are performed in the field by the flooring installation contractor. Please consult our Installation Practices and Detailing Guide for complete detailing information at www.altro.com/downloads.

Round drains

If surface clamping round drains/cleanouts are not possible, use the 'modified clamping drain method' per instructions.

Fixtures should be set flush with the finished concrete. Subfloor should be sloped appropriately to facilitate drainage.

- [Josam 30900-9AD](#)
- [Josam 30000-6AD](#)
- [Mifab F1100-C-FC](#)
- [Wade 1100-FC](#)
- [Jay R. Smith 2050/2051](#)
- [Zurn Z400H](#)
- [Zurn Z415H](#)
- [Blücher BFD-510](#)
- [Blücher BFD-530](#)
- [Blücher BSR-700](#)
- [Blücher BSR-800](#)



- [Watts FD-100-FC](#)
- [Watts FD-200-FC](#)
- [Watts FD-370](#)
- [Whitehall WHFDV-6RD-2NH](#)

Cleanouts

Round Cleanouts are found where cleanout access of the plumbing drainage system is required, these fixtures also need to be of a surface membrane clamping type.

- [Mifab C1100-RFC](#)
- [Wade 8000-FC](#)
- [Watts CO-200-RFC7](#)
- [Josam 55000-CFC](#)
- [Blücher BCO-220](#)



Trench drains / floor sinks

Where surface clamping square or rectangular drainage is not available, install Altro Gully Angle or Gully Edge per instructions.

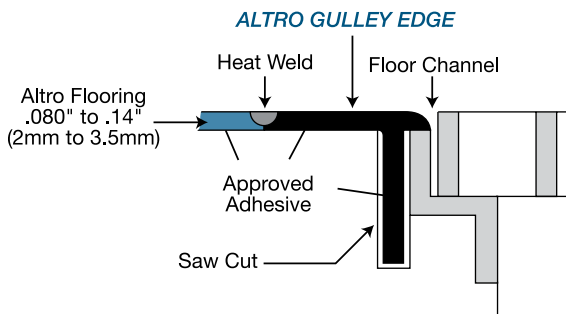
- [Josam 46200](#)
- [Blücher BTV6](#)
- [Blücher BWS-200](#)

- [Josam 45130](#)
- [Zurn Z1755](#)



Gluing process

- Using masking tape or other suitable tape, cover the outside perimeters of where the Gully Edge will be installed. This will aid with the clean up of excess adhesive after installing the Gully Edge.
- Apply adhesive (Altro QuickFix 3042, 2-part polyurethane or equal) on the floor and in the saw cut.
- Place the Gully Angle/Edge into the saw cut making certain that the strip is completely embedded into the adhesive.
- Using a small scraper or putty knife remove excess adhesive. If adhesive is on the surface of the Gully Edge, remove using a small amount of denatured or Isopropyl alcohol on a clean white rag. Note: do not allow adhesive to dry on the Gully edge, once dry, the 2-part adhesive cannot be removed.
- It may also be necessary to weight down the Gully edge until the adhesive has a chance to set-up. This will insure that the strip is fully seated and without voids.
- Always allow the Gully Edge to set up in the adhesive, prior to cutting and fitting the Altro flooring to the newly installed strip. The flooring material should be scribe fit to insure a neat net fit seam for heat welding.



Welding process

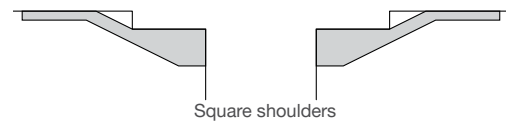
- Heat-welding the new flooring to the edging must not be attempted until adhesive has cured.
- Groove Gully Edge and flooring as if it were a seam in the flooring material. Gully Edges are made of vinyl and weld just like the flooring material. Note: When hand grooving, always use a straight edge as a guide to achieve a straight groove.
- Clean all dirt and debris from grooved seam and weld as you would the Altro flooring. If applicable, always weld mitered corners with a black rod. Note: Traditionally a black rod is used to weld the flooring to the Gully Edge. However, a rod color that matches the flooring material can also be used.
- Once the welding rod is allowed to cool (typically 30 minutes) trim with a sharp trimming knife using a trim plate for the initial cut followed by the trimming spatula for the final flush cut.
- Touch-up can be done using a hot tip repair tool or bullet tip repair tool.

Note: Gully Edge/Angle must be fully adhered both inside the saw cut groove and onto the substrate. All joints, flooring to gully edge as well as corners of the Gully Edge must be welded, failure to do so may allow water to encroach compromising the integrity of the flooring and Gully Edge.

Modifying an existing drain

- Remove the drain cover plate.
- With a quality cementitious patching compound, finish the subfloor flush with the drain perimeter.
- Note: If drain body is higher than the concrete surface, it must be either ground-off or chipped out and lowered. If the drain body is lower than the concrete surface, you must slightly grind the concrete surface to allow for a slight slope-to-drain profile.
- Using a small hand-held electric grinder, remove the square shoulder on the inside edge of the drain body to create a 45-degree slope into the drain. (See Diagram A)

Diagram A



- Similarly, remove the square shoulder from the perimeter of the backside of the drain cover plate creating a 45-degree slope to match the drain body. (See Diagram B)

Diagram B



- Replace the cover plate screws for the purpose of land marking the screw holes and preventing the adhesive from filling the holes during the gluing process.

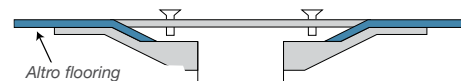
Gluing + cutting process

- Apply adhesive (AltroFix 30 two-part polyurethane or Altro QuickFix 3042 adhesive) on the floor, around, and onto the sloped perimeter of the drain.
- Place the Altro floor covering over the drain, and fit cut only to the inside diameter of the drain plate screws.

Note: Cutting to the outside of the screws will cause the material to be short of the drain plate once it is re-installed.

- Cut small windows in the Altro flooring at the drain plate screws only. After all final fitting is completed, warm material with a hot air blower and secure the drain plate cover in place. This process pinches the Altro flooring between the drain body and the drain plate cover. (See Diagram C)

Diagram C



Caution: In most cases, it will be necessary to weigh down the drain area to allow the adhesive to set-up. Failure to weigh down the drain area during this process may cause a bubble or a pucker in the Altro flooring, to which there is no remedy.

- Approval from the General Contractor/owner must also be obtained before commencing with this procedure.

Visedge VR

A water resistant joint between Altro flooring and other surfaces, such as ceramic tiles, is achieved by using the Visedge VR vinyl edge securing strip, or Gully Edge strip.

The flooring is heat welded to either strip, preventing water seeping into the subfloor and protecting the tile edge.

Installing Visedge VR

Visedge needs to be countersunk, or level compound needs to be used, to accommodate the thickness of the edging. Use the pre-drilled holes to secure the strip to the subfloor. Use the appropriate screws and anchors for the installation. In addition, use a water resistant caulking/adhesive such as Altro QuickFix 3042 under the edge to keep water from traveling back under the flooring.



Visedge diagram

Freezers, coolers + excessive heat

Freezers + coolers

Altro flooring may be installed in new or existing freezers and coolers following procedures as outlined below.

- Minimum operating temperatures should not drop below -22°F (-30°C) for Altro Stronghold 30 and -4°F (-20°C) for other Altro flooring.
- Existing freezers and coolers must be shut down and brought up to proper installation temperature and conditions for installations.
- The freezer/cooler subfloor may then be washed, rinsed, and allowed to dry.
- In order to flash cove Altro flooring in freezers/coolers, the freezer/cooler must be completely defrosted. Follow normal temperature recommendations and flash coving procedures as outlined in our Installation Practices and Detailing Guide.
- It is recommended to adhere directly to the substrates.

Everlay

- In some instances the extensive shutdown period associated with a conventional flooring installation can be minimized when using Altro Everlay.
- In a heated area, 65°F (18°C) to 80°F (26°C), outside the freezer/cooler, lay out the Altro Everlay and Altro flooring following seam layout and adhesive recommendations. Cut materials slightly over the required size. If flash coving, do not run Everlay up walls. This will interfere with adhesion to walls.
- In this separate heated area, glue the Altro flooring to the Everlay and allow adhesive to cure 48 hours.

- After the Altrofix 30/31 adhesive has cured, the seams may be heat welded and the flooring assembly trimmed to fit the installation area, unless flash coving. Do not allow Everlay to flash up the wall. Allow for a 1/8" (approximately 3mm) gap between the walls and the edge of the flooring to accommodate the AltroMastic 100 sealant.
- Lay the new flooring in place allowing it to extend under the door threshold.
- Tighten down the threshold and seal the entire perimeter with AltroMastic 100 sealant.
- After applying AltroMastic 100, install rubber base or other suitable wall trim to perimeter.
- Allow 30 minutes for the AltroMastic 100 to skin over before restarting the freezer/cooler.
- The freezer/cooler may then be put back into service.

Note: Sectional steel panels must be stable. If not, this type of subfloor should be installed with Altro Everlay.

Only specific grades of Altro floor covering are recommended for "cold" areas. Consult your Altro distributor for recommendations.

Excessive heat

In most cases Altro flooring can be installed under ovens, stoves, broilers, steamers and grills provided that the kitchen equipment incorporates flame guards to limit excessive heat exposure (over 140F/60C) to the floor surface.

- Altro flooring is rated up to 140F/60C degrees. This is for 'dry' heat from an open flame or radiated out of an appliance.
- Hot water exceeding 140F/60C can on occasionally come into contact with the flooring without causing damage. Repeated or concentrated draining of steam kettles will lead to damage.
- Pots taken directly from a flame or oven racks should be given a few minutes to cool before being set on the floor.

Radiated equipment heat

Use an infrared thermometer to take a reading of the floor underneath the appliance after it has been in use for a while. If it exceeds 140°F/60°C, do the following:

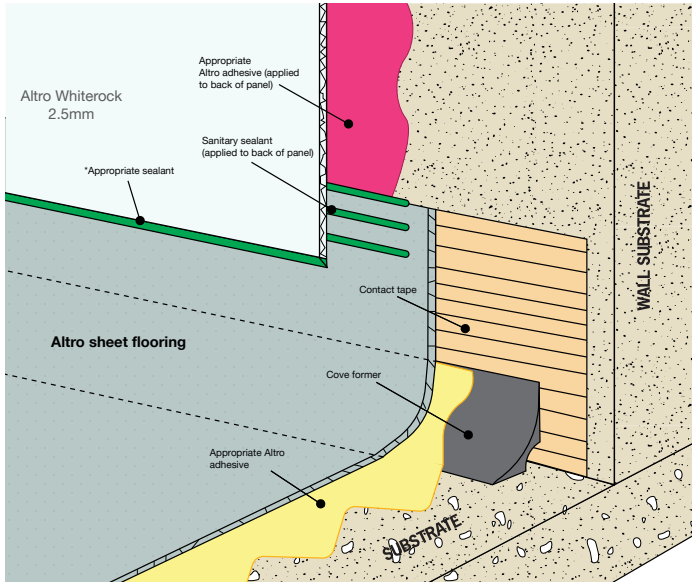
- Check that heat baffles/flame guards are intact. Check with the appliance manufacturer for assurances of equipment suitability and heat ranges radiated out of the equipment and to determine suitability when used on resilient flooring.
- Determine that the appliance is within factory tolerance as to heat loss from underneath. If it is not, have the appliance manufacturer make the necessary repairs.
- Obtain a heat deflector plate available from Altro.

Detailing + accessories

Overlap joint

The preferred method of installing Altro flooring with Altro Whiterock is the Overlap joint method (shown below). This installation is made by

using a cove former to run the safety flooring 6"- 8" up the wall. Altro Whiterock™ is then overlapped 2" over the Altro flooring. Clear silicone sealant is run along the edge where Altro Whiterock meets the Altro flooring.



Stainless steel corner guards - see photo below

In busy environments, when bumps with carts are inevitable, Altro offers stainless steel corner guards. These guards are fit over 90° outside corners and screwed through the flooring into the wall substrate. This guard protects the material that is exposed in this vulnerable corner.

3" corner guards available for 4" flash coving and 5" corner guards available for 6" flash coving.

Please note: Altro recommends v-plug corners on all outside corners in commercial kitchen environments.



System accessories

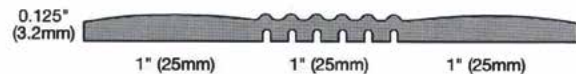
Expansion joints



JOINT COVER STRIP 75mm - Gradus EJC75/20

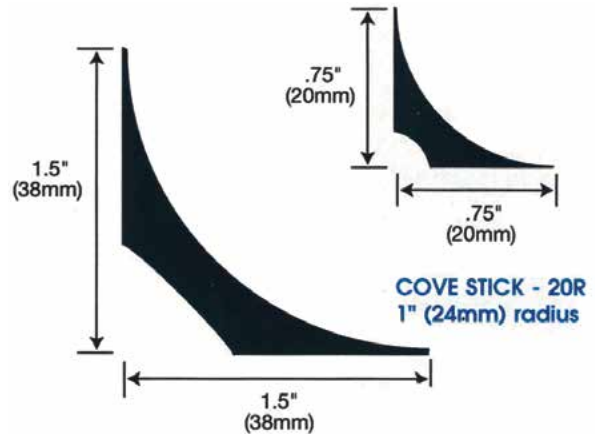


JOINT COVER STRIP 50mm - Gradus EJC50/20



JOINT COVER STRIP 75mm - Gradus EJC75/32

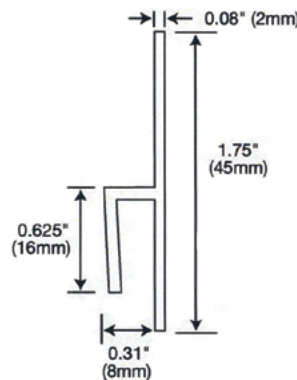
Cove former (cove sticks)



**COVE STICK - 20R
1" (24mm) radius**

**COVE STICK - 38R
1.75" (45mm) radius**

Cap strips



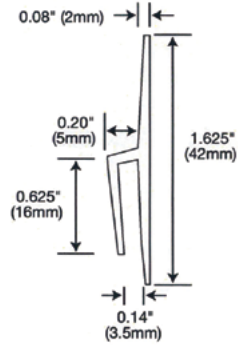
CAP STRIP - C8



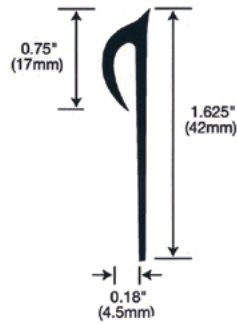
CAP STRIP - C11

Gulley Angle and Gulley Edge: for terminations at rectangular floor fixtures such as trench drains and floor sinks

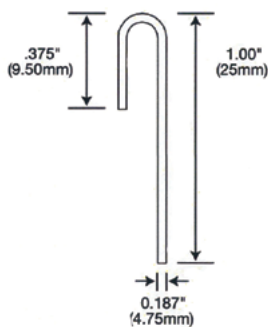
Finishing details



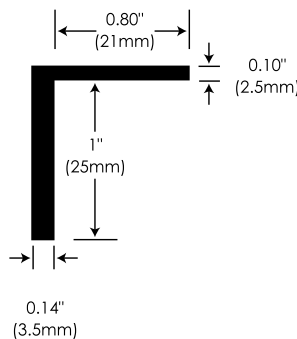
CAP STRIP C4



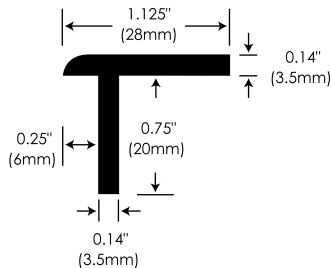
CAP STRIP C7



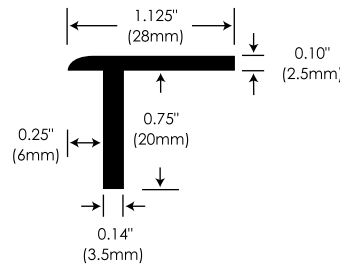
STAINLESS STEEL CAP STRIP



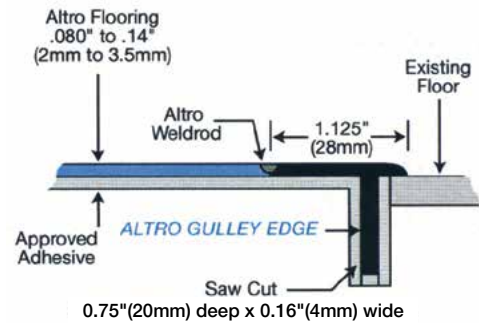
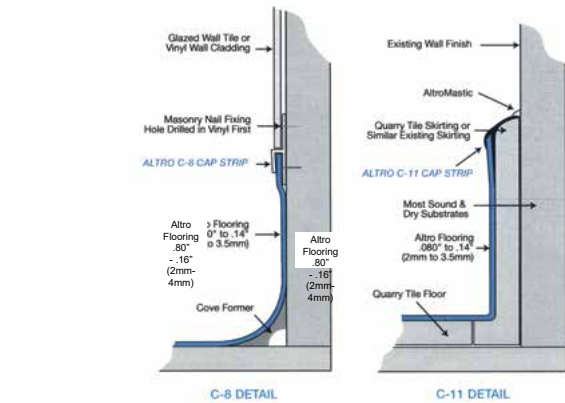
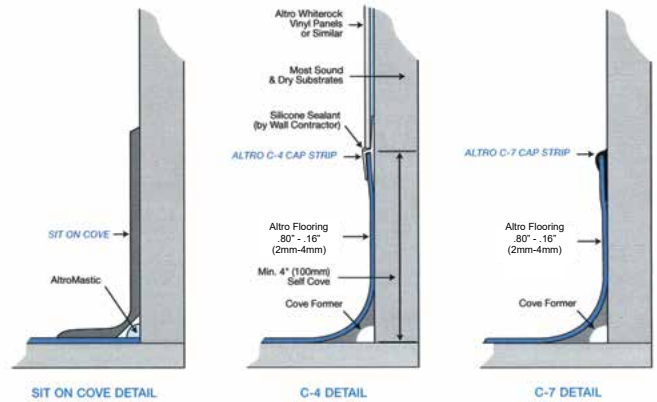
ALTRO GULLEY ANGLE - GA 35/25



ALTRO GULLEY EDGE - 35RE



ALTRO GULLEY EDGE - 25RE



Install gulley edge using
 Altro QuickFix 3042 adhesive
GULLEY EDGE DETAIL

