



WOOD HYBRID PROFILES HANDLING GUIDE

Geolam[®]
Architectural Eco-Technology

TABLE OF CONTENTS

CORNER AND STRAIGHT CONNECTORS	3
WPC AND ASA END CAPS INSTALLATION	6
PROCESSING METHODS	9
BEFORE INSTALLATION	13
FASTENING PROFILES	14
DECKING - FLOORING	19
HOW TO REPAIR A SURFACE SCRATCH	21



| Corner and straight connectors

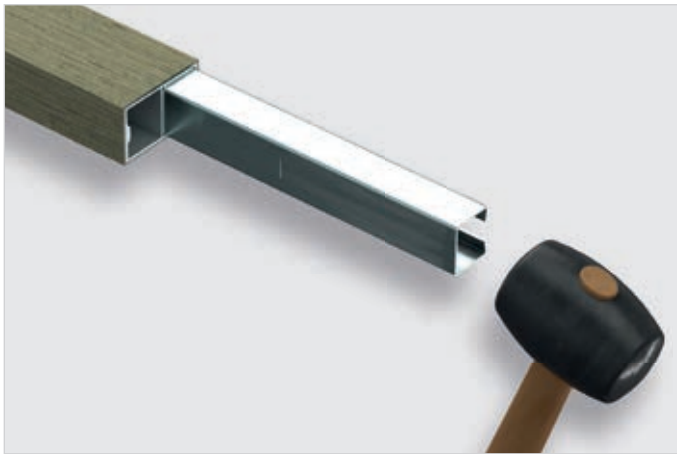
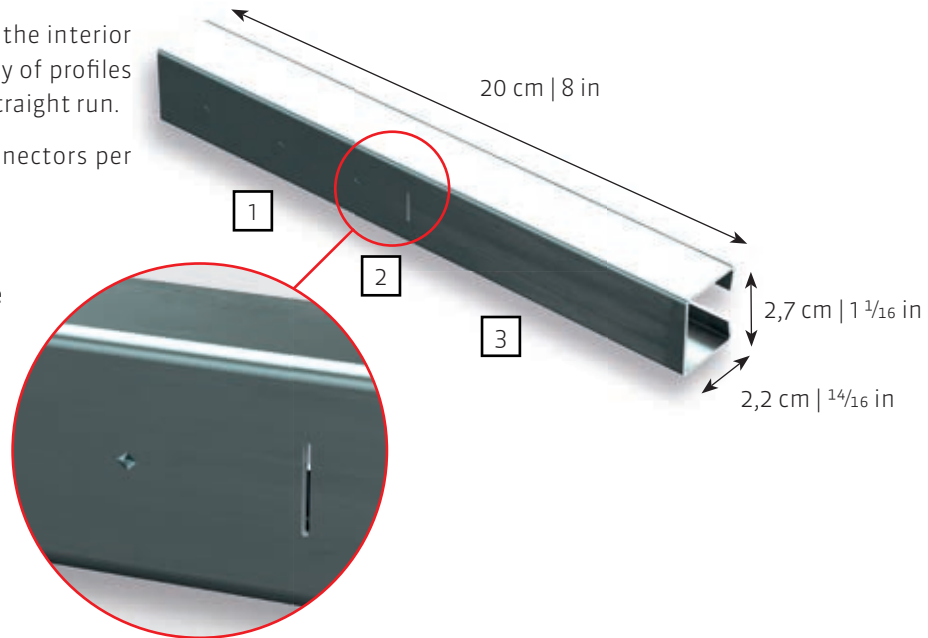
Straight connector

For Soleo 6008 reference number 9705

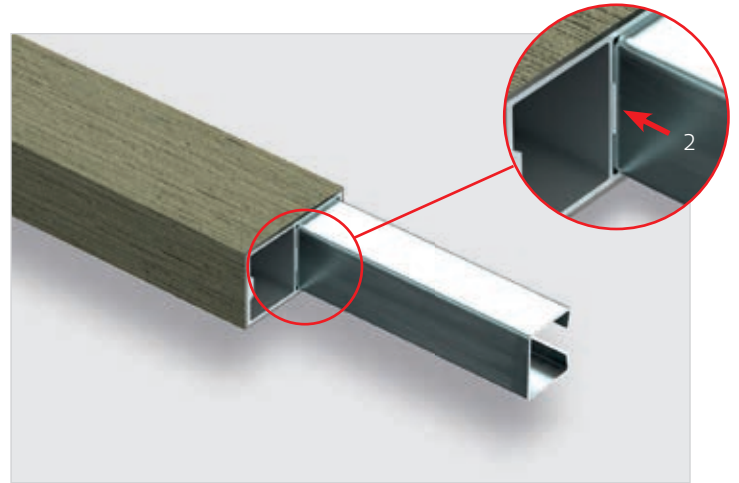
These cleverly designed splices are inserted into the interior of the hybrid profiles. They allow for the assembly of profiles by ensuring proper alignment at butt ends for a straight run.

Only 1 connector needed but you may use 2 connectors per profile for a stronger assembly.

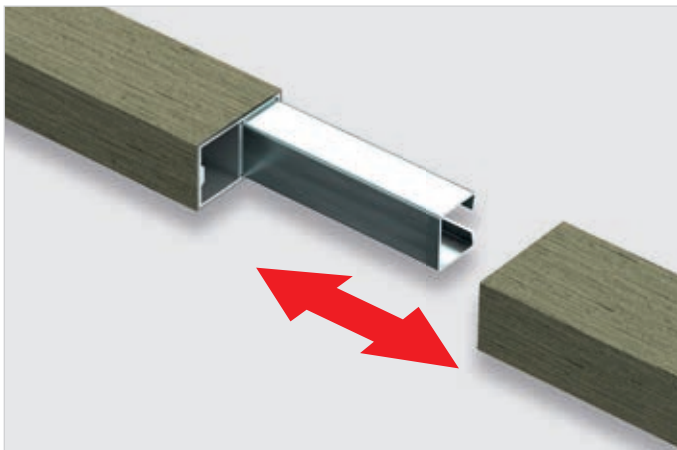
1. Embossing to maintain the connector in place
2. Center line of connector
3. Smooth surface for sliding in and out the module



Installation of the connector using a mallet.



Insert the connector as far as the center line.



The right-hand profile slides easily in and out.



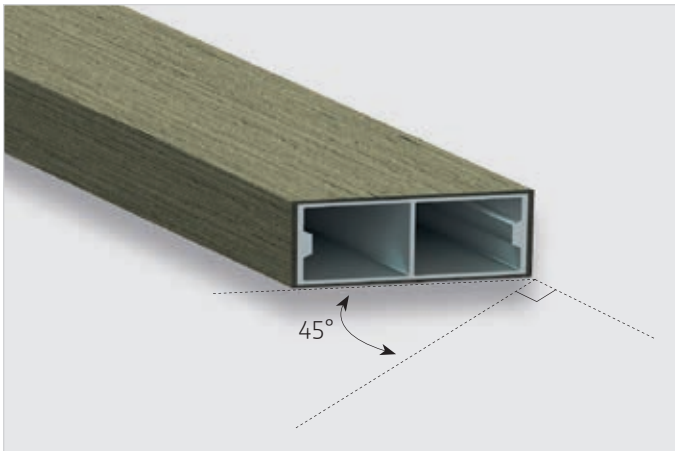
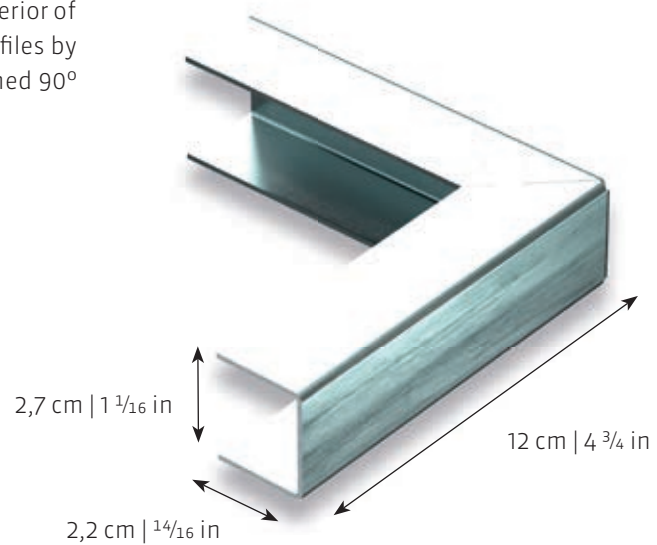
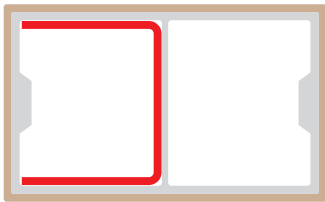
Junction line is almost invisible.

Corner connector (Lying down)

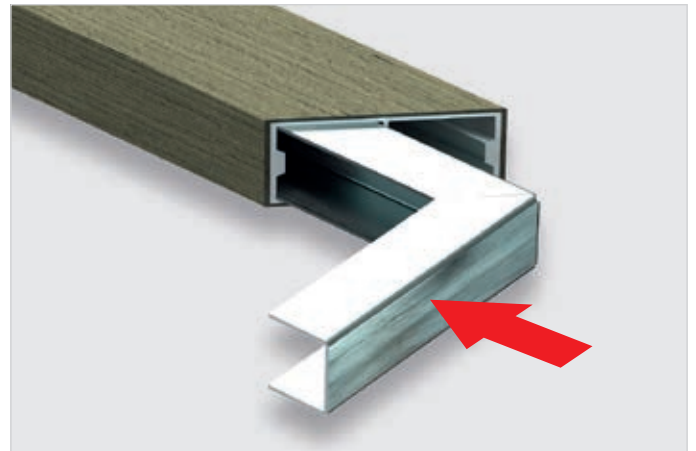
For Soleo 6008 reference number 9751

These cleverly designed splices are inserted into the interior of the hybrid profiles. They allow for the assembly of profiles by ensuring proper alignment to create a perfectly finished 90° angle.

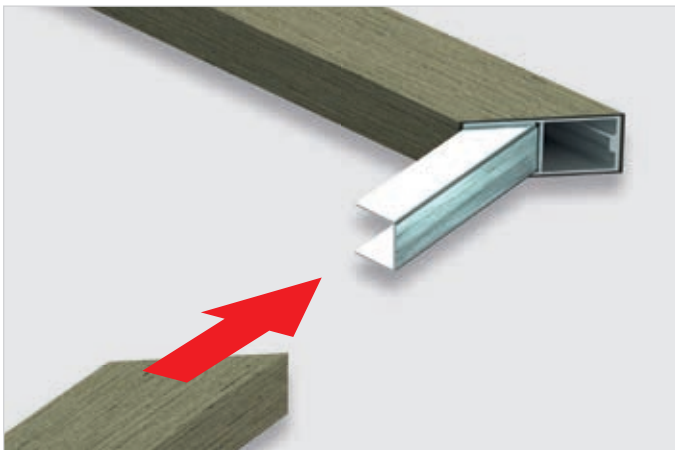
Only 1 connector is used in this orientation.



45° cut.



Insert the connector.



Insert profile.



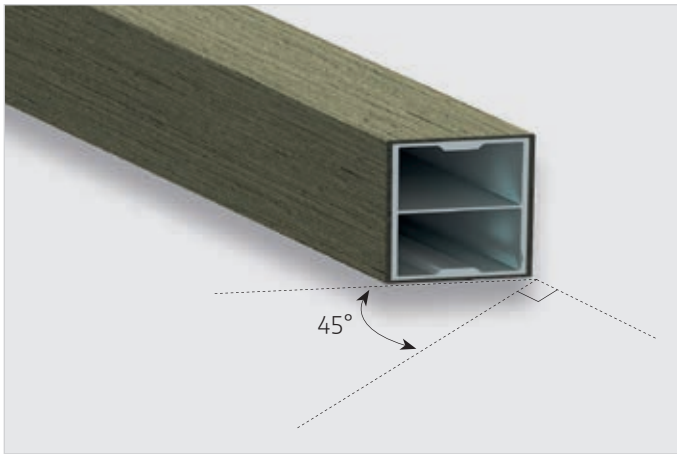
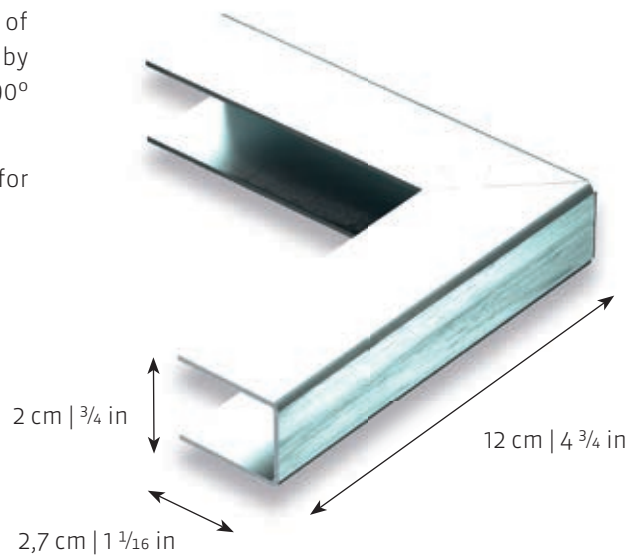
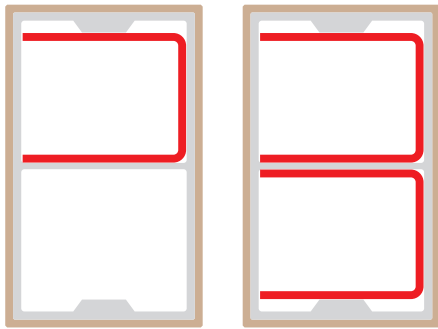
Junction line is almost invisible.

Corner connector (Standing up)

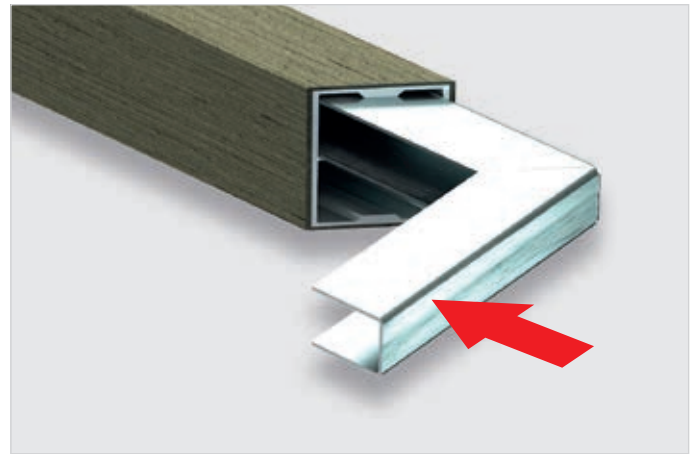
For Soleo 6008 reference number 9755

These cleverly designed splices are inserted into the interior of the hybrid profiles. They allow for the assembly of profiles by ensuring proper alignment to create a perfectly finished 90° angle.

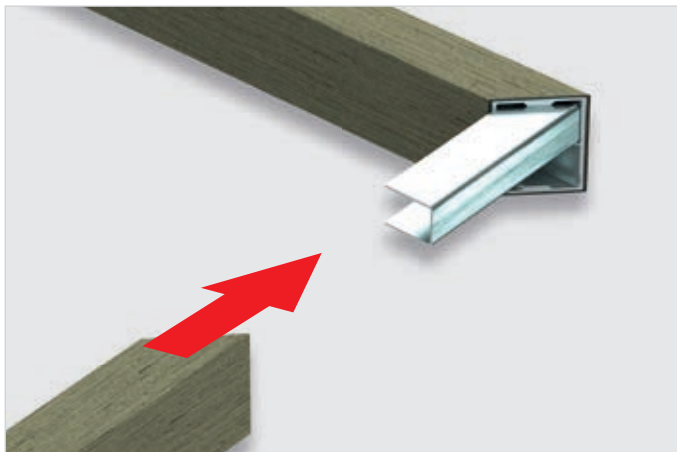
Only 1 connector is needed but use 2 connectors per profile for a stronger assembly.



45° cut.



Insert the connector(s).



Insert profile.



Junction line is almost invisible.



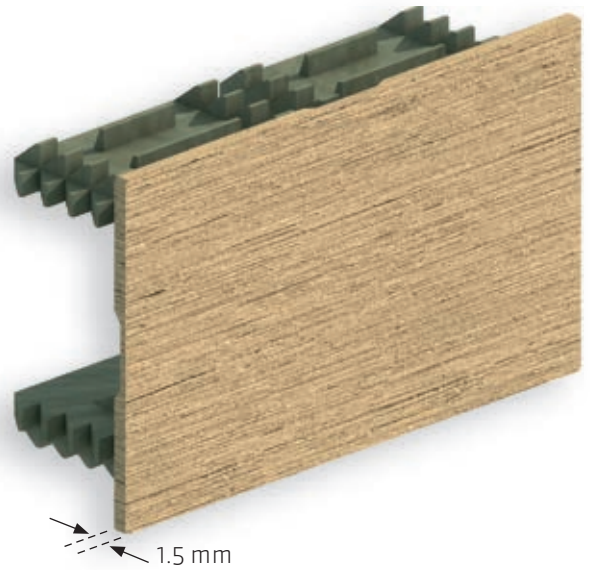
End cap installation

TYPE 6008K WPC REFERENCE NUMBER 9872

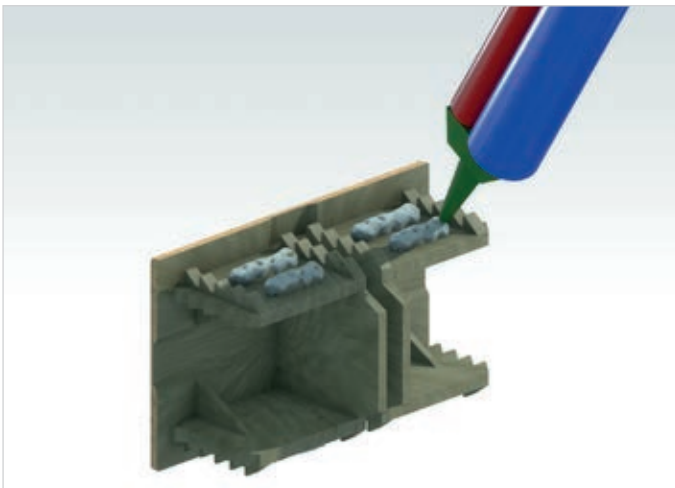
End caps **must be glued to the WHS profile**. The end caps have four openings to allow for weeping of condensation – these must not be blocked or closed up.

Use glue like **Sikaflex®**: Crystal Clear or **3M®**: DP- 8010 :

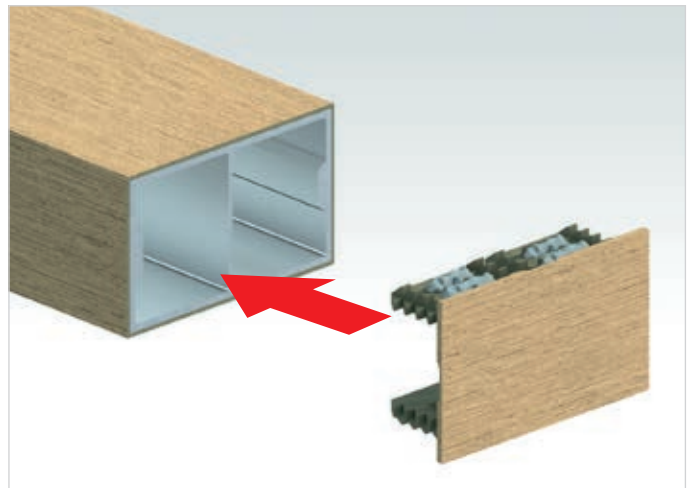
- Designed to glue plastic (PP and PE) with Aluminum
- Moisture resistant
- Made for extreme temperature fluctuations (-30°C to + 75°C)
- Transparent



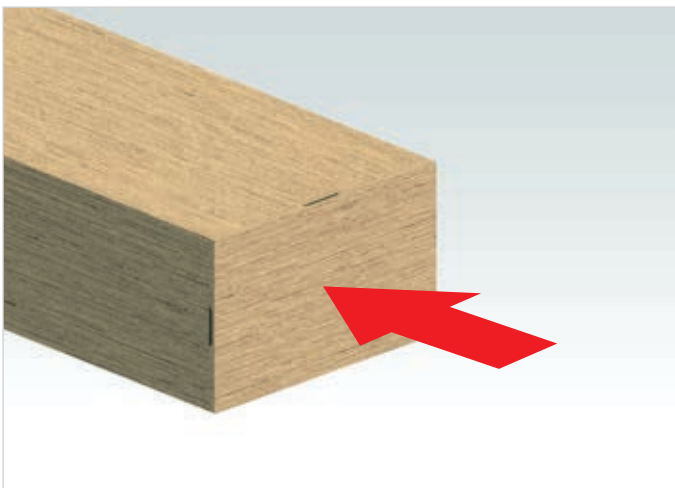
Fix the end cap by following the steps below



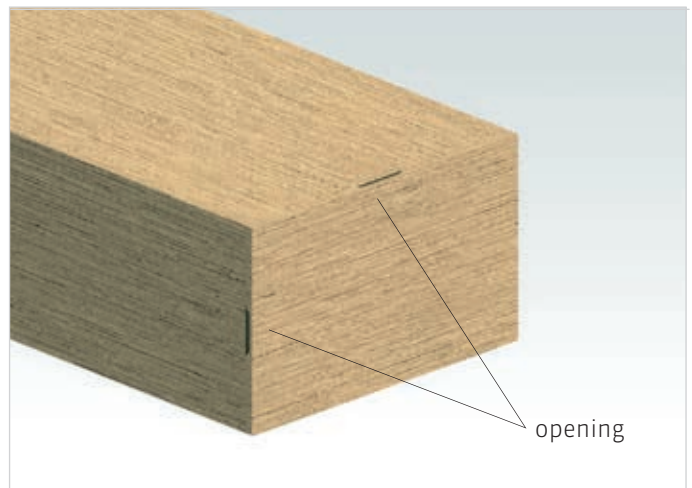
Ensure that the surfaces of the clip and the aluminum are clean. Apply one drop of quick-drying glue to each side of the end cap.



Insert the cap into the end of the WHS profile and verify that NO adhesive has come out on the sides. If so, clean quickly.



Press on the end cap with fingers and hold for about 5 seconds. Make sure that there is no gap between the WHS profile and the end cap.



The end cap is fixed.



End cap installation

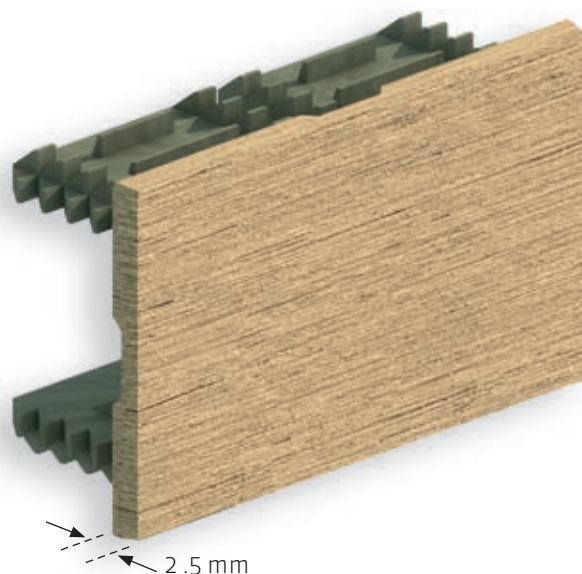
TYPE 6008 WPC REFERENCE NUMBER 9861

The end caps **have to be glued** to the profile. The end caps have four openings to allow for weeping of condensation – these must not be blocked or closed up. For a perfect aesthetic, wood composite end caps (WPC) should be adapted in size to the profile or showcased by an appropriate additional sanding by hand.

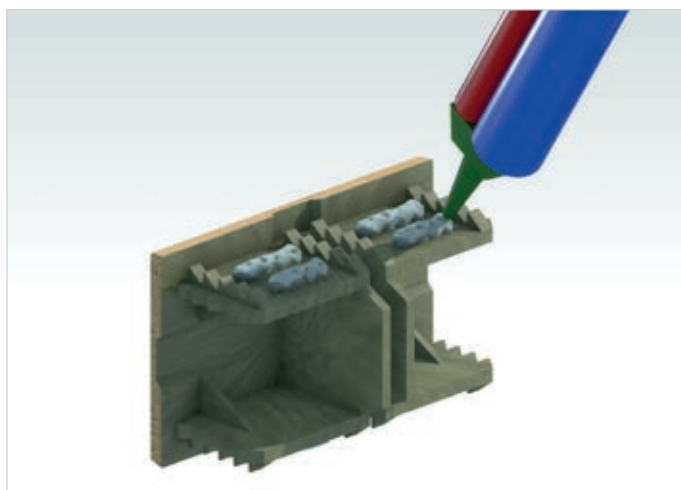
End caps **must be glued** to the WHS profile.

Use glue like **Sikaflex®**: Crystal Clear or **3M®**: DP-8010:

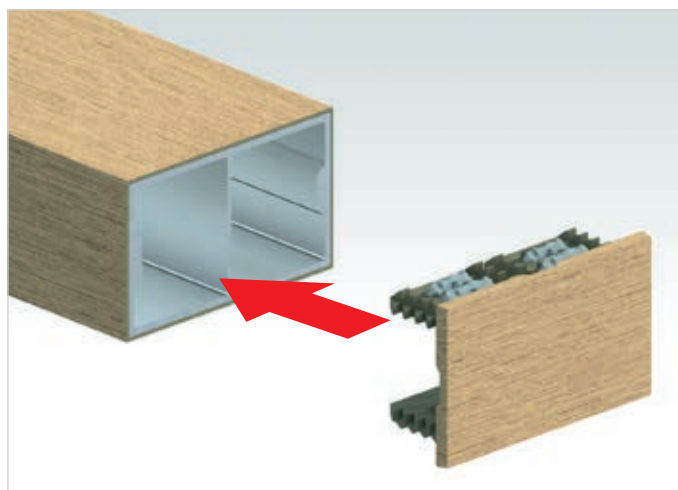
- Designed to glue plastic (PP and PE) with Aluminum
- Moisture resistant
- Made for extreme temperature fluctuations (-30°C to +75°C)
- Transparent



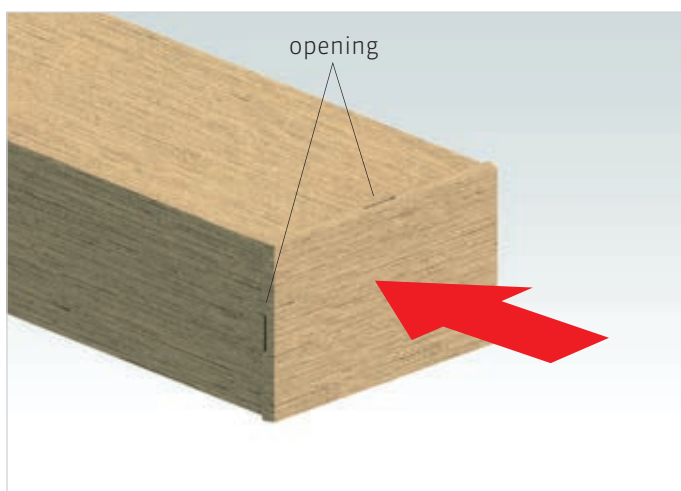
Fix the end cap by following the steps below



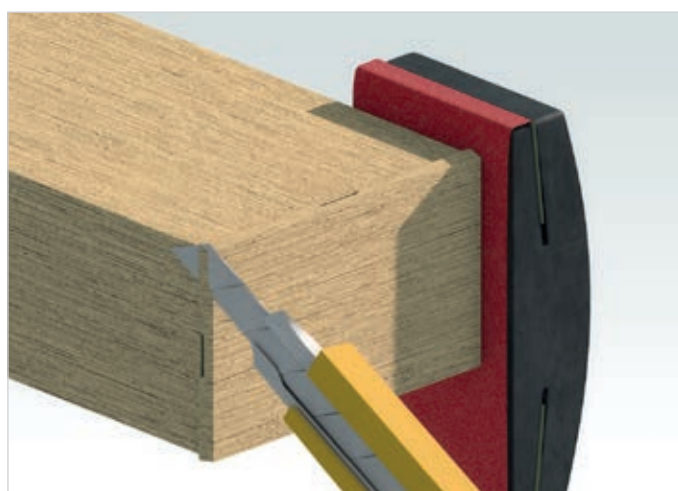
Ensure that the surfaces of the clip and the aluminum are clean. Apply one drop of quick-drying glue to each side of the end cap.



Insert the cap into the end of the WHS profile and verify that NO adhesive has come out on the sides. If so, clean quickly.



Press on the end cap with fingers and hold for about 5 seconds. Make sure that there is no gap between the WHS profile and the end cap. The end cap is fixed.



It may be necessary to adapt the profile in size as showcased (cutting and/or sanding).



End cap installation

TYPE 6008 ASA REFERENCE NUMBER 9801

The end caps **have to be glued** to the profile. The end caps have four openings to allow for weeping of condensation – these must not be blocked or closed up.

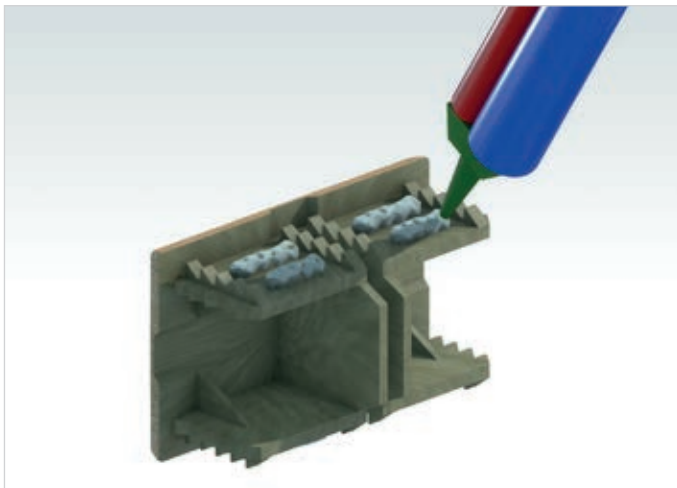
End caps **must be glued** to the WHS profile.

Use glue like **Sikaflex®** : Crystal Clear or **3M®** : DP- 8010 :

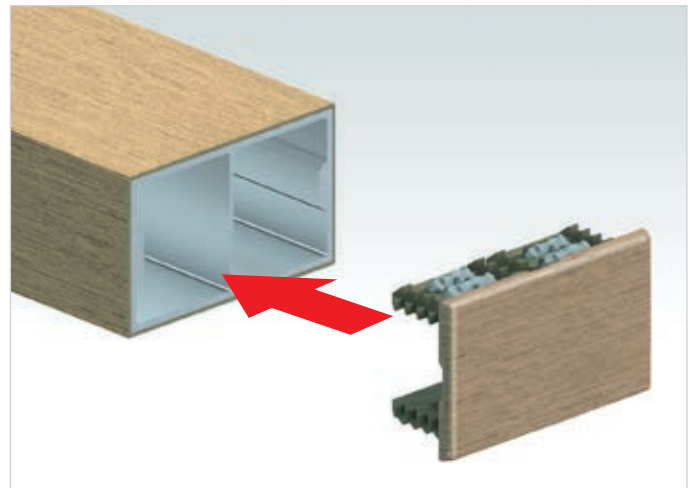
- Designed to glue plastic (PP and PE) with Aluminum
- Moisture resistant
- Made for extreme temperature fluctuations (-30°C to + 75°C)
- Transparent



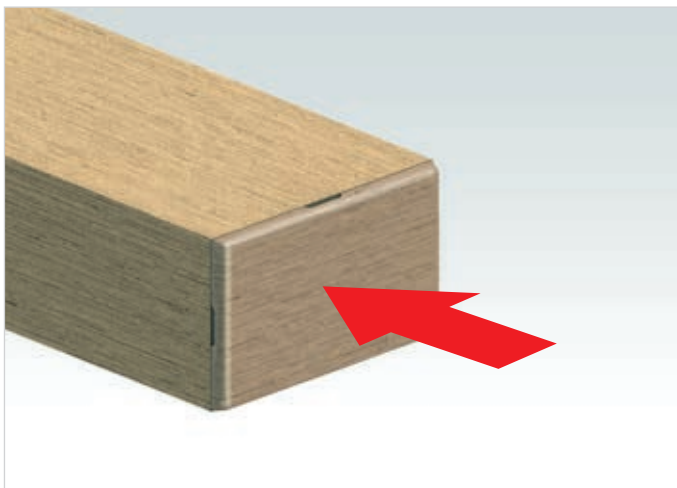
Fix the end cap by following the steps below



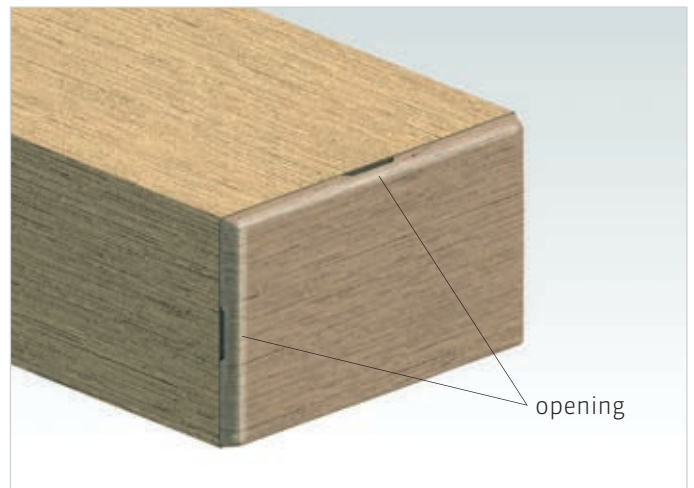
Ensure that the surfaces of the clip and the aluminum are clean. Apply one drop of quick-drying glue to each side of the end cap.



Insert the cap into the end of the WHS profile and verify that NO adhesive has come out on the sides. If so, clean quickly.



Press on the end cap with fingers and hold for about 5 seconds. Make sure that there is no gap between the WHS profile and the end cap.



The end cap is fixed.

| Processing Methods

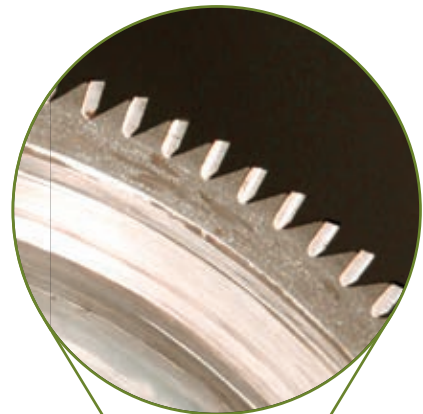
The same tools as for other Geolam profiles can be used to cut, drill and bend Geolam Soleo profiles.

Carry out all work on surfaces that are flat without any bumps.

Make sure that both sides of the profile are firmly supported to prevent it from falling when working on it.

Do not use water or oil.

Make sure the blade does not exceed 140 Fahrenheit (60 degrees Celsius).



1. Cutting

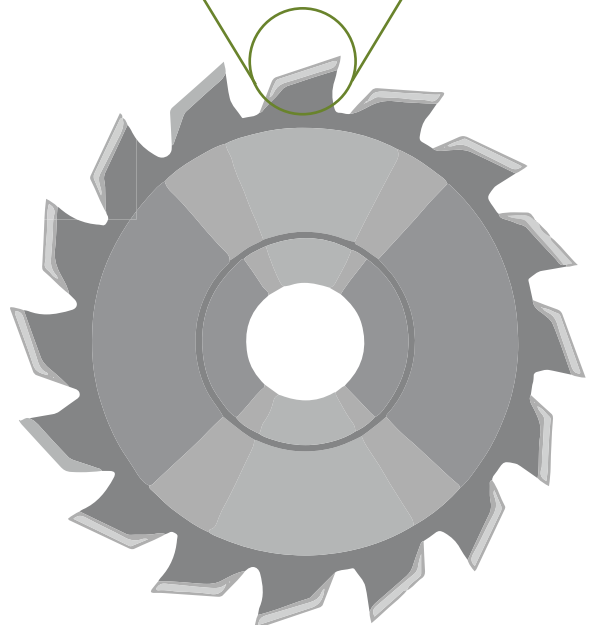
- Use motorized tools and specialized aluminum-cutting chip saws when cutting Geolam Soleo Profiles.
- Do not use grinders or chainsaws for cutting.
- Not using a suitable aluminum-cutting chip saw could result in deformation, cracks and/or peeling of the product.

Aluminium Cutting Chip Saw

Base Metal: Tool Steel

Chips: Carbide

Teeth: Minimum 2 teeth per centimeter



Examples of Tools and Equipment

CIRCULAR SAW



TABLETOP SAW



CIRCULAR SAW BENCH



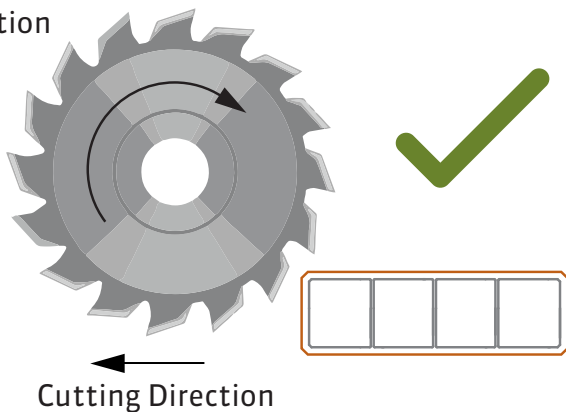
Cutting Speed :

maximum 2 meters per minute.

Cutting Direction

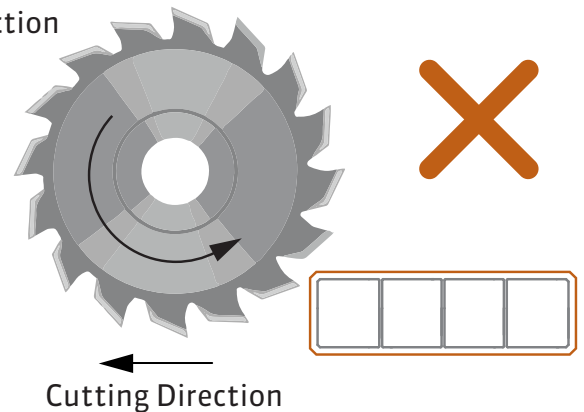
- To cut, pull the product in the same direction as the saw rotation, as shown in the illustration below.
- Cutting in the opposite direction may cause the product to move, which may produce an untidy cut in addition to being dangerous for the operator.

Rotational
Direction



Cutting Direction

Rotational
Direction



Cutting Direction

2. Hole-drilling

Examples of Tools and Equipment



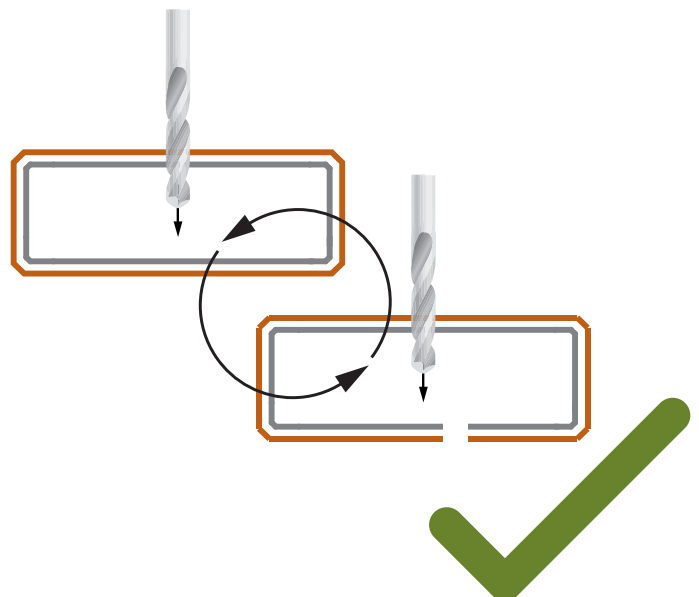
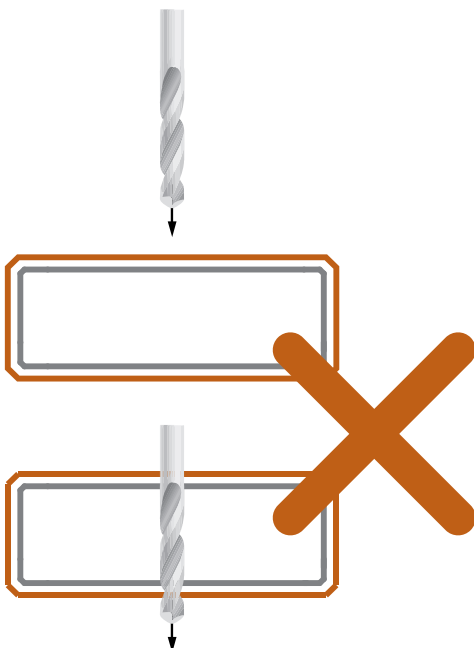
Tabletop Drilling Machine



Motorized Screwdriver

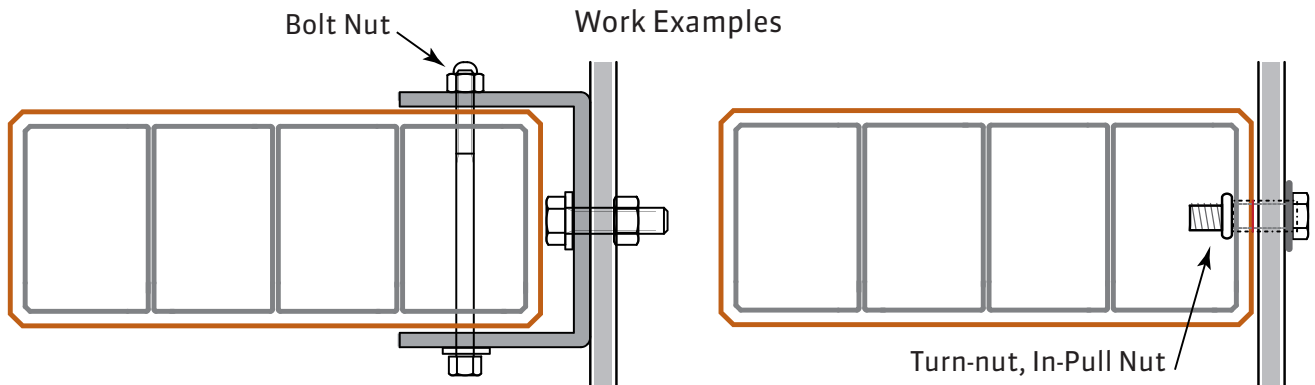
- Use drills for use with metal or timber and make the holes with a tabletop drilling machine or a motorized screwdriver.
- Drilling holes through both sides of the material may result in the formation of burrs or chips when the drill exits the rear side.

- Therefore, test the machine on scrap material before starting work.
- If burrs do appear, drill through from both sides independently.
- Depending on how the burrs are formed, the surface layer could be chipped to reveal the aluminum core beneath.



3. Stoppers

- Fix bolt-nuts, in-pull nuts, and turn-nuts firmly in place (recommended at 3.5Nm).
- Over-tightening may result in deformities, cracks and/or peeling appearing on the surface layer.
- Consult a local building code for joint span and bolt size requirement.
- Fixing the product in place with tapping screws or drill screws is not recommended.
- Nails must also not be used for fixing.
- Check the strength requirement prior to fixing to joint.



4. Sanding

- All profiles are delivered facing the same direction they were sanded in.
- Mount the profiles facing the same direction in order to keep an identical aspect across all profiles.
- Or, mount profiles facing different directions in order to achieve different shades caused by sun beams reflecting from different angles.
- Refer to the marks inside the profiles that indicate the direction of sanding.

5. Post-Processing Maintenance

- Clear away all cutting dust with an air blower, and make sure the dust does not get caught between products when they are stacked.
- Remove all post-processing burrs with sandpaper.
- Remove all soiling with a neutral detergent such as soap water.
- If a neutral detergent does not successfully remove the soiling, or when differences in luster caused by rubbing exist, use Nr. 24 to Nr. 40 sandpaper.
- Rub in a single direction (lengthwise) and finish it so that it looks the same as other surfaces.

6. Miscellaneous

The linear thermal expansion coefficient

- The linear thermal expansion coefficient for Geolam Soleo profiles is the same as for aluminium: 2.3×10^{-5} mm (20-100°C).
- Geolam Soleo profile expansion (per meter) = expansion coefficient x temperature difference (°C) x product length (mm).
- Thus, for a temperature difference of 40°C a Soleo profile expands by 0.92 mm per meter.

Storage

- Do not position the product in an upright position but store it indoors on a flat area.
- Cover the product with a protective sheet if it must be stored outdoors to prevent contact with water.
- However, the product must not be completely sealed-in when covered with a protective sheet.

| Before installation

Beware of the sanding direction.

Geolam boards are sanded in a particular direction, giving them an 'up' and 'down' orientation. Each board is marked inside to show its orientation (see picture). The boards need to be installed consistently in order to ensure a uniform appearance.

Please read the instructions attached to each pallet.



Cleaning

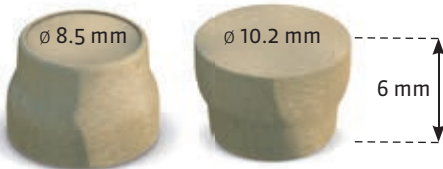
The natural cycles of sun, wind, and rain will tend to keep exterior installed Geolam boards clean. However, if exposed to an excessively dirty environment, such as new construction, you may power wash. For relatively light dirt, a simply water-based power wash may work. For more stubborn dirt you will need to use warm water and soap. To clean a full vertical face start at a low pressure spray (700 PSI maximum at 10 inches distance), starting at the bottom and working up to the top one board at a time, and then repeating top to bottom. Water is to be at 140° F (60° C) temperature. Use a mild dish soap i.e. Dawn, mixed directly into the water stream. Wash with soap bottom-to-top and top-to-bottom, and then repeat with a rinse cycle with water only to remove all soap.

For concrete splatter you may lightly sand the boards using #24 grit sandpaper. Sand very lightly and along the length of the boards. Do not use a finer grit. If you do you will remove the 'peaks' of the surface compromising the wood-like grain look and causing a shinier appearance on the boards.

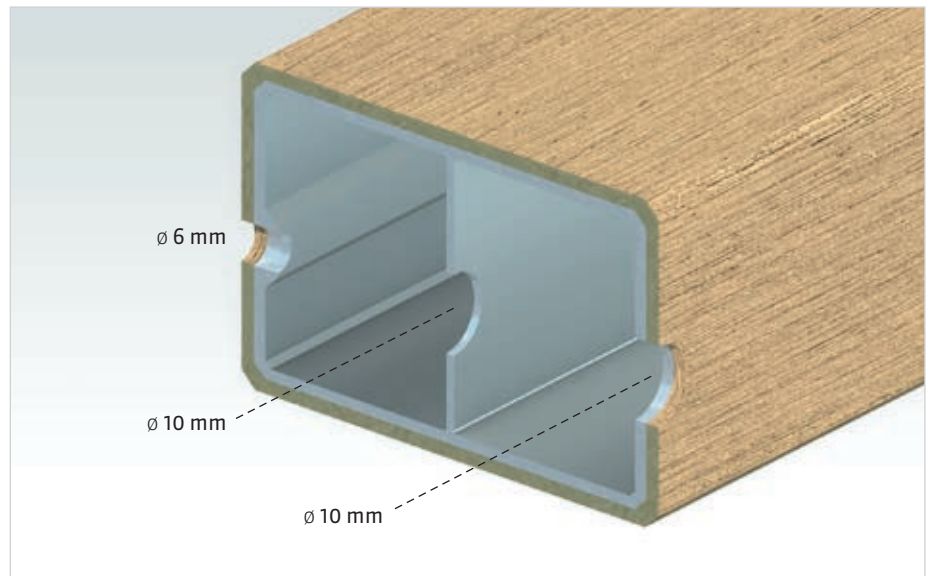
| Fastening profiles

Fastening Soleo profiles from the front

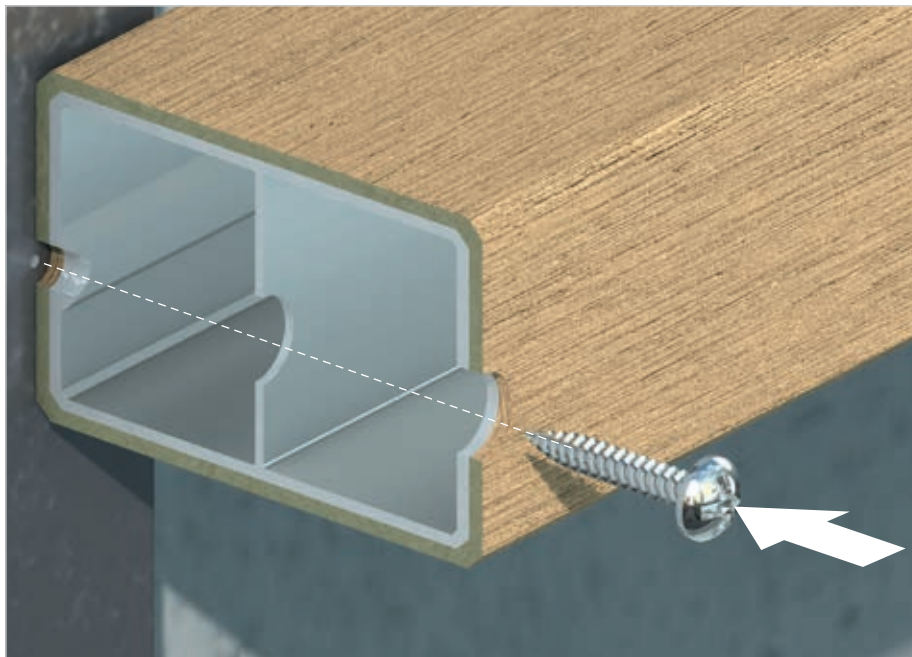
These Dabo caps can be supplied by Geolam (reference 9896 - 1000 pcs)



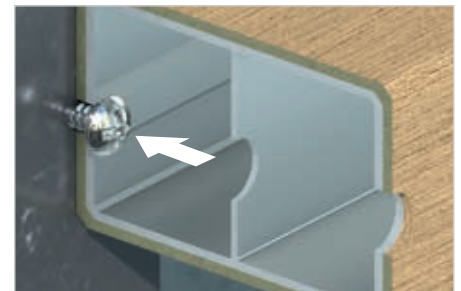
Drilling the profile



Drilling detail



Setting up the screw in the profile



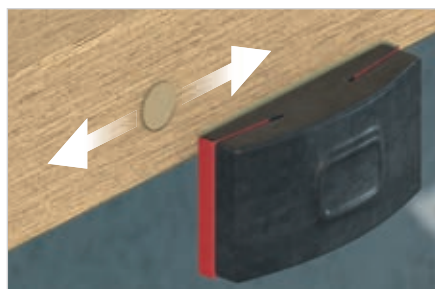
Screwing



Putting on the caps



Press caps with a rubber mallet



Sanding lengthwise (grain #24)



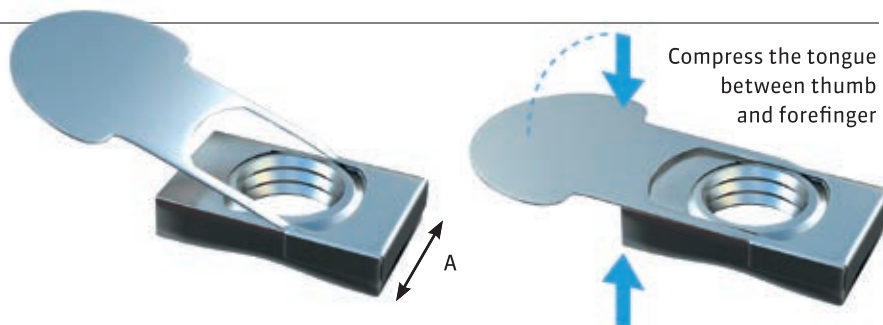
Finalized fixation

Fixing profiles using InPull nut

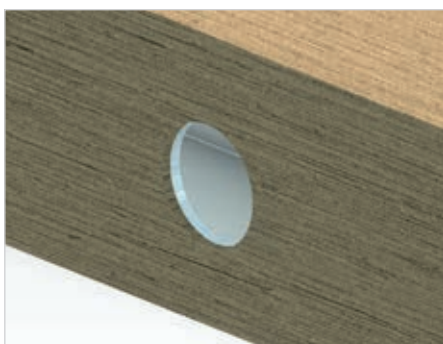
These InPull nuts are not supplied by Geolam.

Check online:

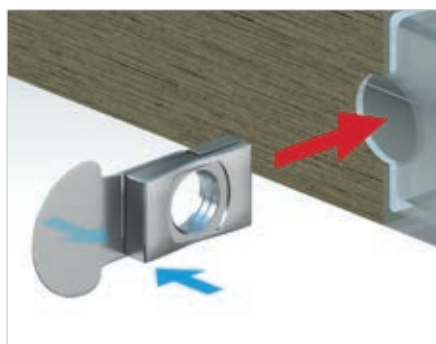
www.wakaifastener.com/inpullnut.html



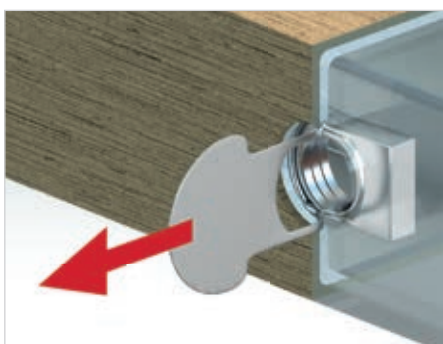
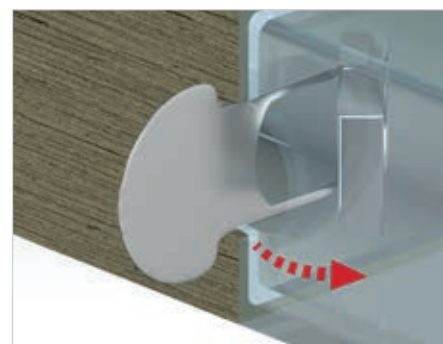
Bolt Size	Prehole Diameter (mm)	Nut Width A (mm)	Max Torque (Nm)	Max Tension Load (kN)
M6	10.2	9.5	10.0	7.8
M8	12.7	12.0	24.5	14.7
M10	15.7	14.3	39.2	19.6
M12	18.0	16.9	58.8	29.4



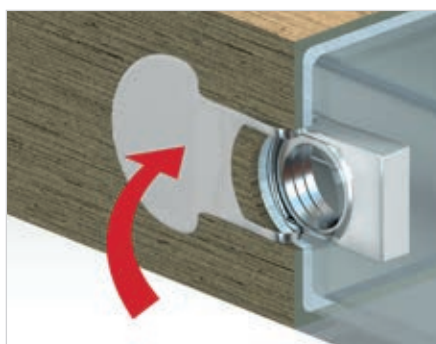
Pre-drill as shown (see above table for diameter). Select the correct InPull nut (M6 to M12) according to your fastening requirements.



Insert the InPull nut as shown. Squeeze the tongue as you insert the nut and release once the nut is in place. Once released the nut will rest at an angle to the inside of the board.



Pull out the tongue so as to secure the nut along the inside of the board.



Lay the tongue along the exterior of the board, if necessary fasten with tape to hold it.



Installation of the supporting structure

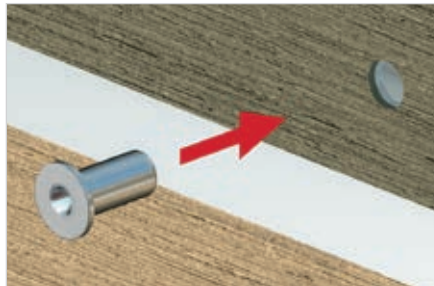


Example of assembly brackets attached with bolts and anaerobic glue e.g. "thread locker". The pre-drilled holes are wider than the bolt shaft (2 to 4 mm) to allow for expansion of the board. Washers are required as shown.

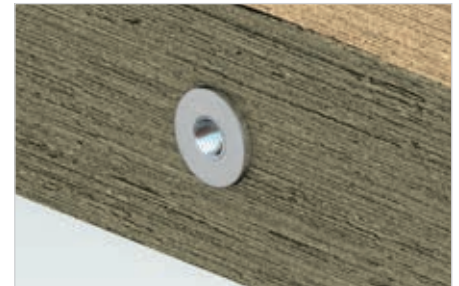


Fastening profiles using blind nut

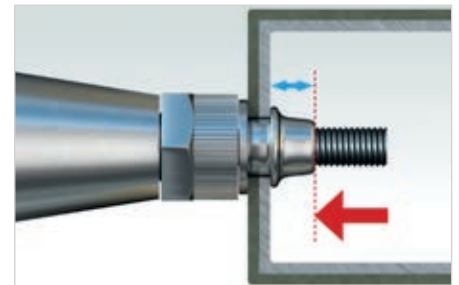
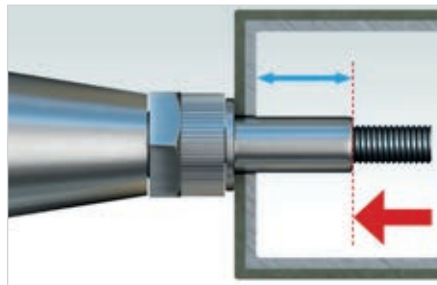
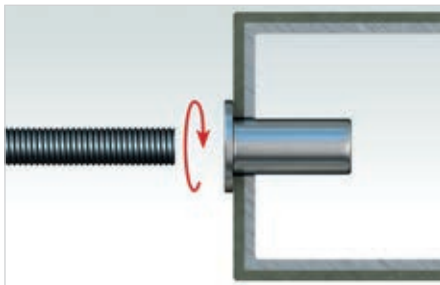
These blind nuts are not supplied by Geolam.



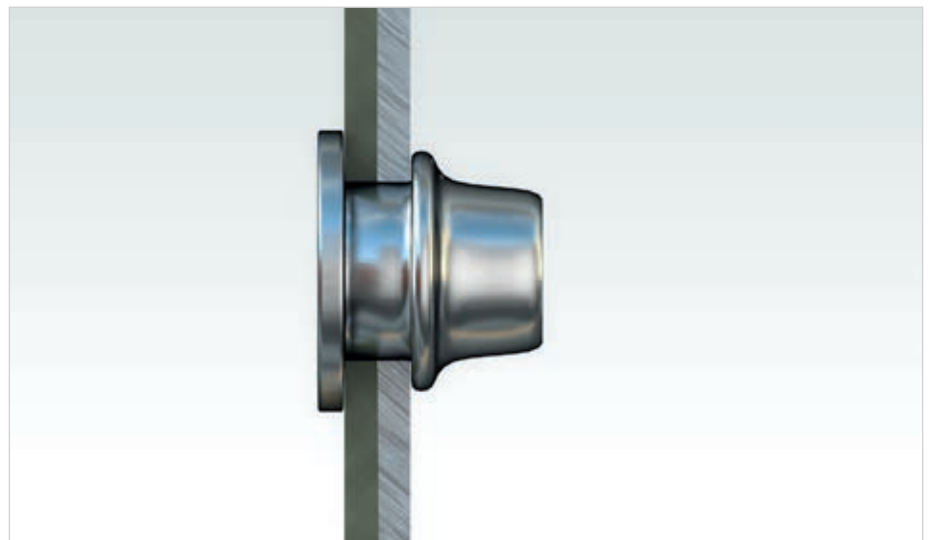
Pre-drill as shown.



Select the correct blind nut according to your fastening requirements.



Setting the blind nuts
(manual or pneumatic tool).



Installation of the supporting structure. The pre-drilled holes are wider (2 to 4 mm) than the bolt shaft to allow for expansion of the board. Washers are required as shown.



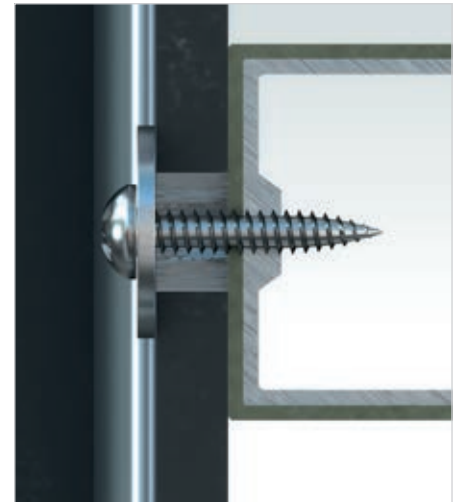
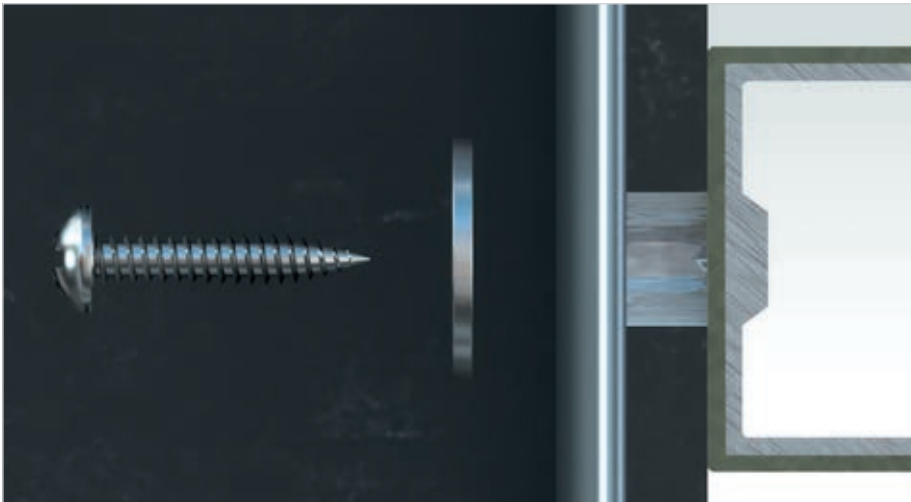
Fastening profiles using self-tapping screw (not supplied)



For profiles with oversized aluminum wall, a direct fastening of the profile is possible (example : Soleo 6008 installed sideways).



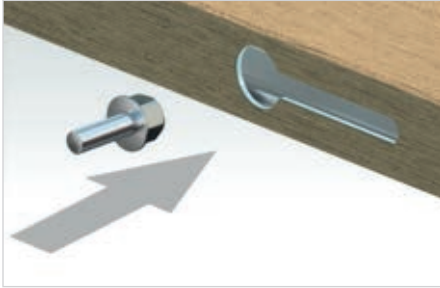
Installation of the supporting structure. The pre-drilled holes are wider (2 to 4 mm) than the bolt shaft to allow for profile expansion. Washers are required as shown.



Example of assembled brackets.



Fastening profiles using flange bolt (not supplied)



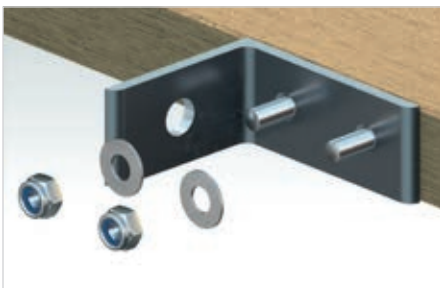
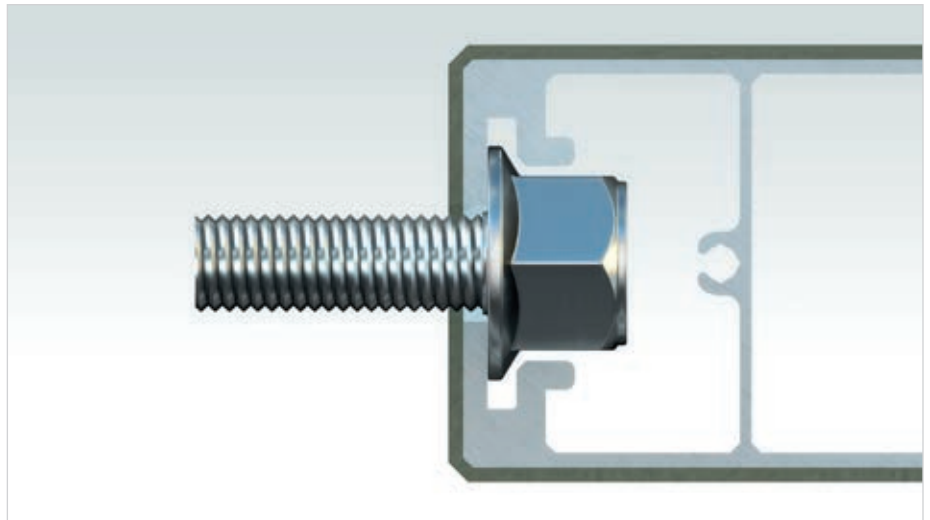
Setting up the first flange bolt.



Setting up the second flange bolt.

For specific profile only, use flange bolts allows a strong fixation (example: Soleo 6032 installed sideways).

According to the picture, drill a specific oblong hole using a numerically controlled milling machine.

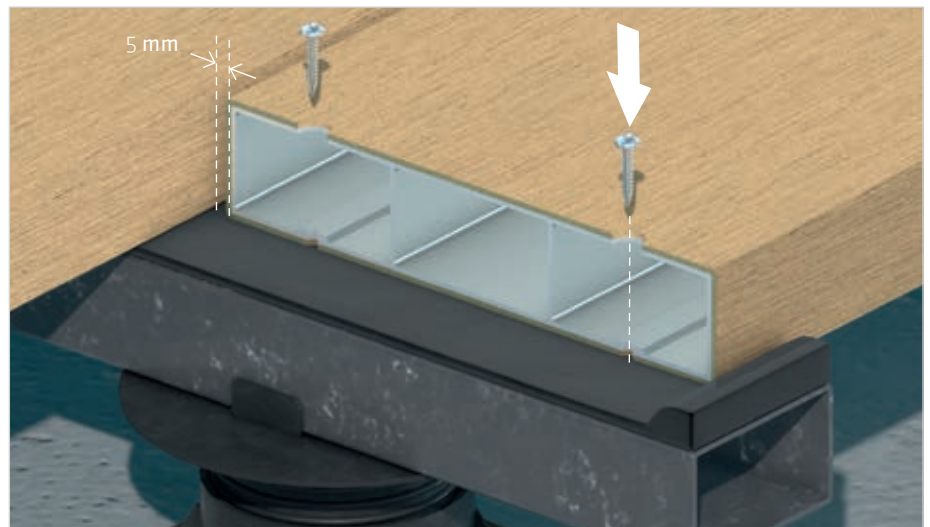
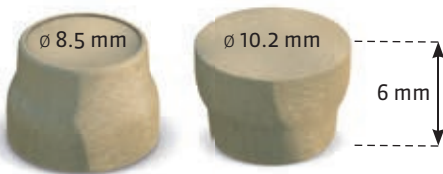


Example for fastening assembly brackets (not supplied) using braked nuts.

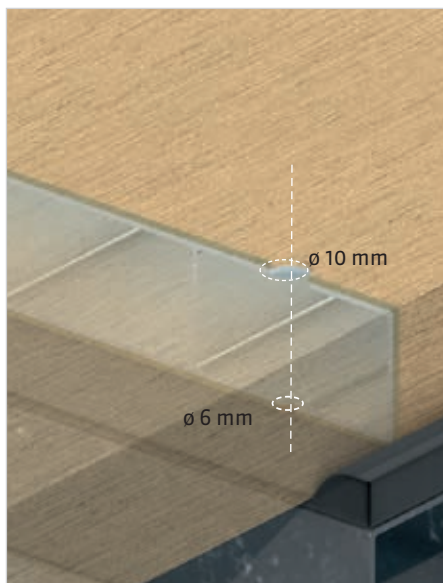
| Decking - flooring

Fastening Soleo 6023 profiles from the top

These Dabo caps can be supplied by Geolam (reference 9896 - 1000 pcs)



2. Drilling detail



1. Drilling the profile



3. Use self-tapping screws



4. Put the caps in place



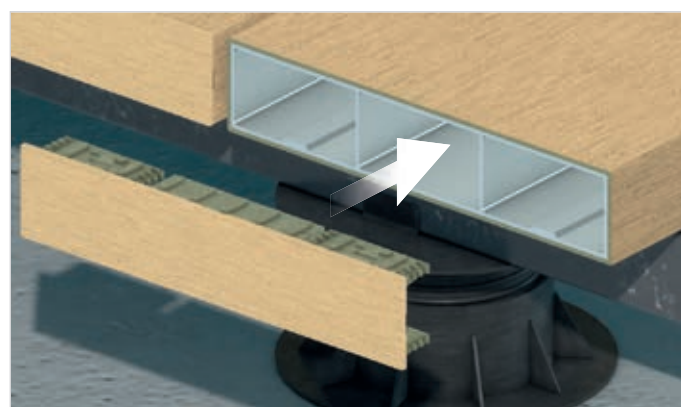
5. Press caps with a rubber mallet



6. Sanding lengthwise (grain #24)



7. Finalized fixation

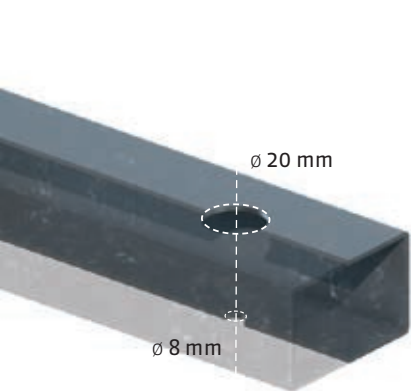


8. The end caps need to be glued to the profile. See page 6

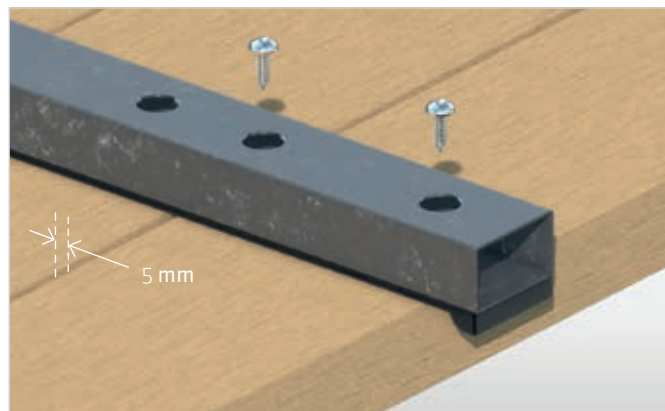


9. Final look

Fastening Soleo 6023 profiles from the bottom



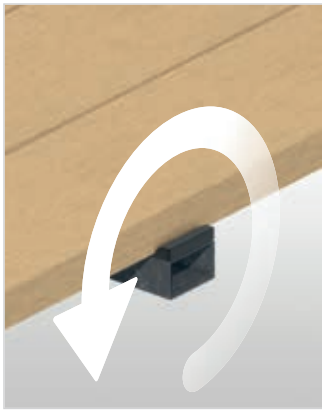
1. Drilling the joist



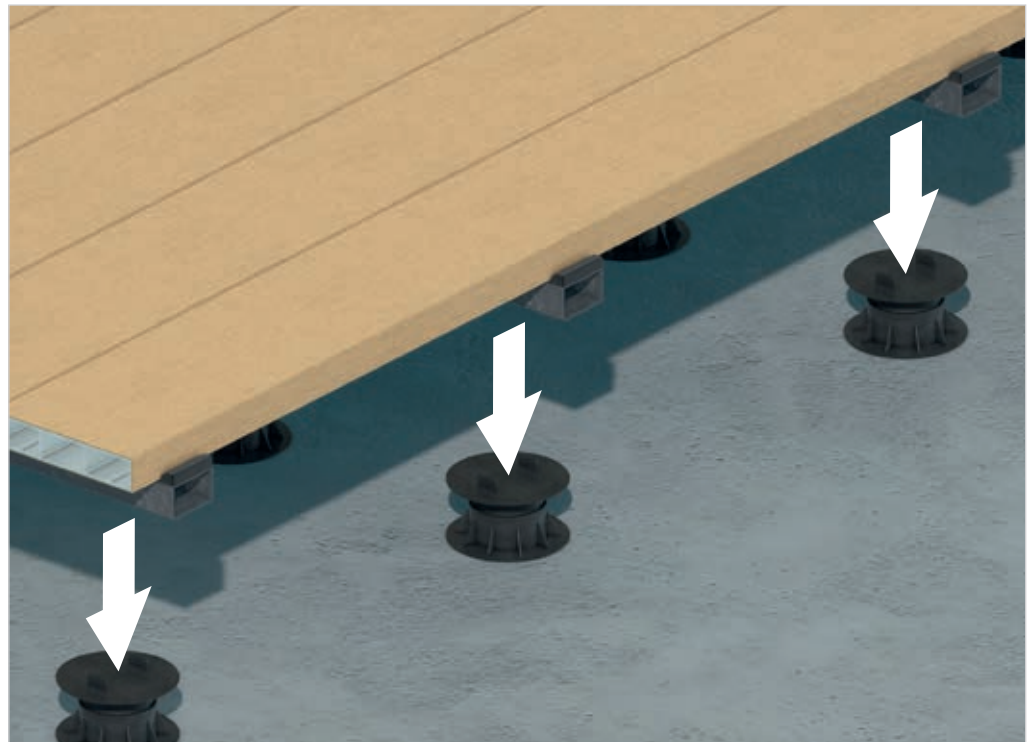
2. Secure the profiles to the joist



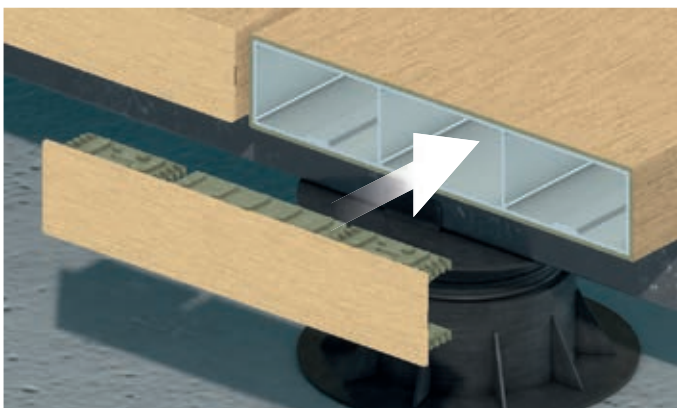
Screw in in the extra thickness of the profile



3. Return the complete structure



4. Place the structure on the pedestals



8. The end caps need to be glued to the profile. See page 6



9. Final look

| How to repair a surface scratch

How to repair a surface scratch



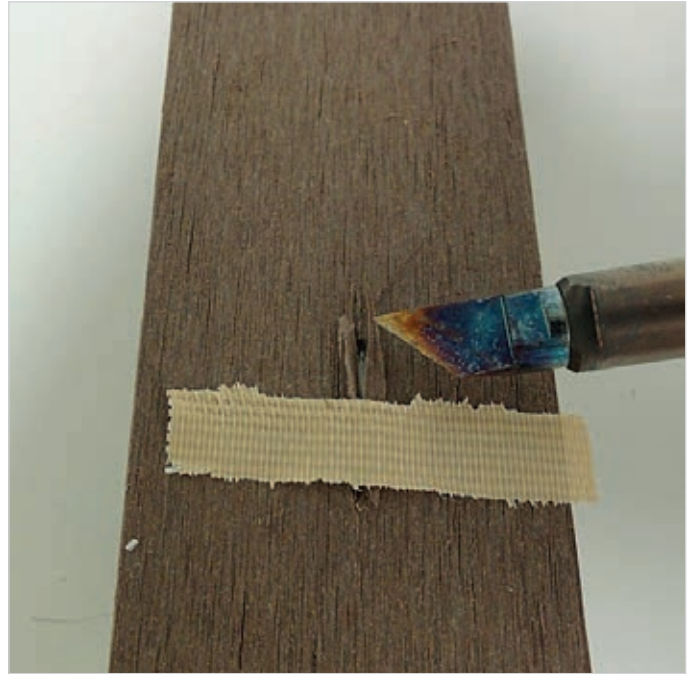
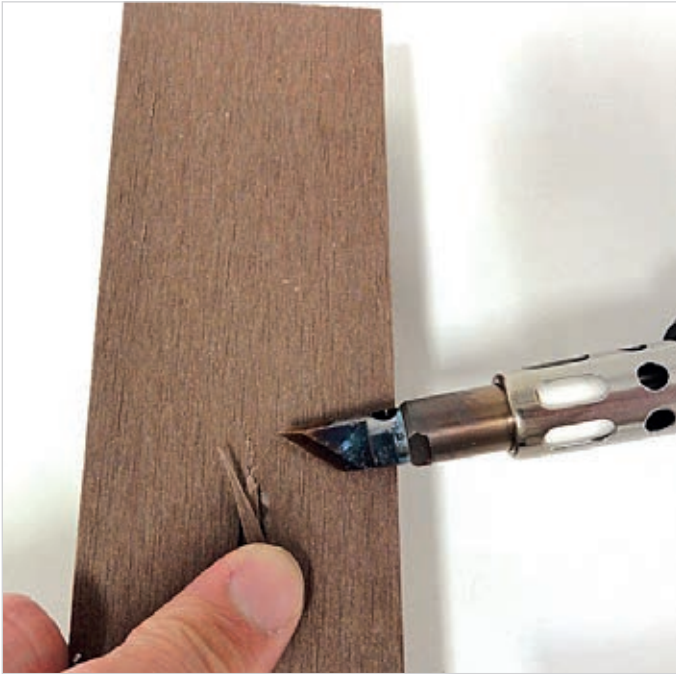
Step 1/5

Collect some composite material on a profile, warm up the soldering iron.



Step 2/5

Put the composite wood on the scratch. Hold it with your finger or use an adhesive tape.

**Step 3/5**

Spread the composite wood on the scratch using a soldering iron, the wood fiber sticks.



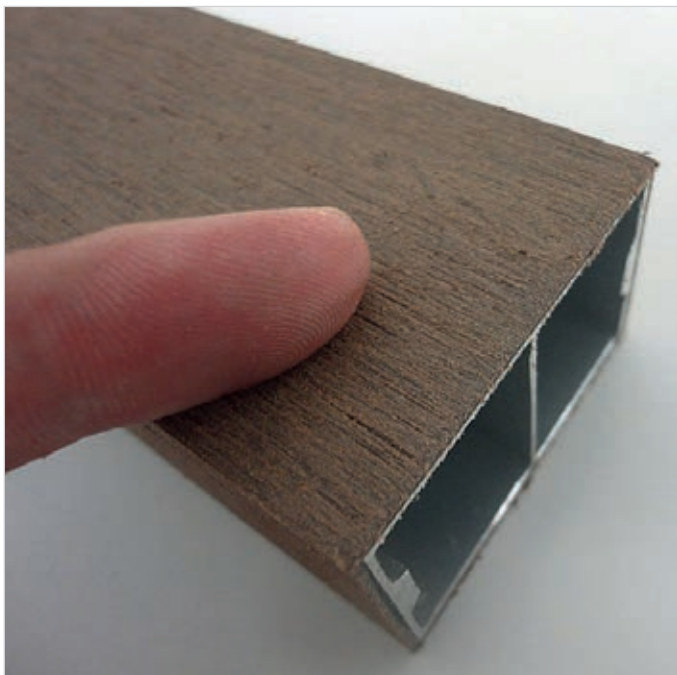
Step 4/5

Aspect before sanding.



Step 5/5

Use a 40 or 60 grit sandpaper for sanding.





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Architectural
Eco-Technology

AG

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