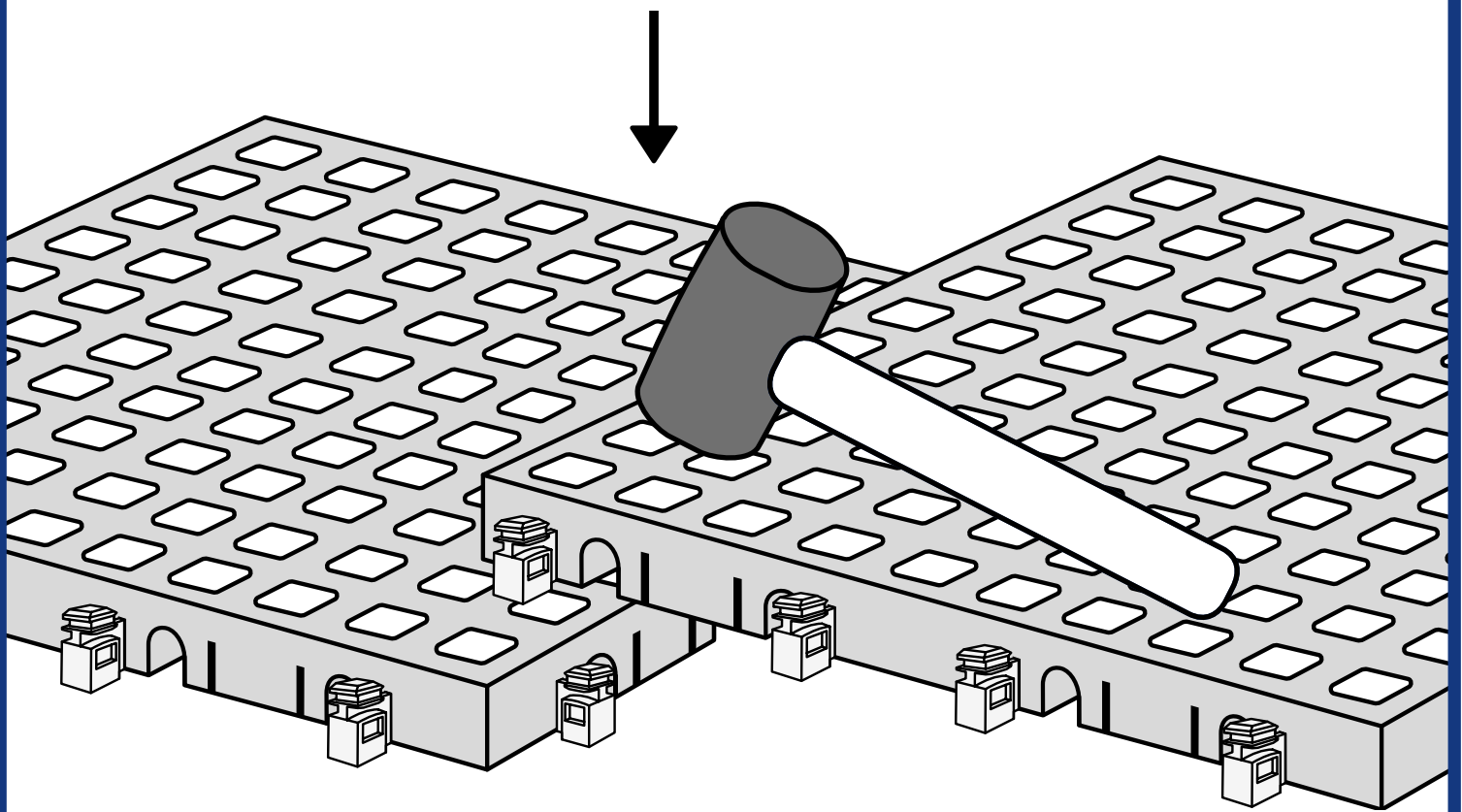




INSTRUCTIONS

FOR THE EXCELLENT RAMP SYSTEM



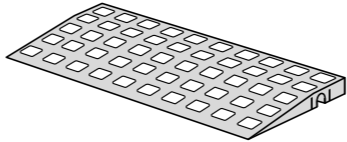
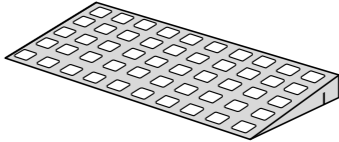
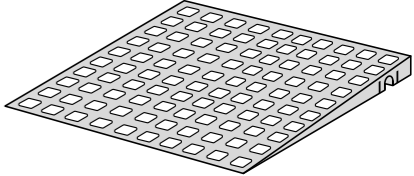



excellent-ramp.com

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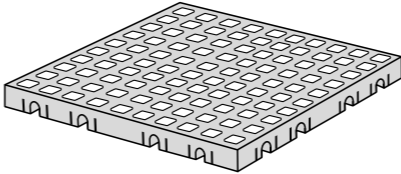
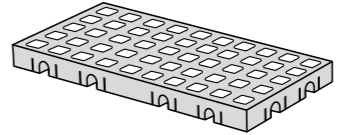
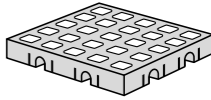



The Excellent ramp system consists of a number of different products. All the products fit together and can be combined to build ramps, platforms, floors etc. The system is easily assembled with a number of locks and can always be disassembled and rebuild into different shapes and sizes.

If you are building the ramp in advance, do not mount the two upper layers. This will make the fitting much easier.

There are three different types of ramps:

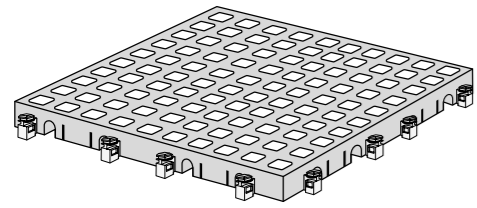
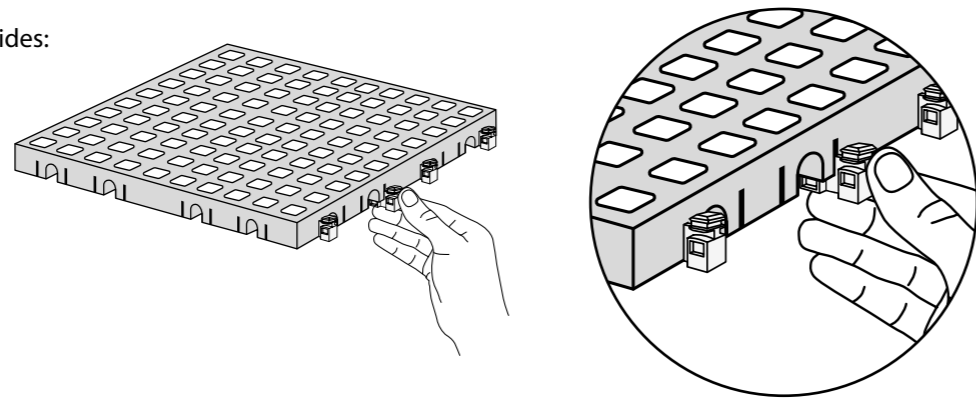
Industrial ramp	Ramp Type I	Ramp Type II
		
		
Height: 18 mm Width: 25 cm Depth: 13,7 cm	Height: 21 mm Width: 25 cm Depth: 12,5 cm	Height: 21 mm Width: 25 cm Depth: 25 cm
Article no.: 12505-2	Article no.: 12535-2	Article no.: 12545-2

There are three different types of tiles:

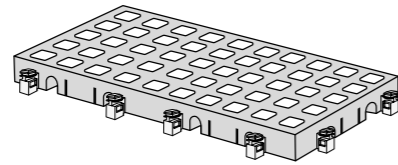
Tile	1/2 Tile	1/4 Tile
		
		
Height: 18 mm Width: 25 cm Depth: 25 cm	Height: 18 mm Width: 12,5 cm Depth: 25 cm	Height: 18 mm Width: 12,5 cm Depth: 12,5 cm
Article no.: 12503-2	Article no.: 12510-2	Article no.: 12509-2

C-LOCKS IN TILES AND RAMPS

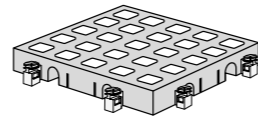
C-Locks are placed in tiles on two sides:



Tile

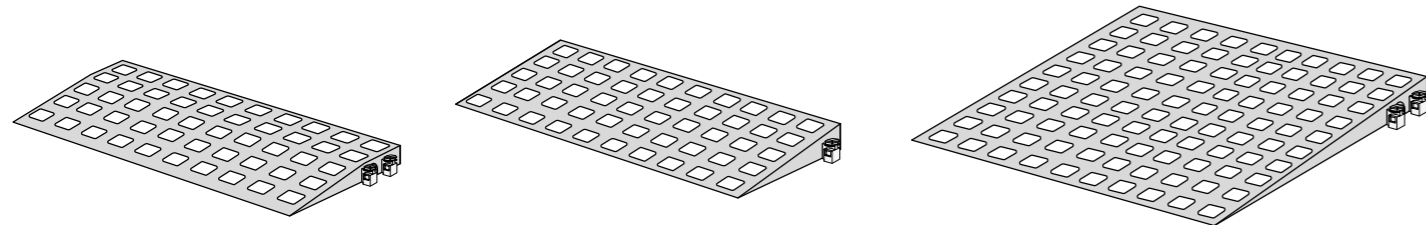


1/2 Tile



1/4 Tile

C-Locks are placed in ramps on one side:



Industrial ramp

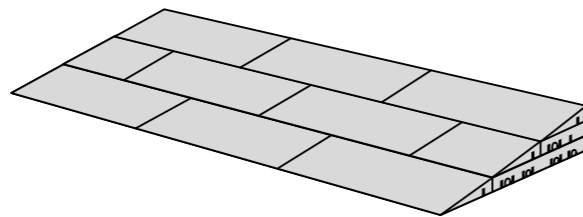
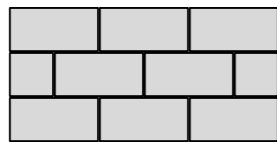
Ramp Type I

Ramp Type II

PATTERN

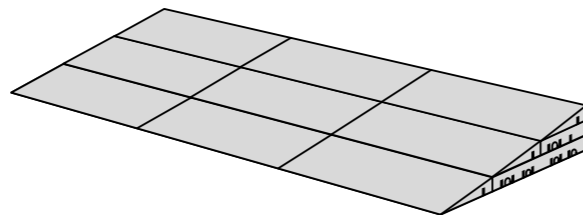
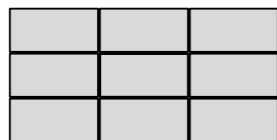
Brick pattern

Creates the strongest ramp, because the connection between the tiles/ramps are offset.

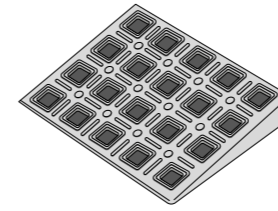


Straight pattern

The most simple and easy way to build a ramp.

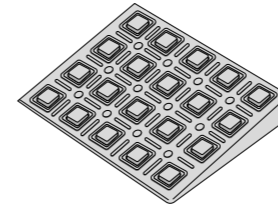


SURFACES



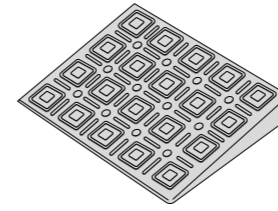
Holes

The standard surface with holes is mainly for indoor use. It has a slip-resistant surface, and dirt will be collected inside the ramp, so it's easy to clean.



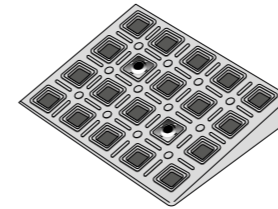
SlipStop

The surface with SlipStop is mainly for outdoor use. It is extremely slip-resistant.



NO holes

The surface with NO holes. It has a slip resistant surface and a different look than the ramps with holes. If you have problems with things getting stuck in the holes, it's a great solution.



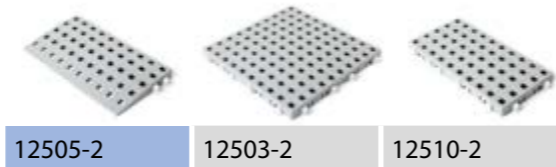
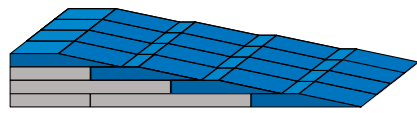
Surface with Ice-Lock

Ensures extra grip and security, during the most extreme weather conditions, with the Ice-Lock. The Ice-Lock can be mounted at the surface of both tiles and ramps.

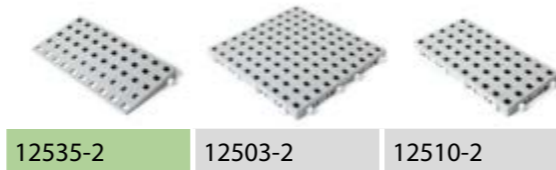
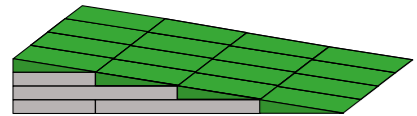
See instructions for Ice-Lock for more information.

INCLINATIONS

Inclination 1:7 (14,5%)

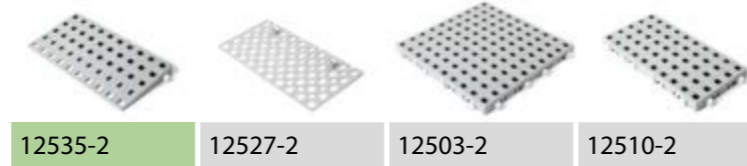
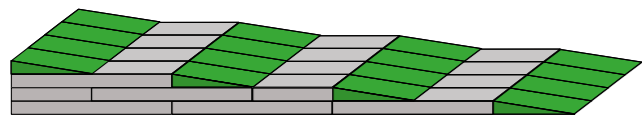
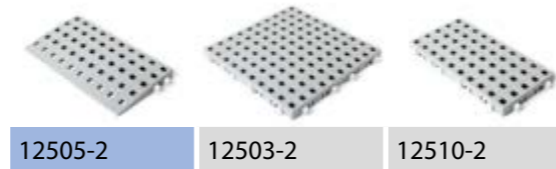
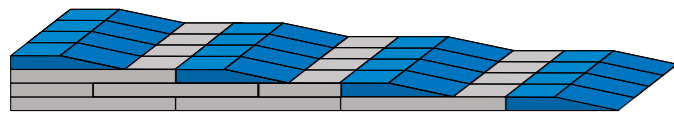


Level surface.



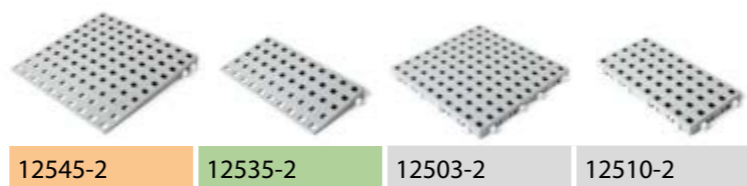
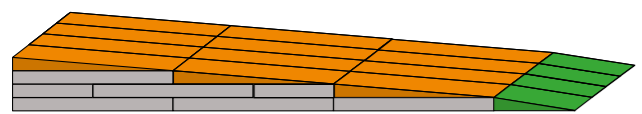
Recommended use: Thresholdramps, small ramps up to 7,2 cm and bigger ramps, when limited space available.

Inclination 1:14 (7,5%)



Recommended use: Small ramps and ramps with small "rest platforms" - specially suitable for handdriven wheelchairs.

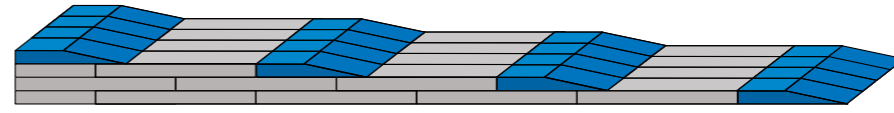
Level surface.



← Use ramp 12535-2 for the strongest solution.

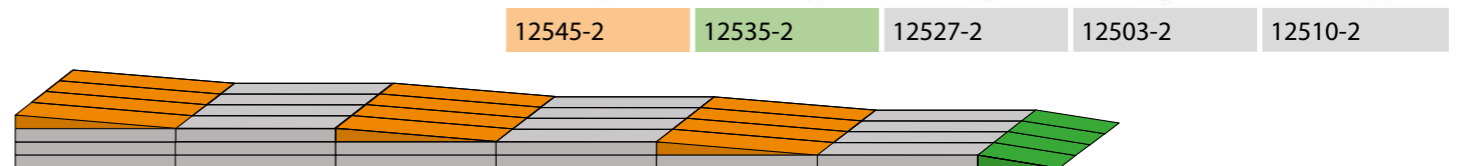
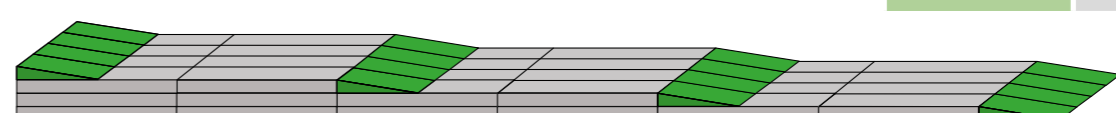
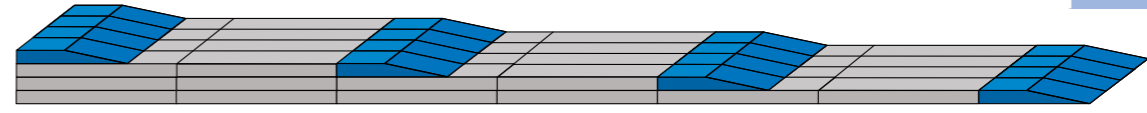
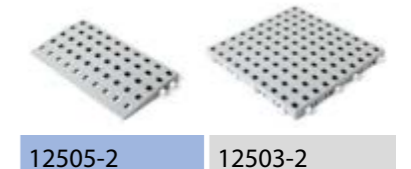
Recommended use: Ramps up to 50 cm and bigger ramps when only limited space is available - specially suitable for electric wheelchairs.

Inclination 1:20 (5%)



Recommended use: Small ramps up to 10 cm and ramps with small "rest platforms" - specially suitable for handdriven wheelchairs.

Inclination 1:25 (4%)



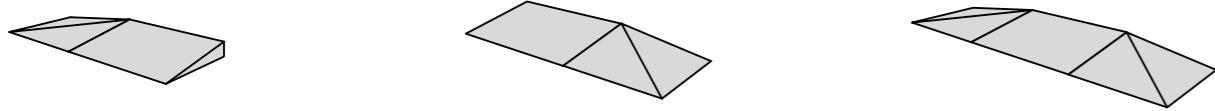
Recommended use: Ramps up to 50 cm and ramps with small "rest platforms" - suitable for handdriven and electric wheelchairs.

CORNER RAMPS

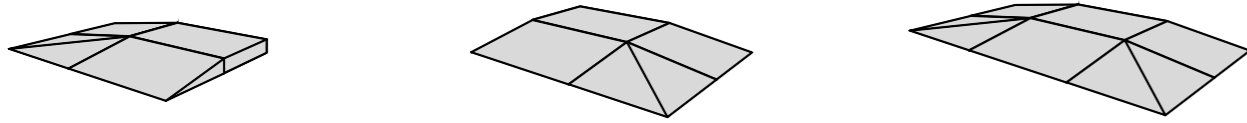
There is great advantage in using corner ramps, especially in corners or around a platform. The corners allows acces from multiple sides and increases safety, as the user will not risk driving over any edges.

Examples of corner ramps

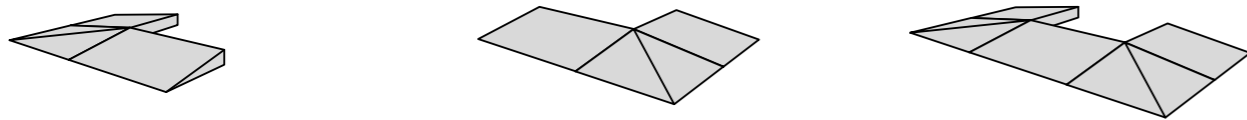
Ramp with corners:



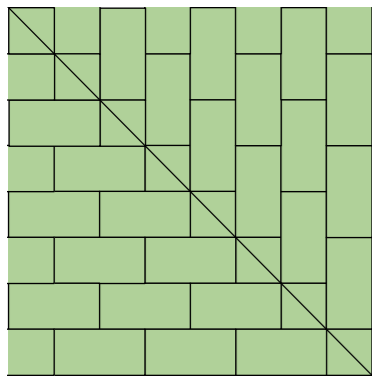
Platform with ramps and corners:



Ramps and corners around existing platform:

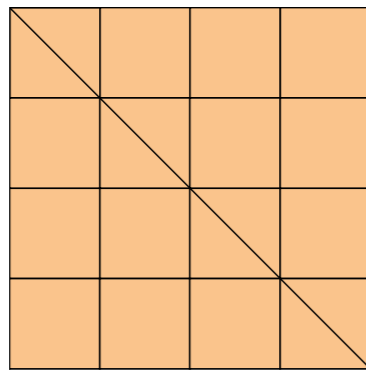


Corners build with different inclinations:



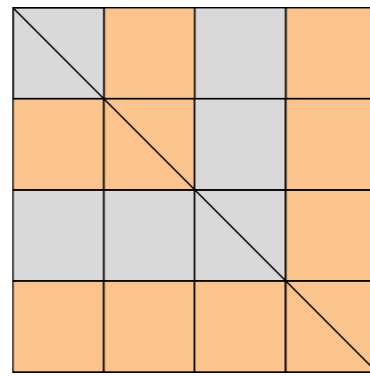
Inclination 1:7

Corner ramp build with Rampe Type I.



Inclination 1:14

Corner ramp build with Rampe Type II.



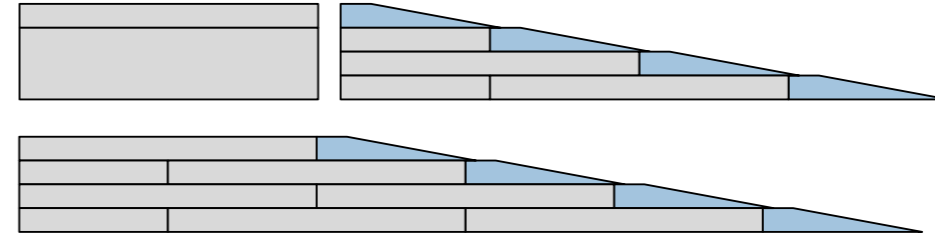
Inclination 1:25

Corner ramp with small repos build with Rampe Type II.

PLATFORMS

Platforms make it possible to open and close doors. If there is no platform in front of the door already, it can be build into the ramp.

Examples:

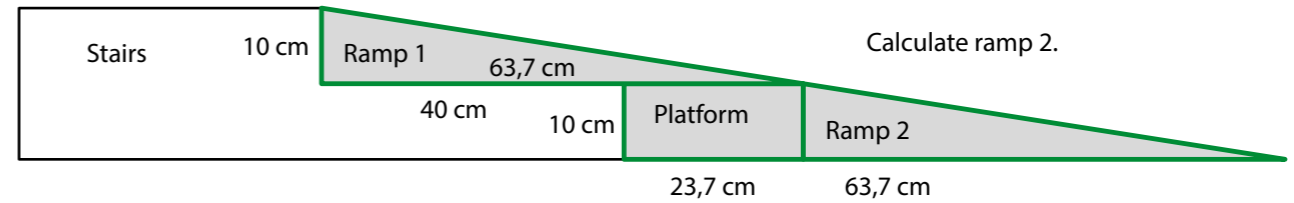


STAIRS

If there are stairs, which can not be removed, the ramp can be integrated with the stairs. Here are two ways of calculating steps:

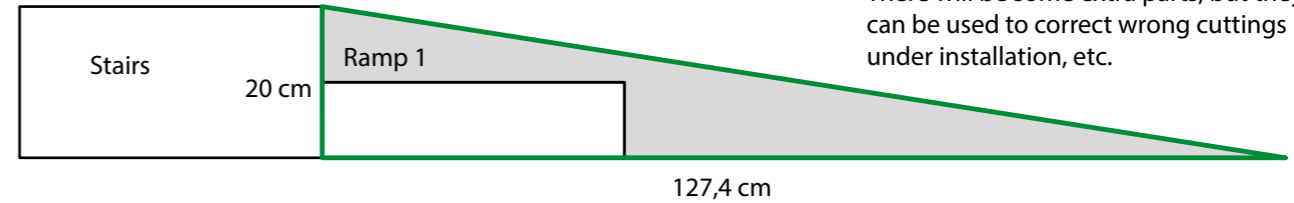
Calculate ramp 1. Because the step is 10 cm high, the ramp will be 63,7 cm long.

Calculate platform under ramp 1. $63,7 \text{ cm} - 40 \text{ cm} = 23,7 \text{ cm}$ lenght of the platform.

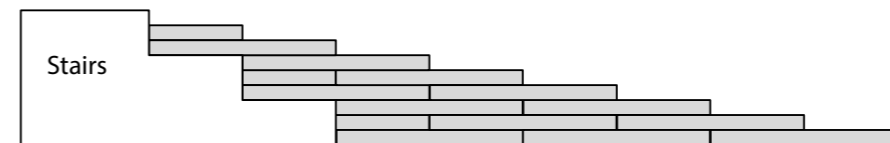


Calculate ramp 2.

Calculate as if there is no step. There will be some extra parts, but they can be used to correct wrong cuttings under installation, etc.

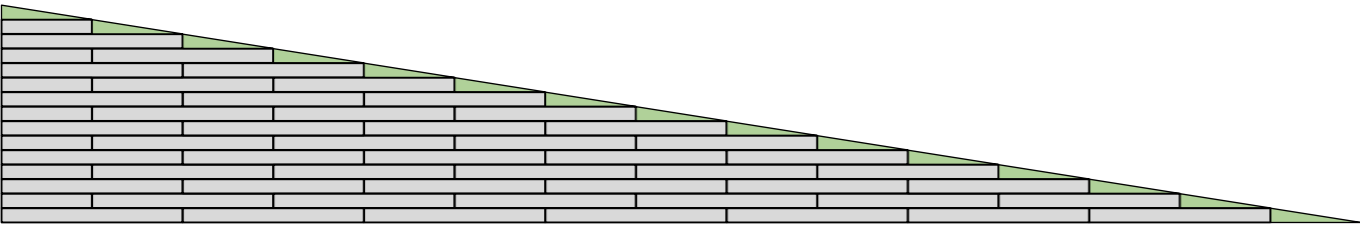


Tiles and SixPacks can also be used to rebuild stairs to have a lower inclination, for better accessibility:



LAYERS AND LENGHT ON RAMPS

Example of a ramp build with Ramp Type I:



No. of layers (from the top)	Height in cm	Lenght in cm
1	2,1	12,5
2	3,9	25
3	5,7	37,5
4	7,5	50
5	9,3	62,5
6	11,1	75
7	12,9	87,5
8	14,7	100
9	16,5	112,5
10	18,3	125
11	20,1	137,5
12	21,9	150
13	23,7	162,5
14	25,5	175
15	27,3	187,5

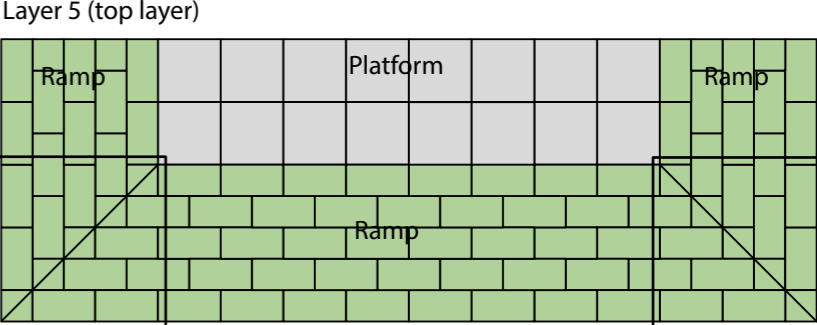
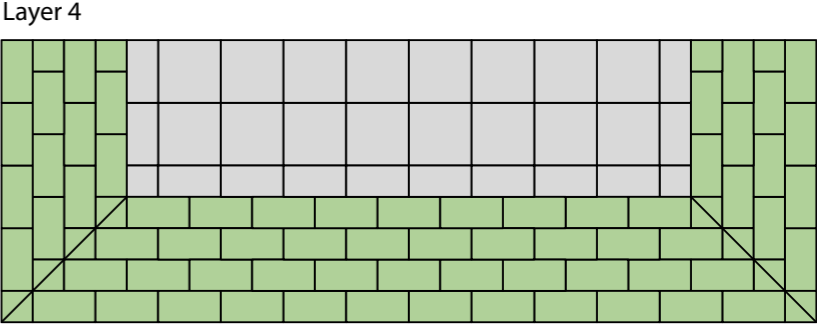
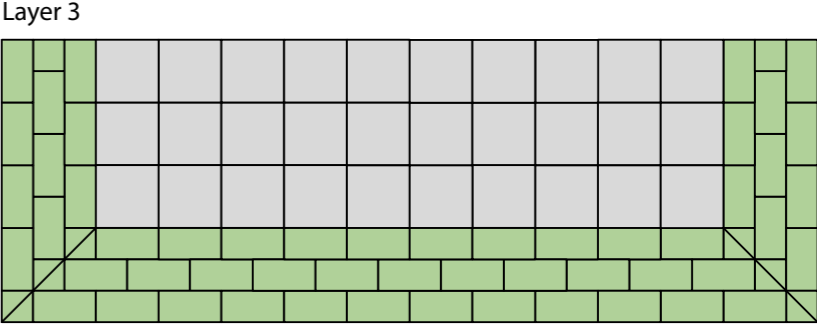
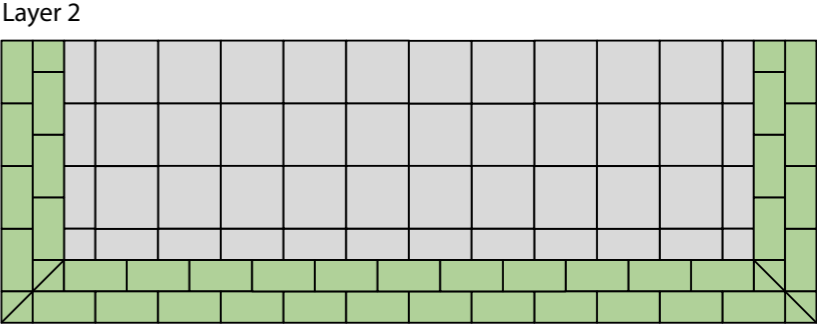
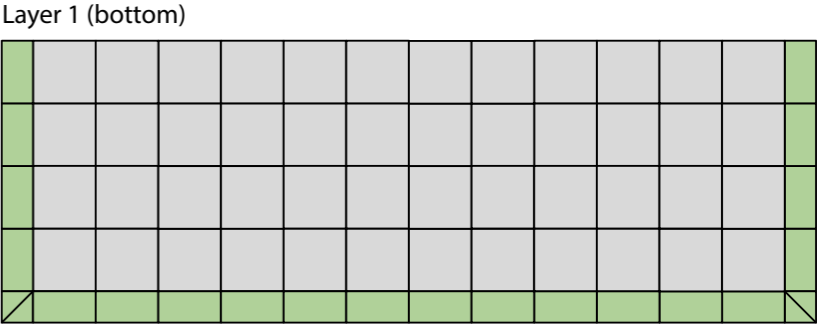
Use the Adjustment Key (3 mm) or Ramp Adjuster (2-16 mm) for fine height adjustments.

EXAMPEL OF A CORNER RAMP BUILD WITH TYPE I

Example of a corner ramp with a platform, build with Ramp Type I.

The Ramp is build from one of the corners and towards the wall/building.

The corner is always square and therefore it has the same width and lenght.

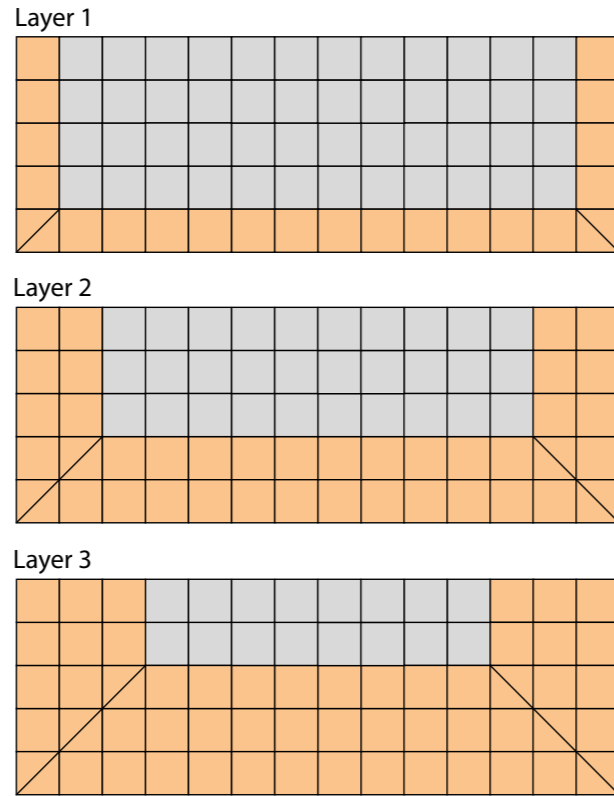


EXAMPEL OF A CORNER RAMP BUILD WITH TYPE II

Example of a three layered corner ramp with a platform, build with Ramp Type II.

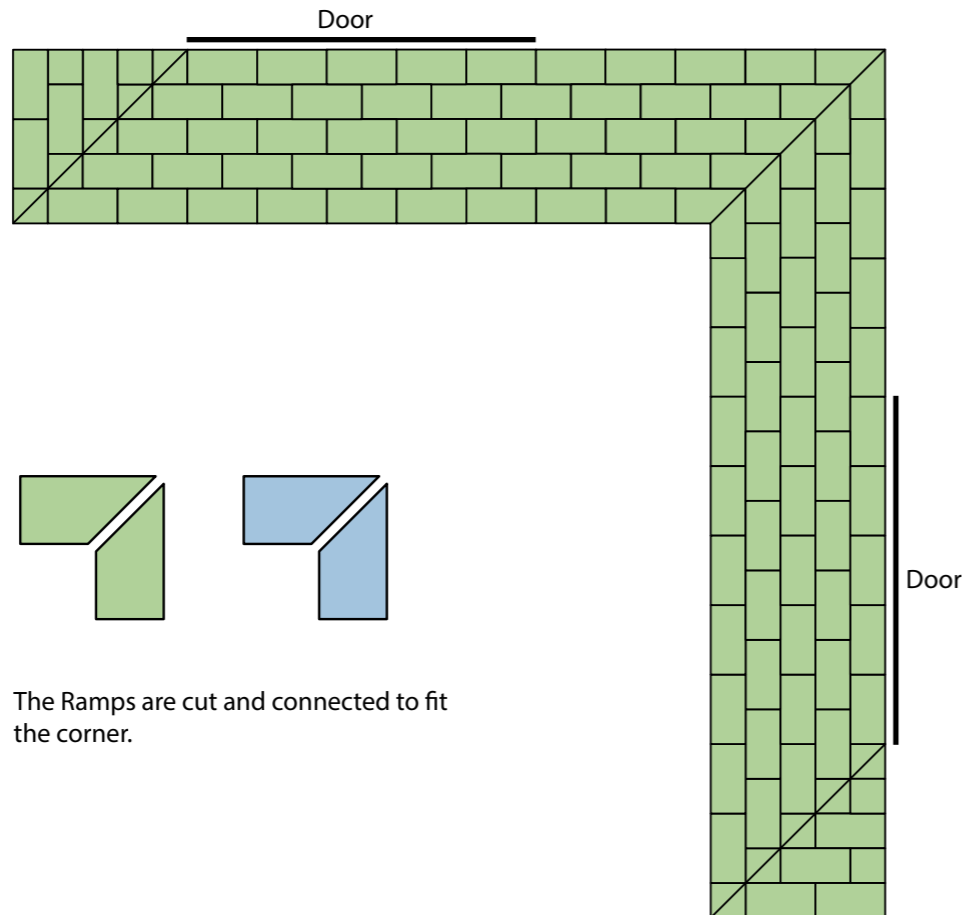
The Ramp is build from one of the corners and towards the wall/building.

The corner is always square and therefore it has the same width and lenght.



EXAMPLE OF AN INWARD CORNER RAMP

With the Industrial ramp and Ramp Type I, it is possible to build ramps with an inward corner.

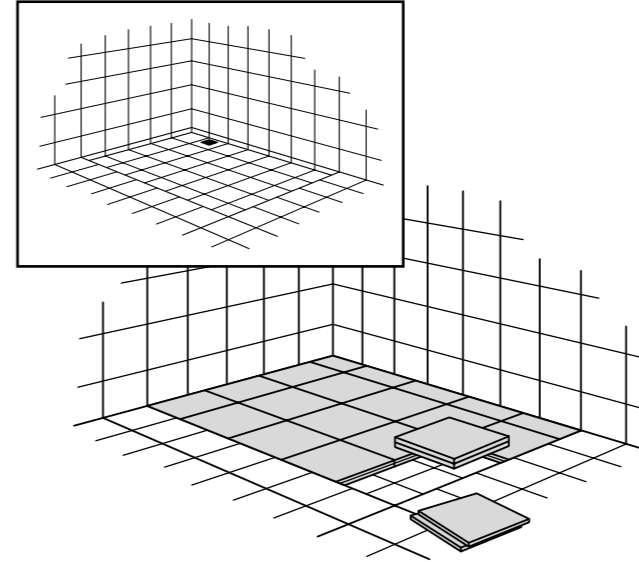


The Ramps are cut and connected to fit the corner.

SHOWER SOLUTIONS

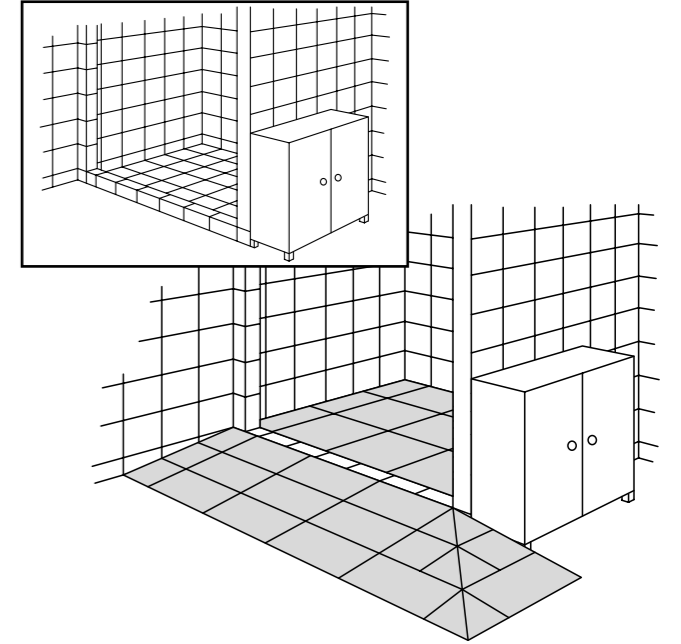
Shower unit with lowered floor

Lowered floors in showers are fitted with Excellent tiles and possibly ramps. Hereby, a plane surface is achieved, and heavy lifting can be avoided.



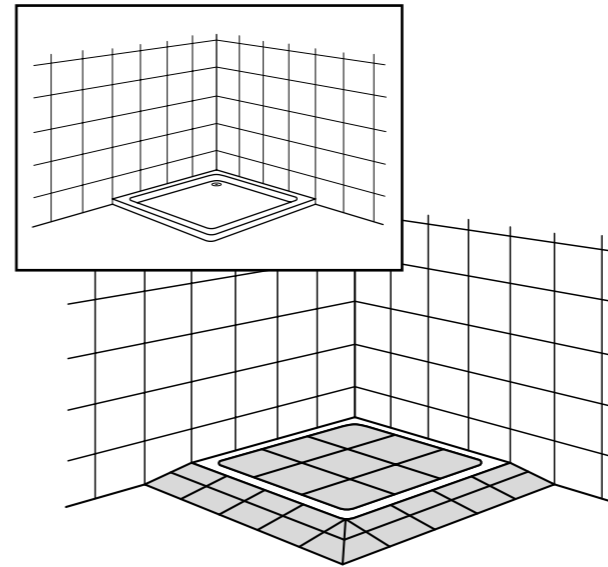
Shower trays with a brim

If the shower tray has a brim it is fitted with tiles in the tray and a ramp up to the edge.



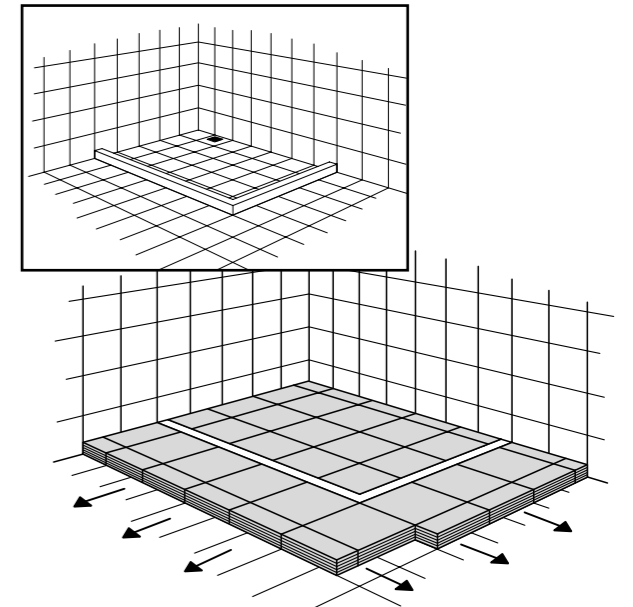
Shower niches with a low tray

The lowered shower tray is filled up with tiles and possibly ramps. A ramp is mounted at the edge.



Lifting of the floor level

Finding room for a ramp in small bathrooms may be difficult. In these cases, the complete floor is lifted by filling it with tiles and thus a flat surface is achieved.



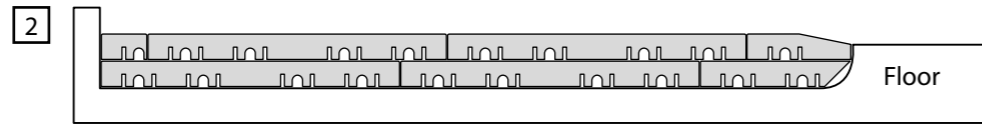
SHOWER SOLUTIONS

Fitting of tiles in a shower unit

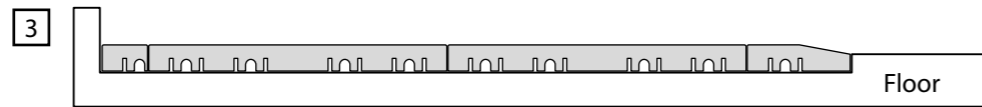
If the shower niche brim is higher than one tile and lower than two tiles, the tile floor can be mounted as a low floor in the shower tray.



The tile floor in the shower tray can also be fitted as a higher floor. A ramp fitting the floor level is cut and mounted.

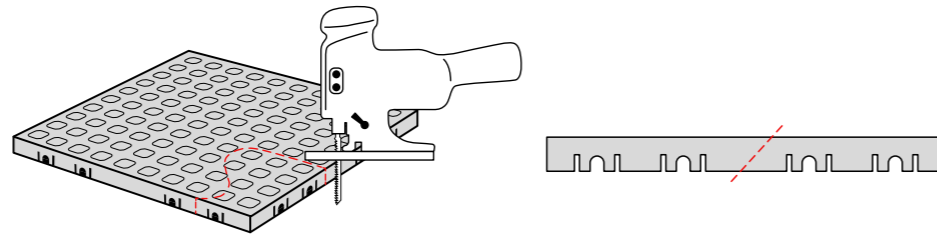


A tile floor may also be mounted higher than the brim, as shown here.



Fitting

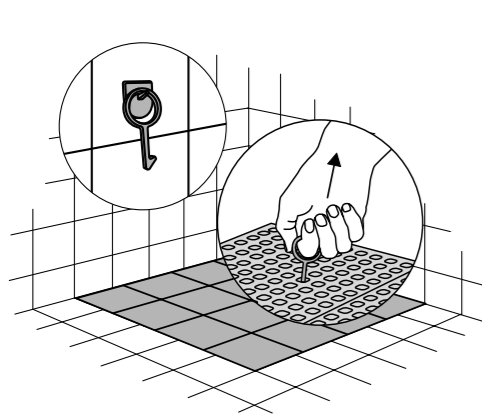
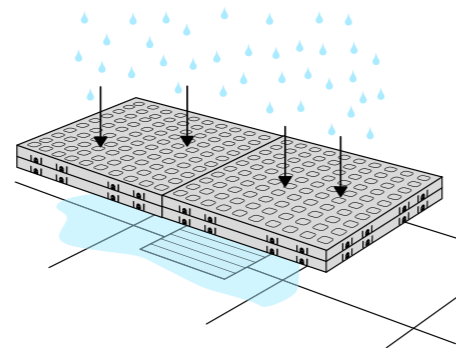
Any bathroom can be fitted 100 percent with Excellent tiles. The fitting can be done, e.g., with an ordinary jigsaw.



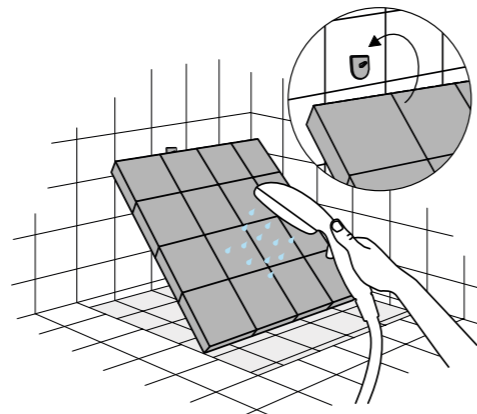
Cleaning of Shower KIT

The surface of the tiles and ramps have no pores. And thus cannot absorb bacteria. Water and soap can easily exit, through the holes in the tiles.

We recommend cleaning the tiles every four weeks in ordinary use. The tiles tolerate all types of conventional cleaning agents. They also tolerate autoclaving (+130° C) to be sterilized.



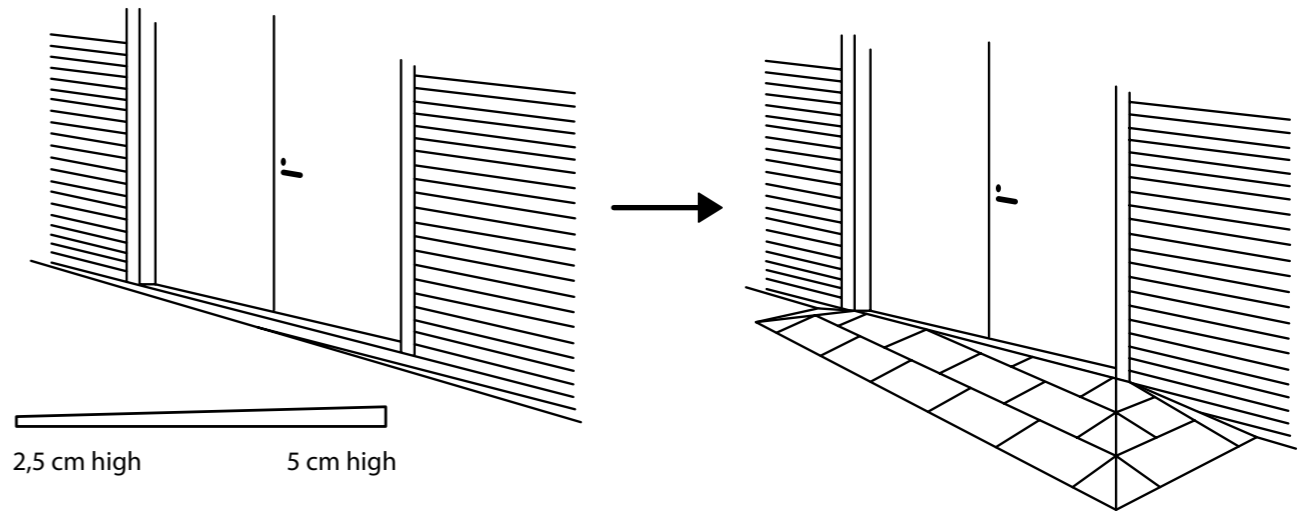
"Shower hook" makes it easy to lift the tiles in the shower.



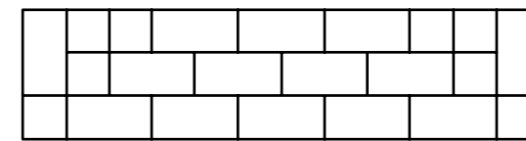
"Cleaning support" mounted on the wall, support the tiles while cleaning.

UNEVEN GROUND: CUTTING THE RAMP

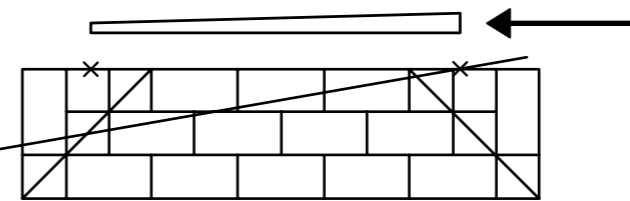
Example: Ramp with 3 layers with corners cutting out to match the slope of the road in front of the house. 2.5 cm on one side and 5 cm on the other side.



Measuring and cutting the ramp

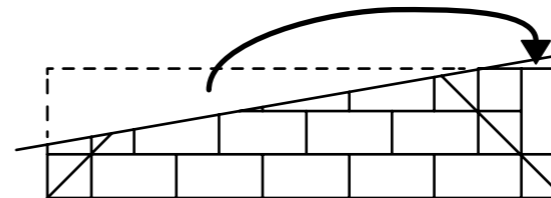


Here we use a 3 layers ramp with corners.

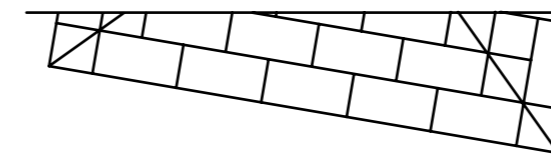


The desired slope

To achieve the correct height of the ramp. You need to measure and mark on top of the ramp. Measure the backside of the ramp onwards.

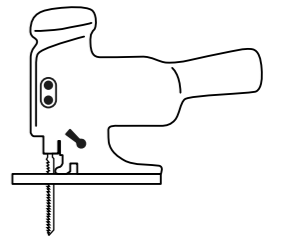


Cut the ramp diagonally. After you have cut the ramp you will get an edge which can fit into the slope.



Place the ramp and attached to the substrate.

Tool: Jigsaw to cutting the ramp.

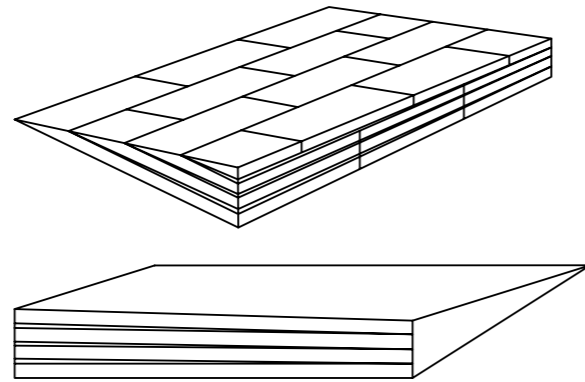
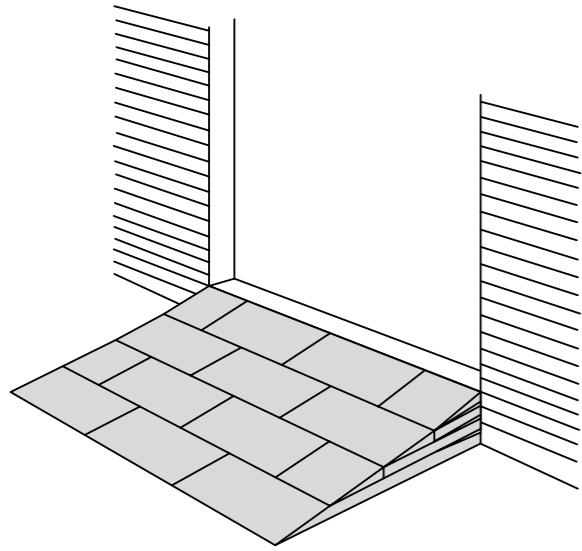


Rules to remember

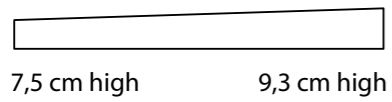
- Consider what weight the ramp must be able to support and where and how it will be use.
- Consider which is more important: Aesthetics or functionality, when choosing the method you want to use the adapted ramp.
- Two different materials to choose: Comfort and HARD.
- Always try to achieve the smallest height differences between the ramps and the steps, as it can become fragile over time.
- A threshold which is worn in the middle can be solve with a ramp that goes up in the sides, because both people in wheelchairs and on foot will be able to easily use the ramp.

UNEVEN GROUND: ADAPT THE RAMP WITH ADJUSTMENT KEY

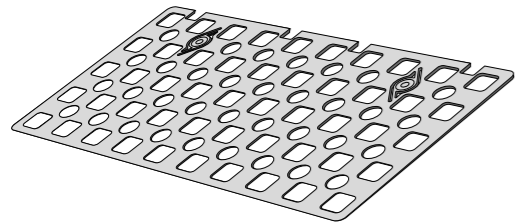
For small adjustments to the height of the ramp, use the Adjustment Key. The Adjustment Key is mounted under the layers of the ramp. Use only 2 Adjustment Keys under each layer.



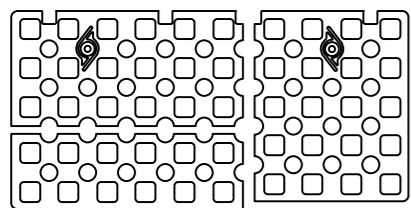
At the side where the ramp is highest, you will see that lays two Adjustment Key under each layer and therefor the ramp will be 18 mm higher on that side.



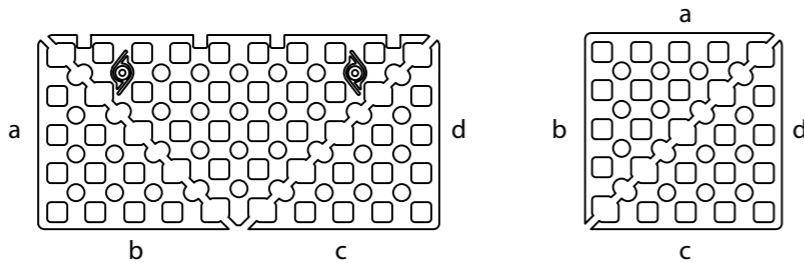
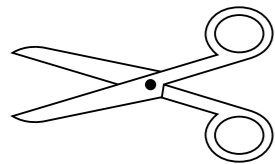
7,5 cm high 9,3 cm high



Adjustment Key is only 3 mm high and can easily be cutting by a scissors. Be creative by combining and adapt the Adjustment Key.

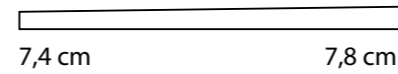
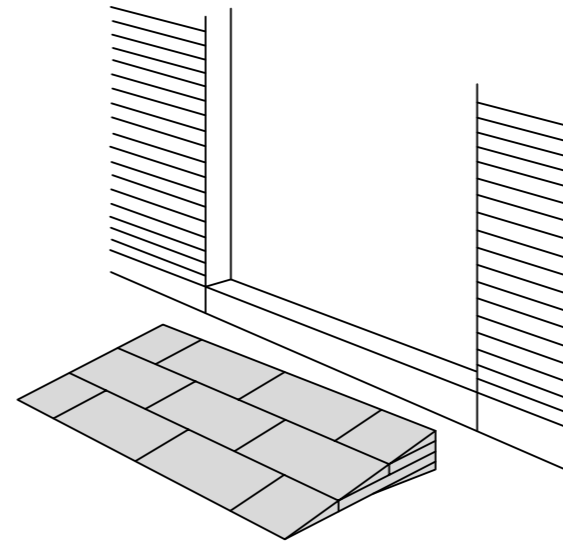


Cut the Adjustment Key easily with a scissor.

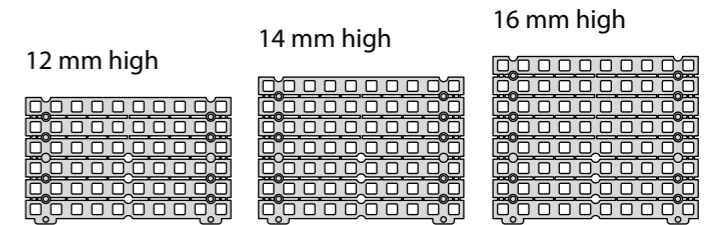
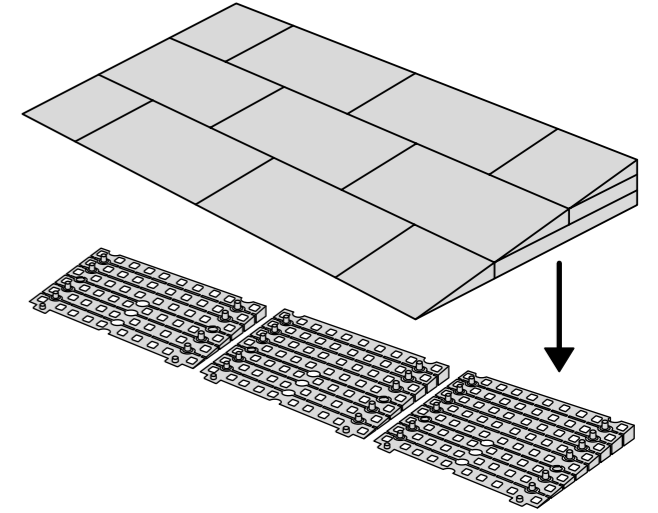


If you cut off the corners on both sides of the wedge, you can assemble a corner wedge.

UNEVEN GROUND: ADAPT THE RAMP WITH RAMP ADJUSTER



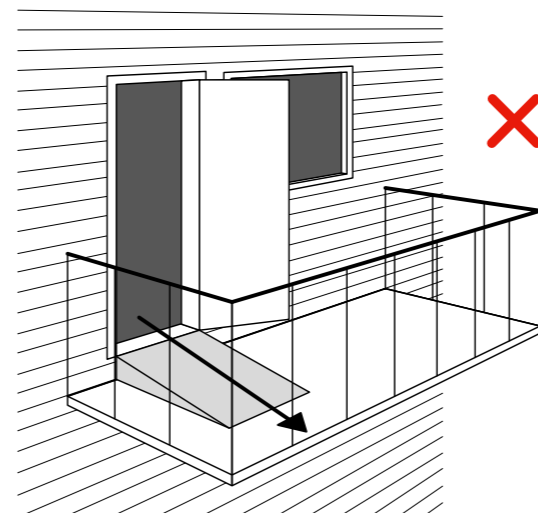
A ramp with 3 tiles width will get a height difference of 5 mm.



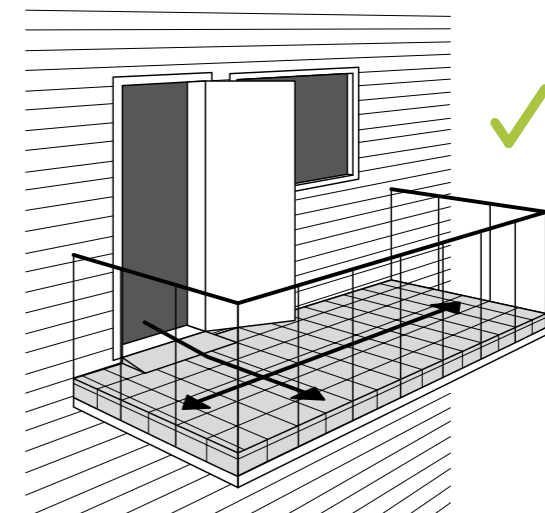
Ramp Adjuster mounted under the ramp. To achieve the height in an uneven step, you can use the Ramp Adjuster for each tiles to adapt in the height. Do not remove more than one layer at the time or else the height gap will be too big. A ramp with 3 tiles wide will get a height difference of 4 mm.

RAISING OF BALCONIES

Solution for both balconies and balcony accesses.



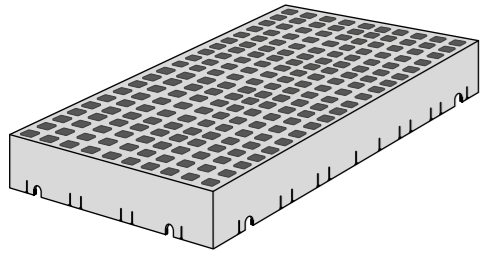
A ramp requires much space and limits the room of the balcony.



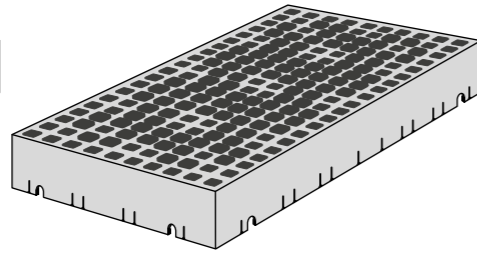
A raised floor gives access to the entire balcony.

SIXPACK AND INFILL TILES

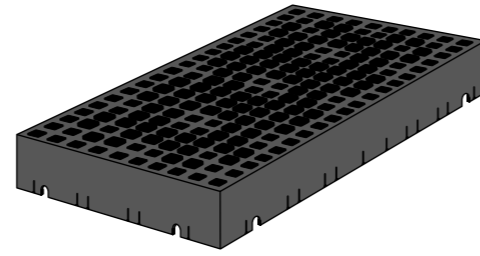
SixPack comfort (grey)
Is used at the top where it is visible.



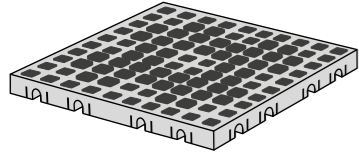
SixPack infill (grey)
Is used at the bottom/inside of the ramp.



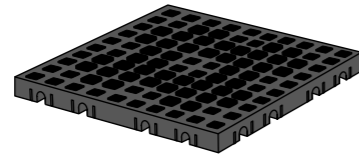
SixPack infill (black/slate)
Is used at the bottom/inside of the ramp.



Infill tile (grey)
Is used at the bottom/inside of the ramp.



Infill tile (black/slate)
Is used at the bottom/inside of the ramp.

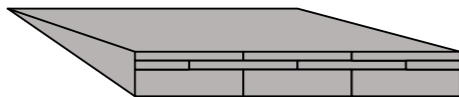


SixPack and infill tiles in a ramp

From the back of a ramp you see the different types of tiles used. The cheapest and most environmentally friendly solution is to use as much Infill slate (made of regenerated material), as possible. If you don't want the slate colour to show, you can choose grey tiles for the sides.

Example with five layer ramp:

SixPack (grey)
Infill tiles (grey)



SixPack Infill (black/slate)
Cheapest solution



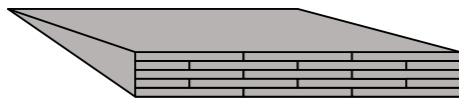
SixPack Infill (black/slate)
Infill tiles (grey) in one grey side



SixPack Infill (black/slate)
Infill tiles (grey) in two grey sides



No SixPack and no Infill
Strongest and most expensive solution



EXAMPLE OF A RAMP WITH SIXPACK AND INFILL TILES

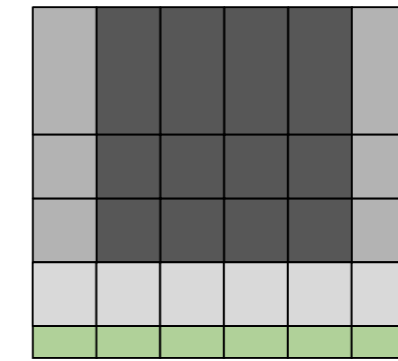
This is an example of a ramp build with Ramp Type II, SixPack and Infill tiles. The slate-coloured tiles in the middle are made from partly new and partly regenerated LD/LLD.

Width: 150 cm
Height: 10,8 cm
Length: 137,5 cm
Layers: 6
Inclination: 1:14 (7,5%)

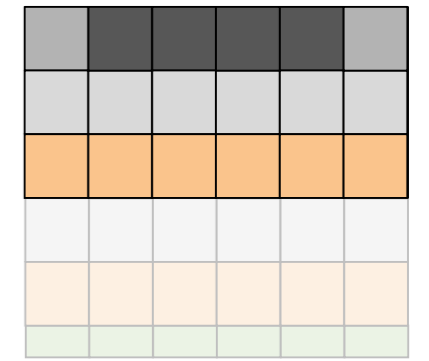
Number of tiles:

-  30 Tiles
-  16 Infill Tiles black (Slate)
-  8 Infill Tiles grey
-  4 SixPack Infill black (Slate)
-  2 SixPack Infill grey
-  30 Ramp Type II
-  6 Ramp Type I

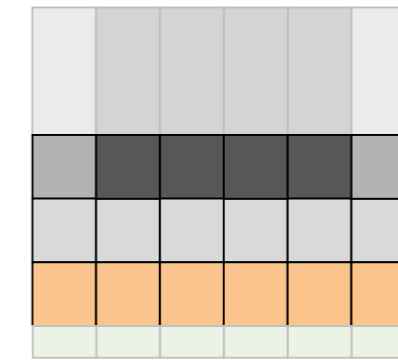
Layer 1



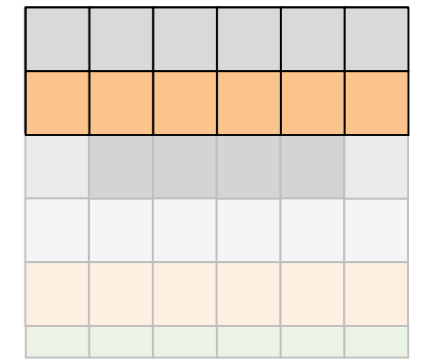
Layer 4



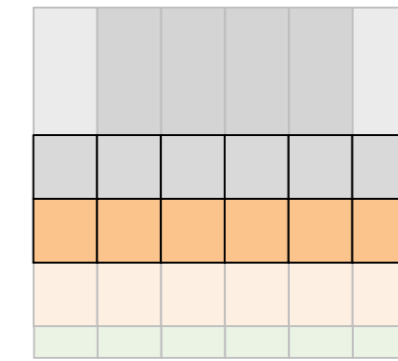
Layer 2



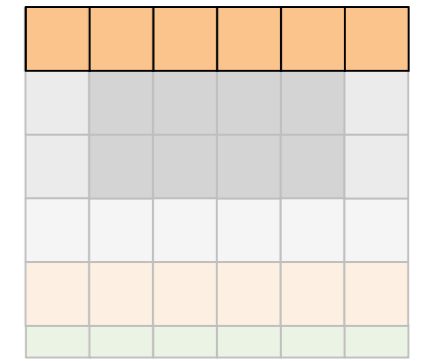
Layer 5



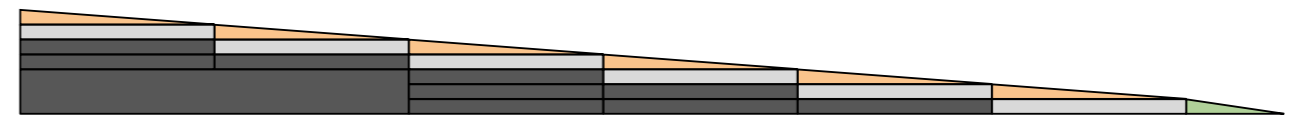
Layer 3



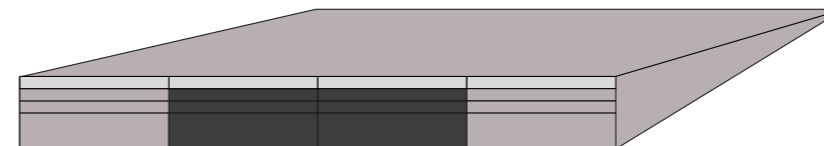
Layer 6



Cross-section of the middle of the ramp:



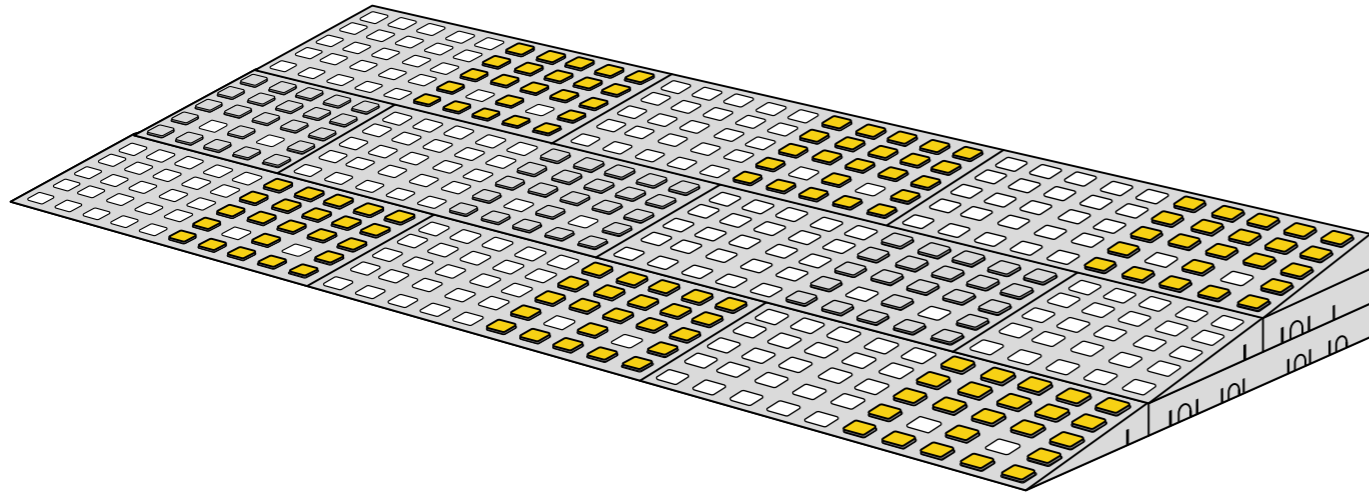
The ramp seen from the back:



SLIPSTOP

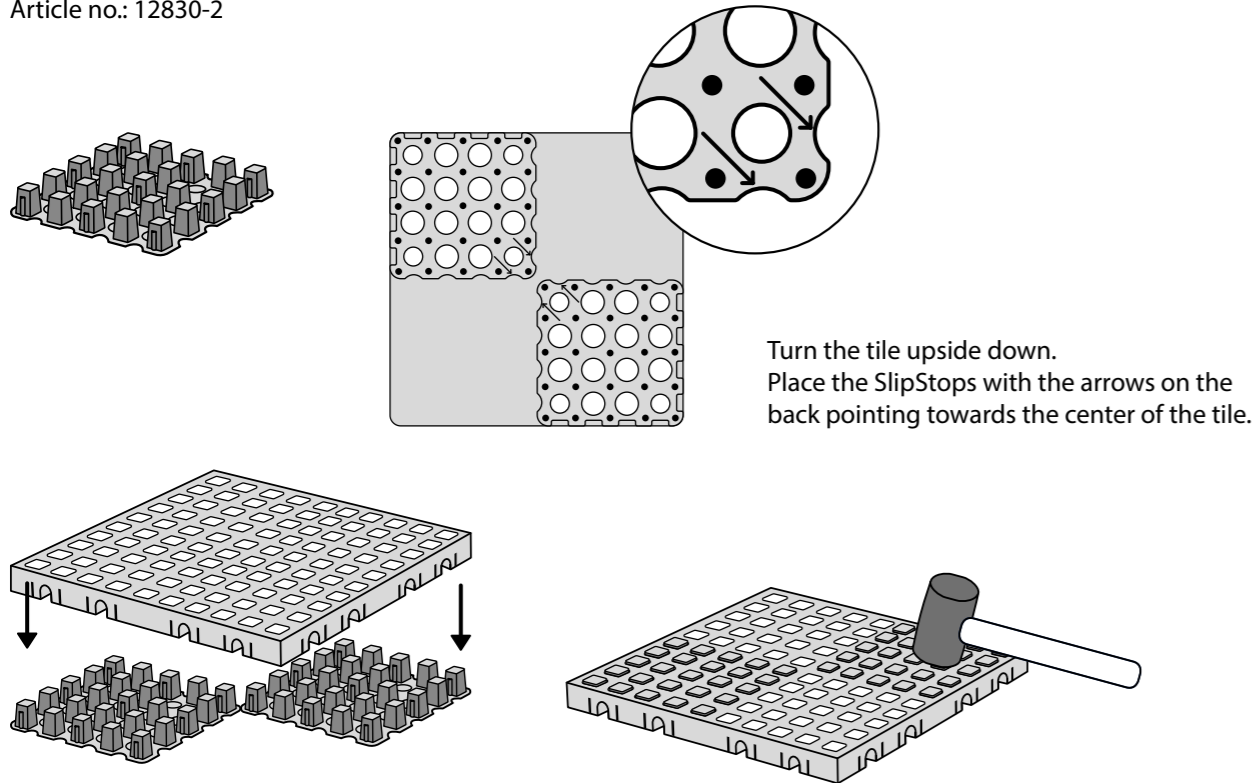
SlipStop is used outdoors to increase slip resistance.

It is recommended to use yellow SlipStop at the top and bottom of the ramp for better visibility.



SlipStop in tile

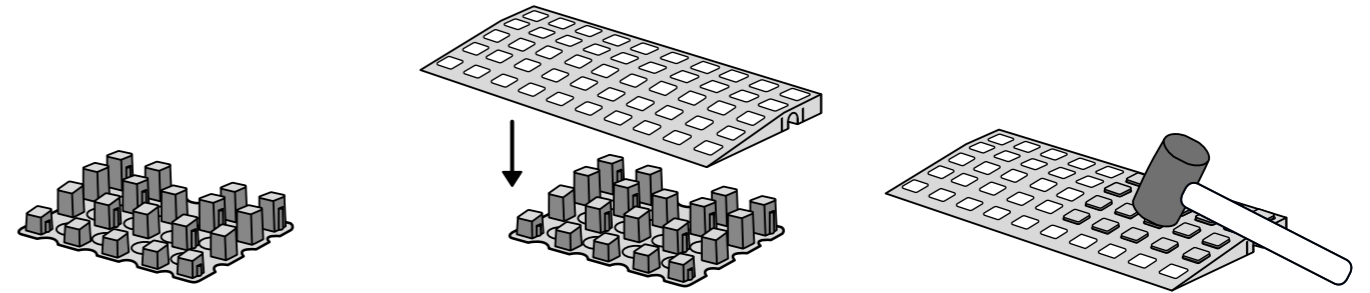
Article no.: 12830-2



SLIPSTOP IN RAMPS

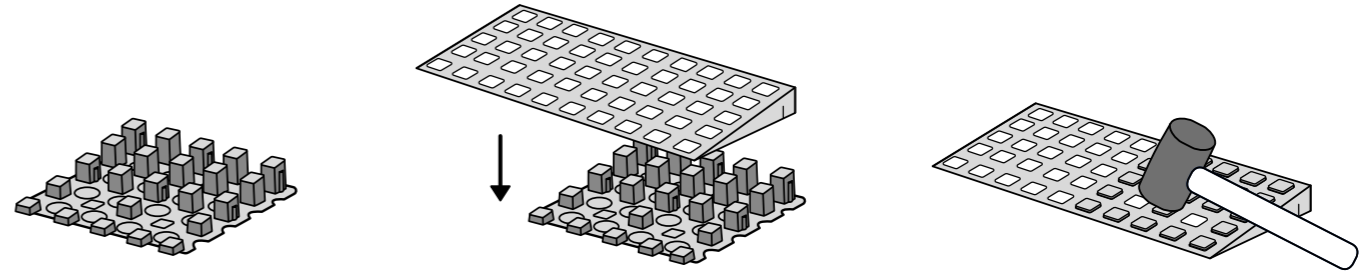
SlipStop in an Industrial Ramp

Article no.: 12840-2



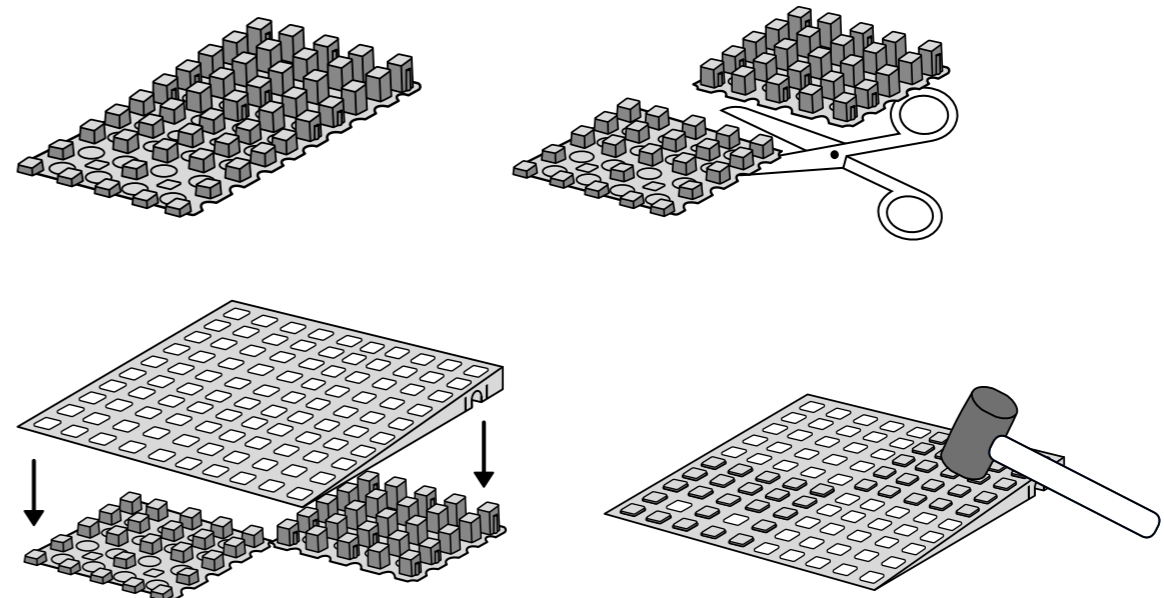
SlipStop in a Ramp Type I

Article no.: 12850-2



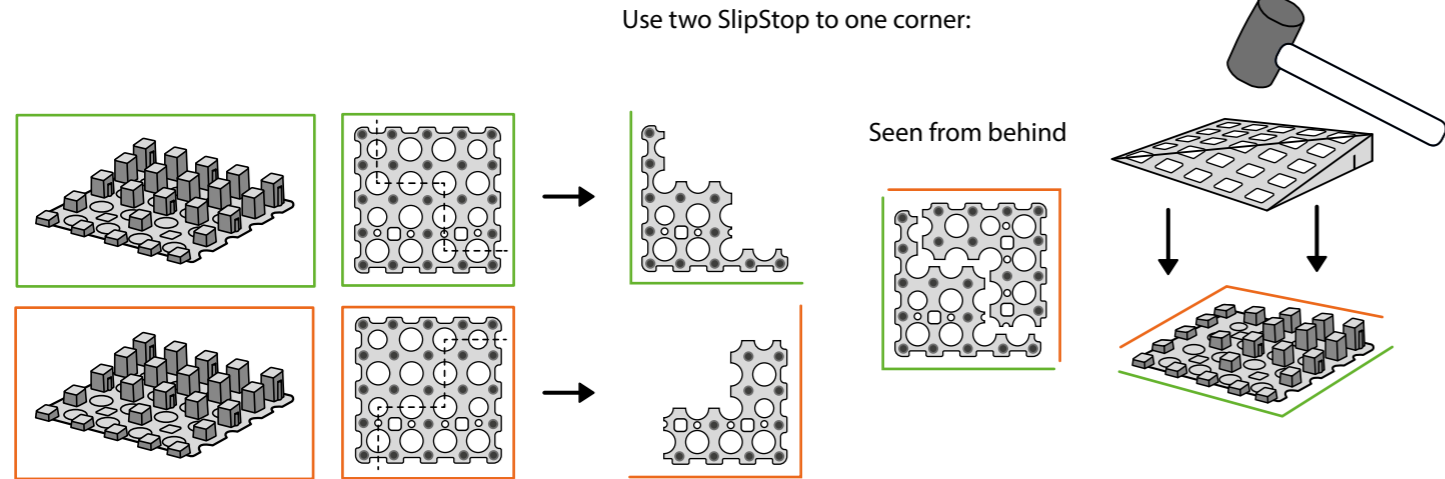
SlipStop in a Ramp Type II

Article no.: 12860-2

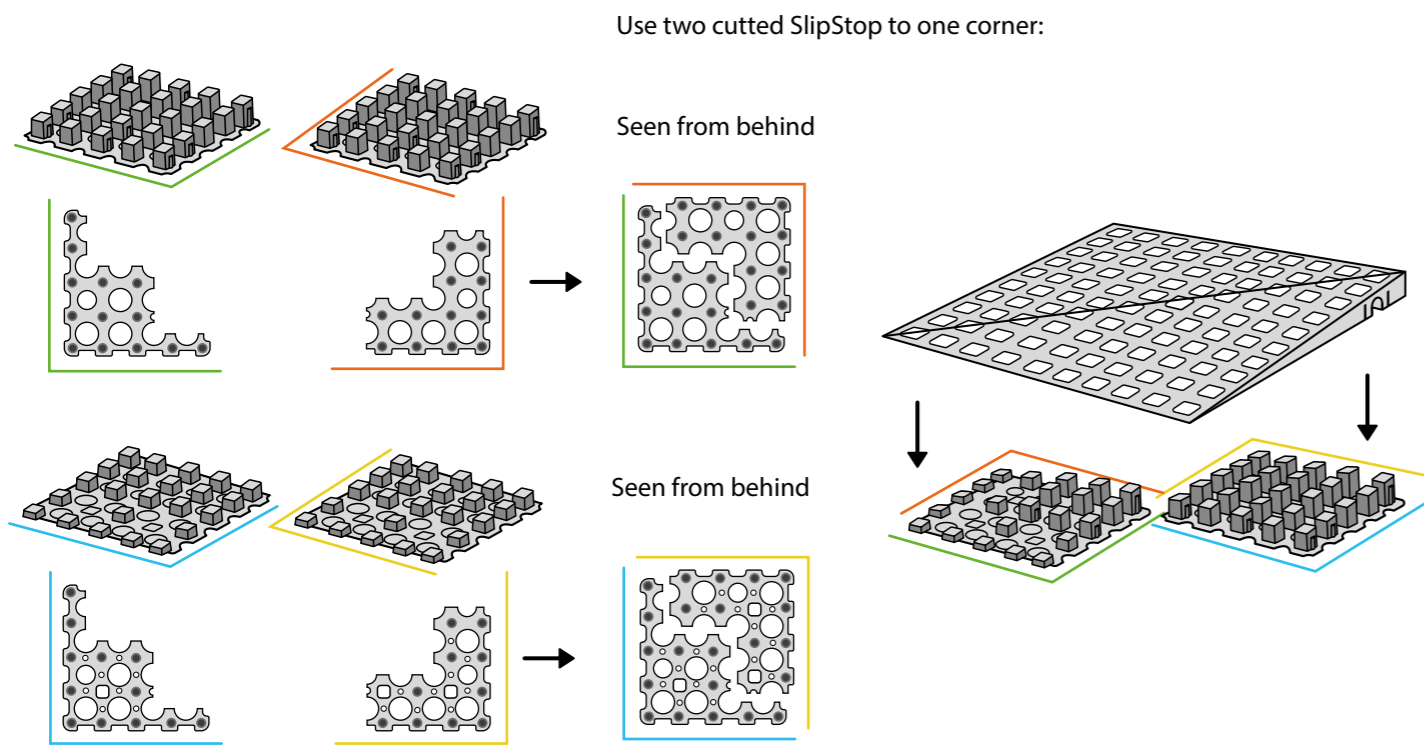


SLIPSTOP IN CORNER RAMPS

SlipStop in a corner ramp Type I



SlipStop in a corner ramp Type II



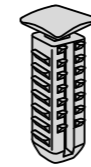
LOCK SYSTEM



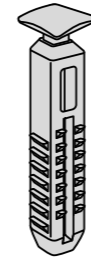
C-Lock
Connects tiles and ramps horizontally.
Article no.: 12700



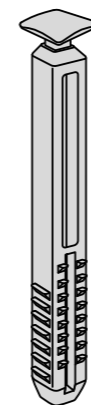
R-Lock
Connects ramps on top of tiles.
Is used on the inclined surfaces.
Article no.: 12742-2



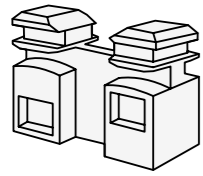
T-Lock
Connects two layers of tiles (mostly) on top of each other.
Article no.: 12732-2



S-Lock
Connects three layers of tiles.
Article no.: 15250-2



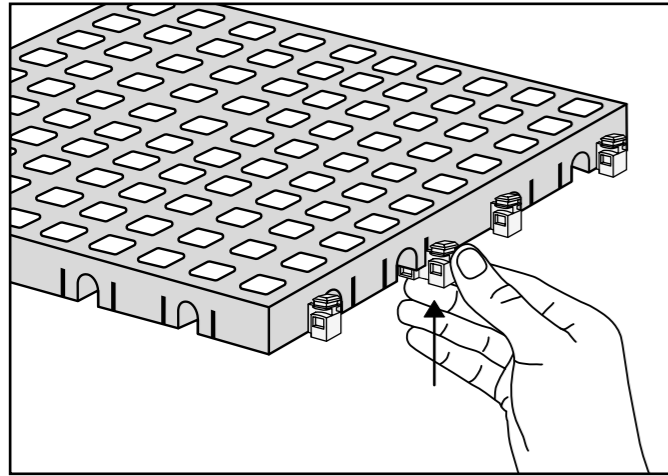
L-Lock
Connects five layers of tiles.
Article no.: 15200-2



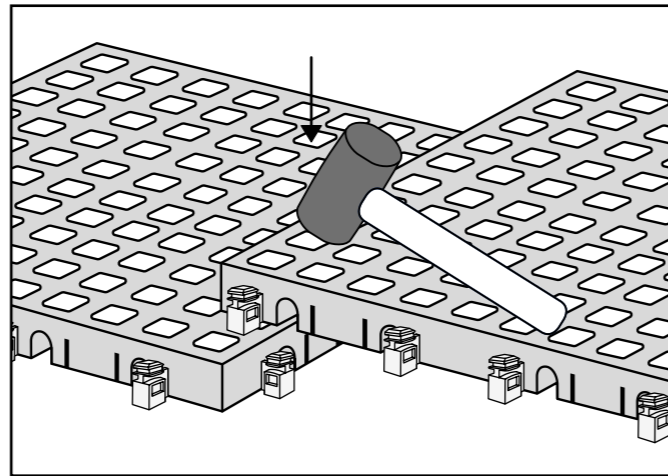
C-Lock connects:
Connects tiles and ramps horizontally.



Tool:
Rubber hammer

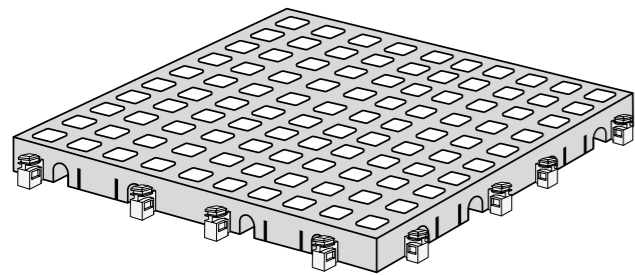


C-Lock is easy to mount and dismount by hand.

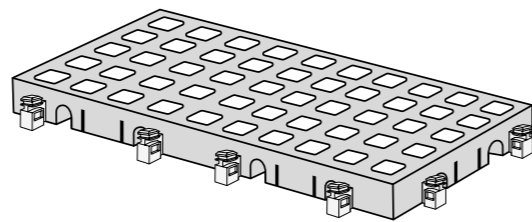


A rubber hammer makes connecting of tiles and ramps very easy.

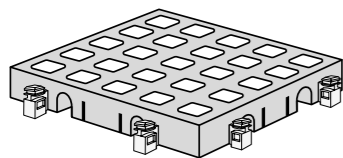
Placement of C-Locks: (Only delivered on two sides)



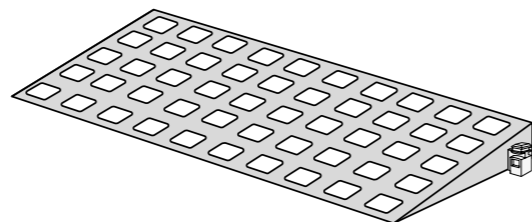
Tile



1/2 Tile



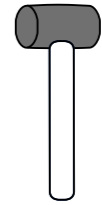
1/4 Tile



Ramp Type I

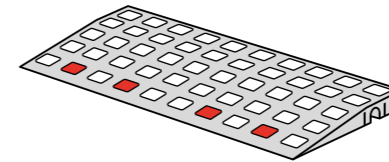


R-Lock connects:
1 tile + 1 ramp

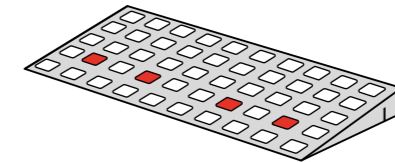


Tool:
Rubber hammer

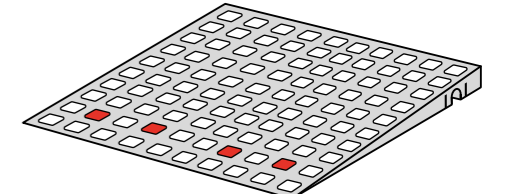
Placement of R-Lock:



Industrial ramp

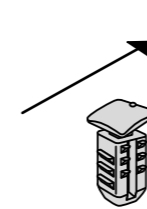


Ramp Type I

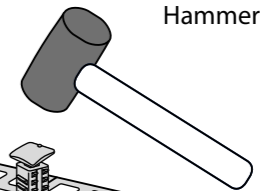


Ramp Type II

Placement of R-Locks in a three layer ramp:

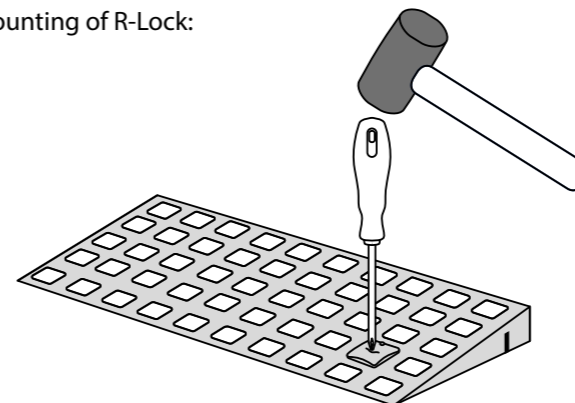


Place R-Lock with the small knob turned upwards in the same angle like the ramp.

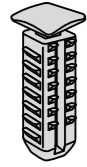


The lock is knocked into the ramp with a rubber hammer. Hammer two times.

Dismounting of R-Lock:



Use a screwdriver and a rubber hammer to knock the head of the lock and loosen the layers.



T-Lock connects:

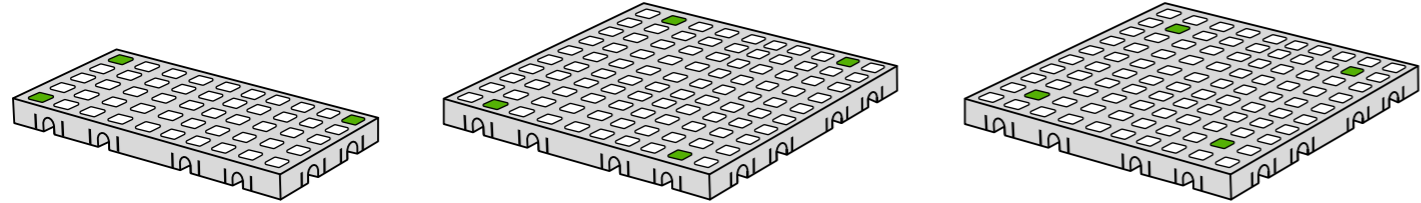
- 1 tile + 1 tile
- 1 tile + ramp



Tool:

Rubber hammer

Placement of T-Lock:

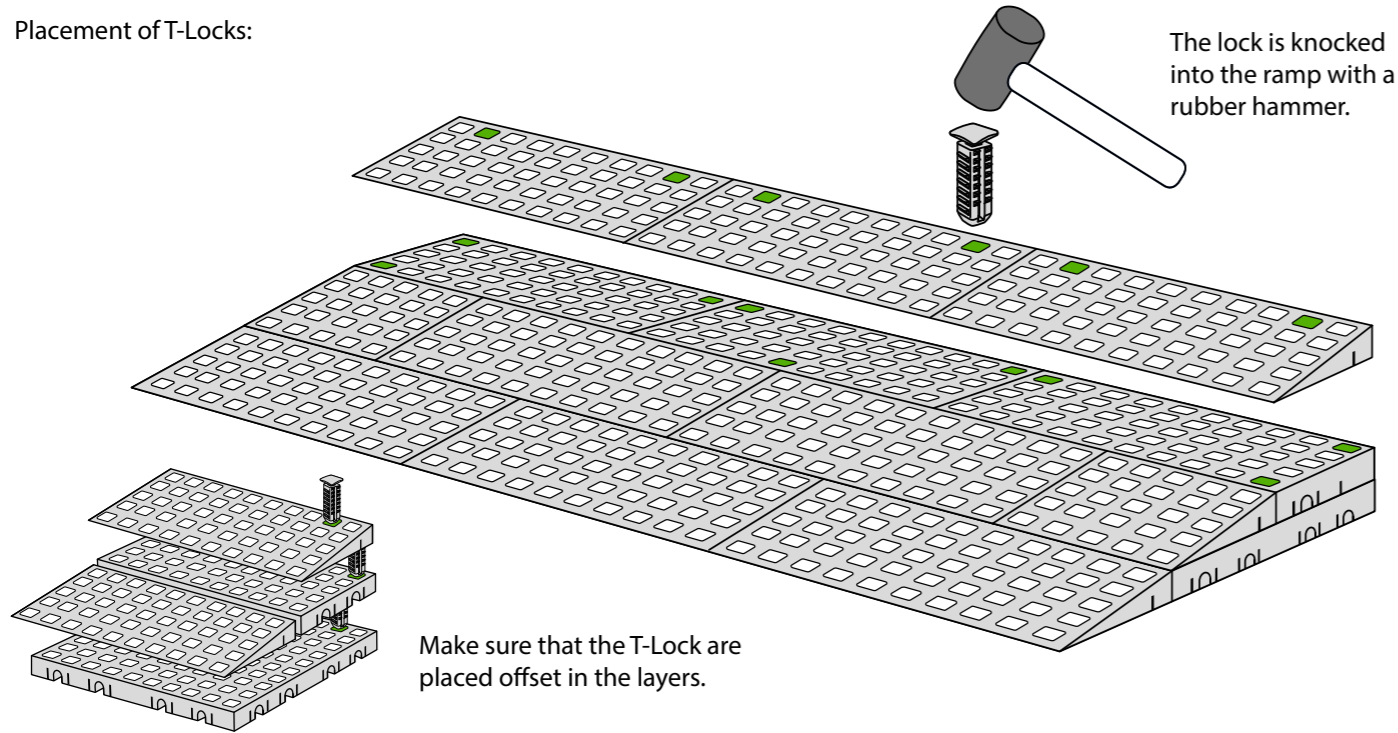


Example of a 1/2 tile mounted in a ramp at the left corner.

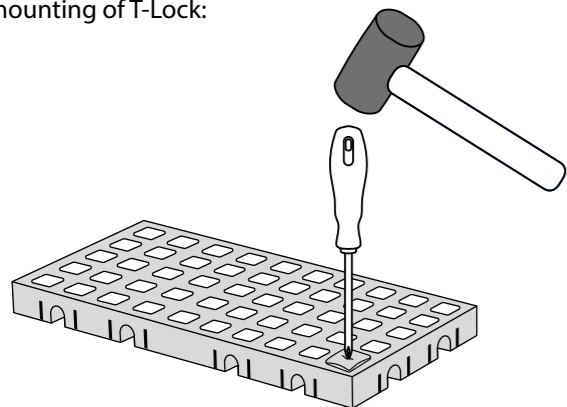
Tile mounted in a ramp.

Tile with or without Slipstop mounted as a floor of tiles.

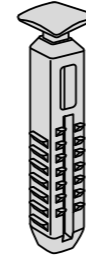
Placement of T-Locks:



Dismounting of T-Lock:



Use a screwdriver and a rubber hammer to knock the head of the lock and loosen the layers.



S-Lock connects:

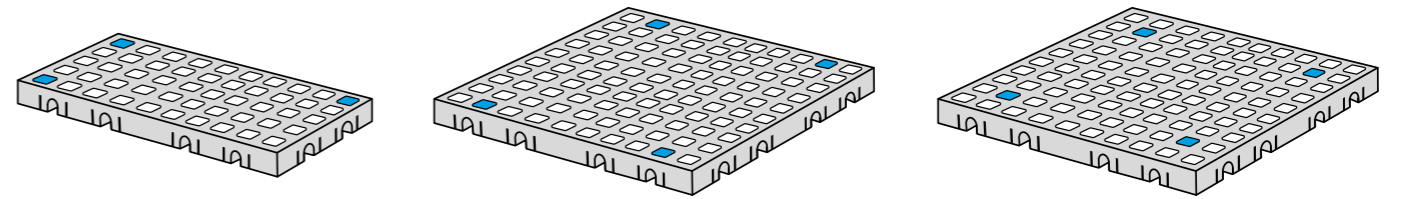
- 1 SixPack + 2 layers of tiles
- 3 layers of tiles



Tool:

Rubber hammer

Placement of S-Lock:

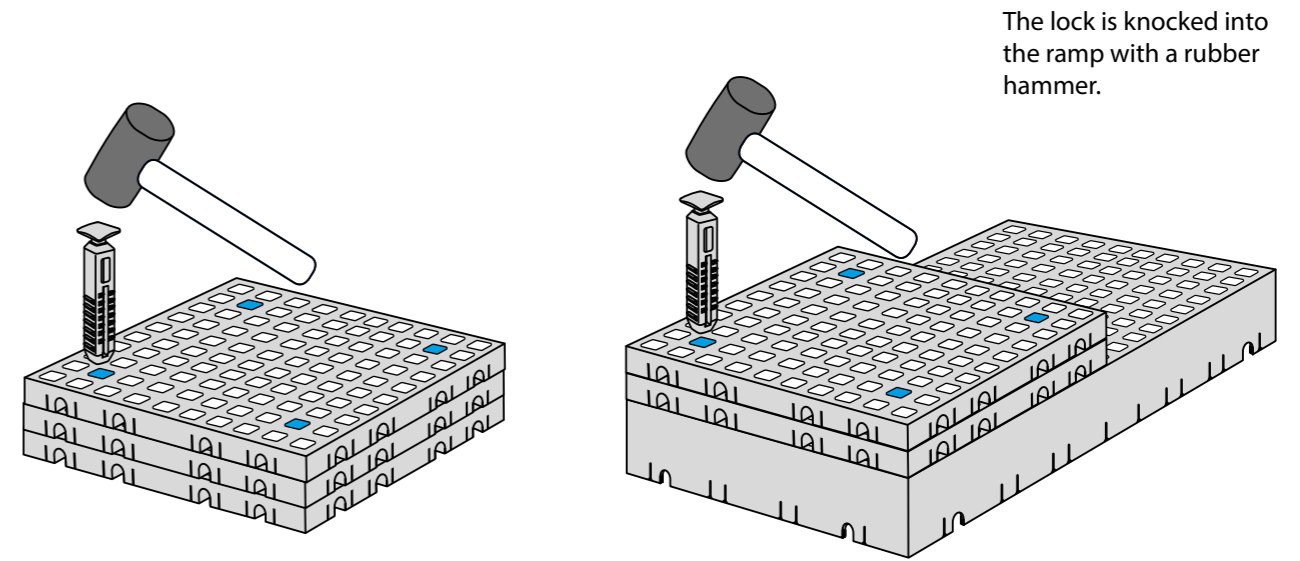


Example of a 1/2 tile mounted in a ramp at the left corner.

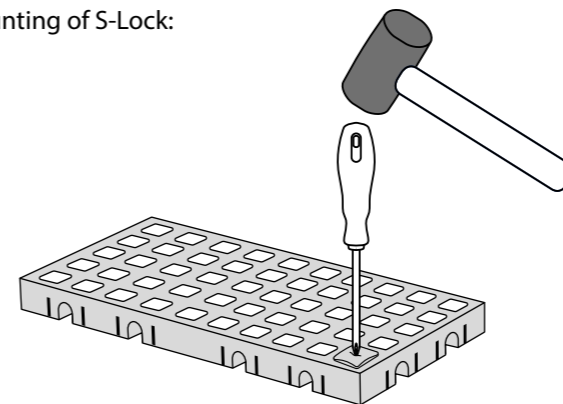
Tile mounted in a ramp.

Tile with or without Slipstop mounted at a floor of tiles.

S-Locks in tiles:



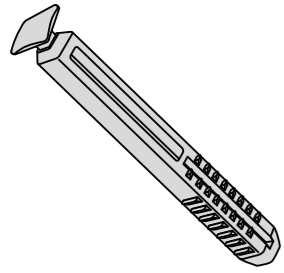
Dismounting of S-Lock:



Use a screwdriver and a rubber hammer to knock the head of the lock and loosen the layers.

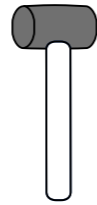
L-LOCK

Article no.: 15200-2



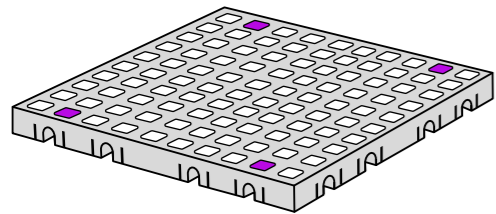
L-Lock connects:

- 5 tiles
- 1 SixPack + 4 layers of tiles
- 2 SixPacks + 1 tile

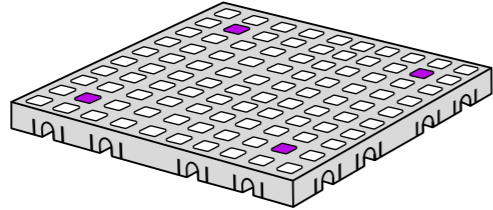


Tool:
Rubber hammer

Placement of L-Locks:



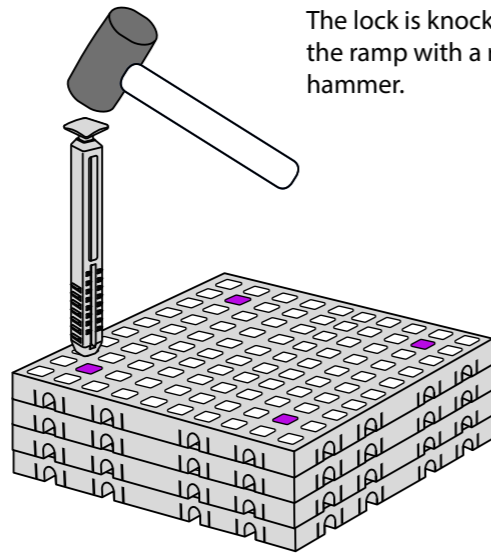
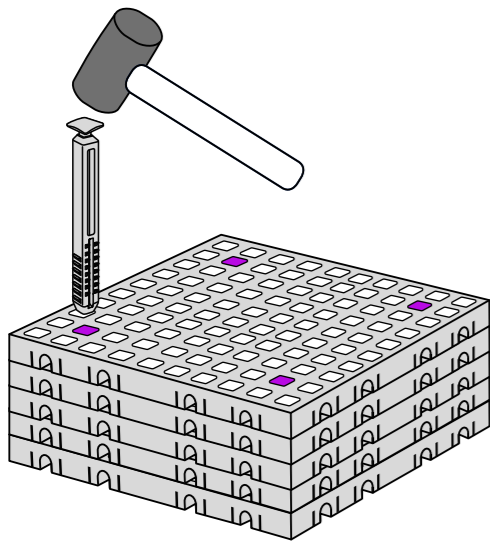
Tile mounted in a ramp.



Tile with or without SlipStop mounted as a floor of tiles.

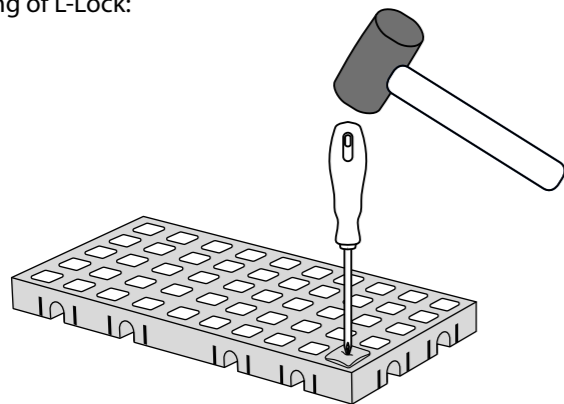
Make sure that L-Locks are placed offset in the layers.

L-Locks in tiles:



The lock is knocked into the ramp with a rubber hammer.

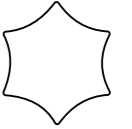
Dismounting of L-Lock:



Use a screwdriver and a rubber hammer to knock the head of the lock and loosen the layers.

RE-LOCKS SYSTEM

With the Re-Lock series, ramps can easily be adjusted and reassembled, if needed. All locks can be reused and recycled for the making of new products.



Use a screwdriver with torx thread size 40.

You can also use a battery screwdriver on the lowest speed setting, to prevent melting the locks.



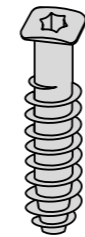
Re-Lock-T

Connects 2 tiles on top of each other. Can be reused. Article no.: 18010-2



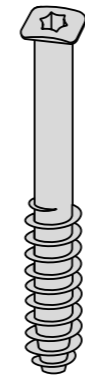
Re-Lock-R

Connects Ramp Adjuster and ramps with tiles. Is used on the inclined surfaces. Can be reused. Article no.: 18020-2



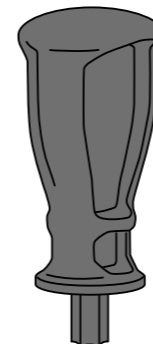
Re-Lock-S

Connects 3 layers. Can be reused. Article no.: 18030-2



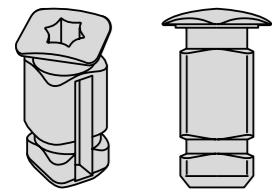
Re-Lock-L

Connects 5 layers (sixPack + tiles). Can be reused. Article no.: 18040-2



Re-Lock-Key

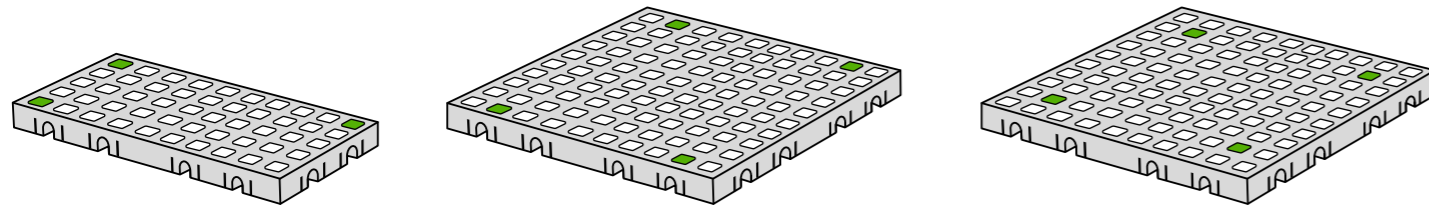
Is used to lock and re-lock the Re-locks. Article no.: 18001-9



Re-Lock-T connects:
Connects 2 tiles on top of each other.

Re-Lock-T can be reused and recycled for the making of new products.

Placement of Re-Lock-T:

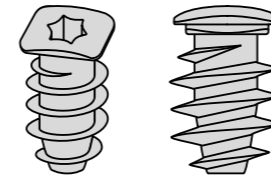
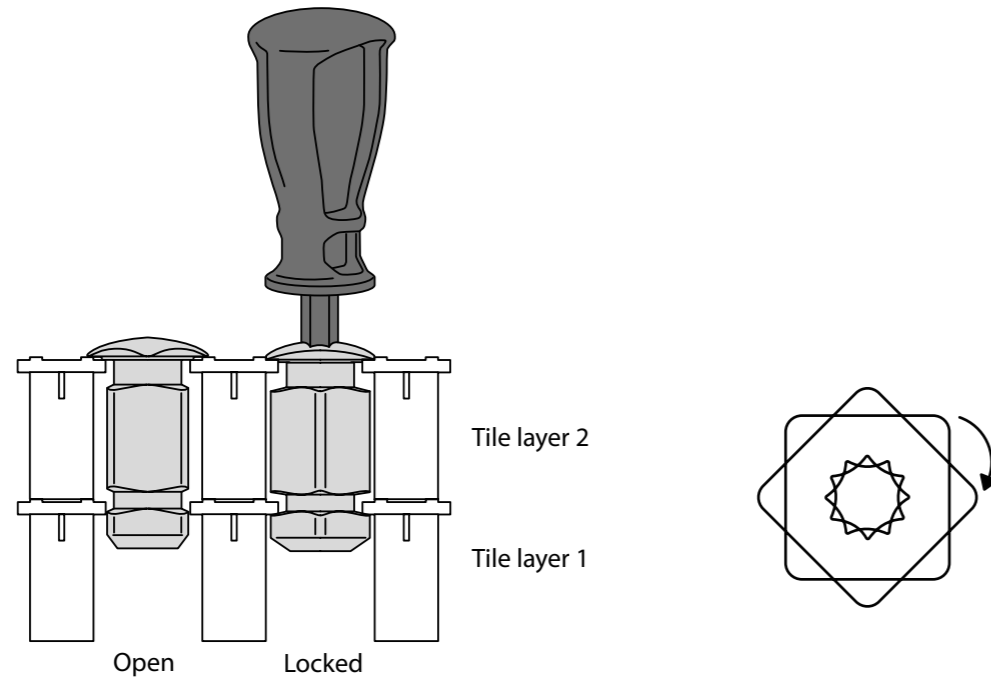


For 1/2 tile placed in the left corner of ramp, place Re-Lock-T in the corners as shown. Reverse for right-hand corners.

For tiles placed in ramps, place Re-Lock-T in second row.

For tiles with and without SlipStop in floor of tiles, place Re-Lock-T as shown.

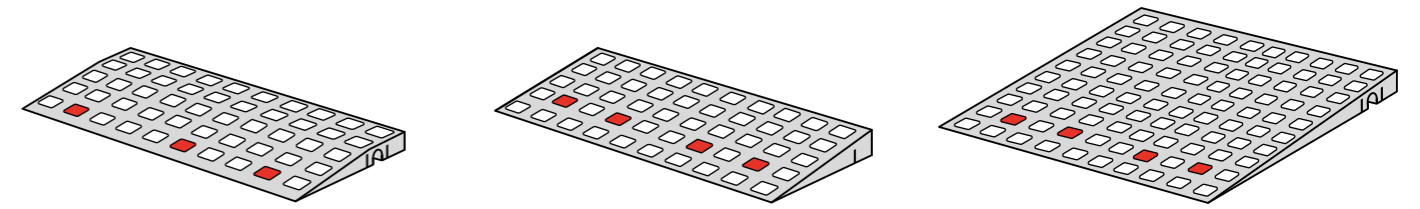
Cross-section of Re-Lock-T in tiles:



Re-Lock-R connects:
Tile + Ramp Adjuster + Ramp.
Is used on the inclined surfaces.

Re-Lock-R can be reused and recycled for the making of new products.

Placement of Re-Lock-R:

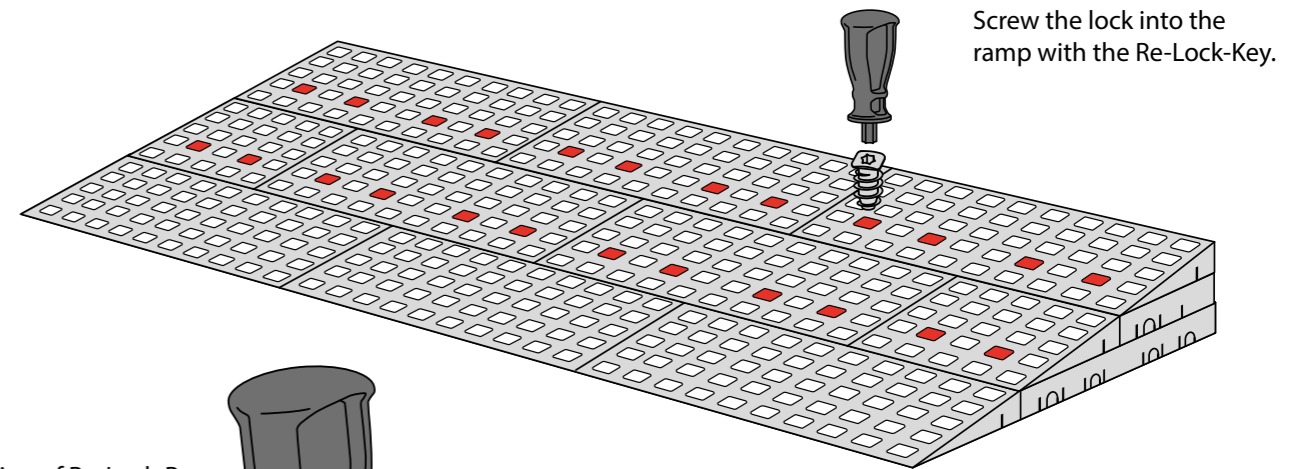


Industrial ramp

Ramp Type I

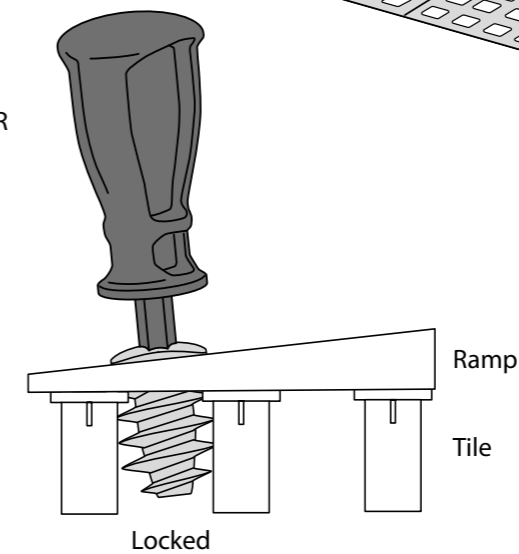
Ramp Type II

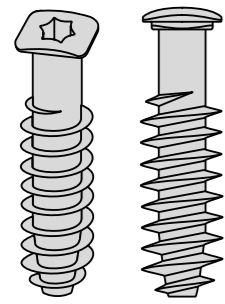
Placement of Re-Lock-R in a 3 layered ramp:



Screw the lock into the ramp with the Re-Lock-Key.

Cross-section of Re-Lock-R in tiles and ramp:

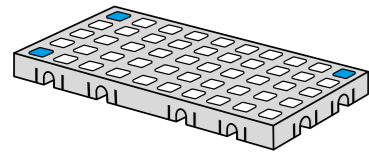




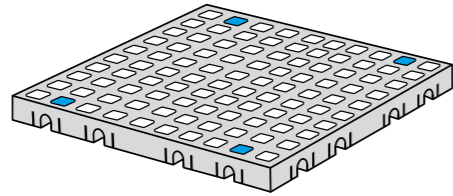
Re-Lock-S connects:
3 layers of tiles.

Re-Lock-S can be reused and recycled for the making of new products.

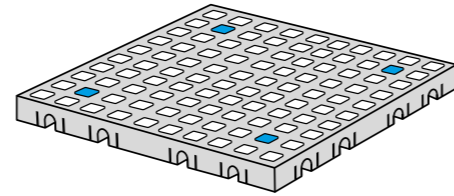
Placement of Re-Lock-S:



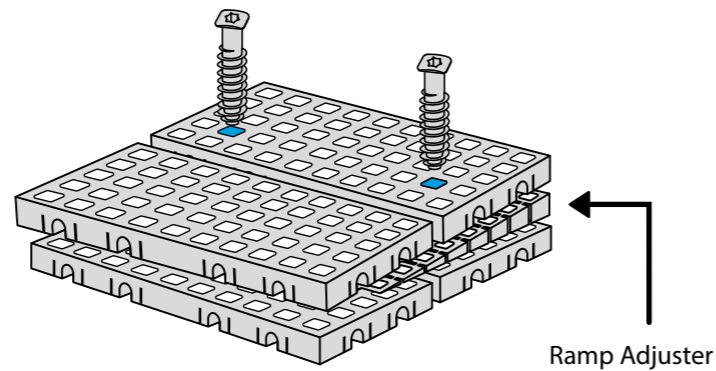
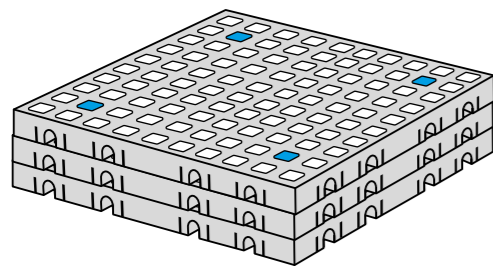
For 1/2 tile placed in the left corner of ramp, place Re-Lock-S in the corners as shown. Reverse for right-hand corners.



For tiles placed in ramps, place Re-Lock-S in second row.

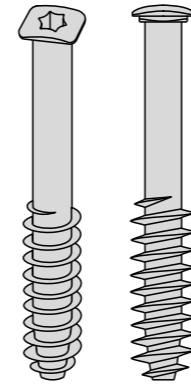
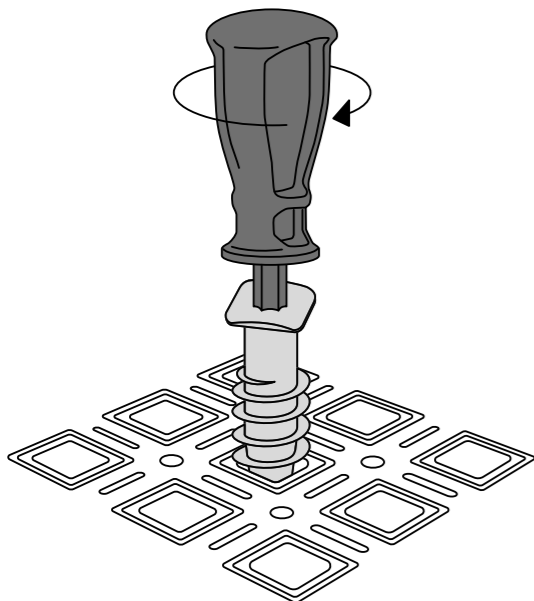
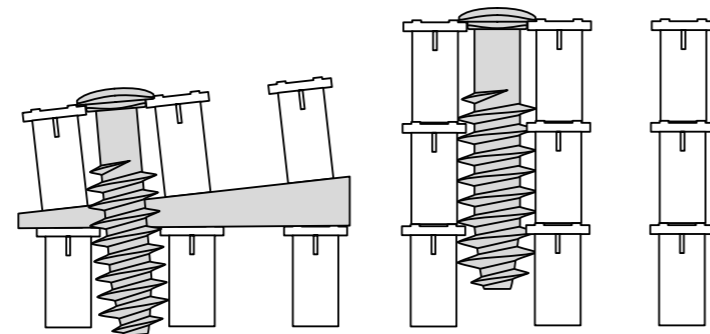


For tiles with and without SlipStop in floor of tiles, place Re-Lock-S as shown.



Ramp Adjuster

Cross-section of Re-Lock-S in tiles and Ramp Adjuster:

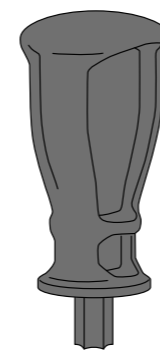
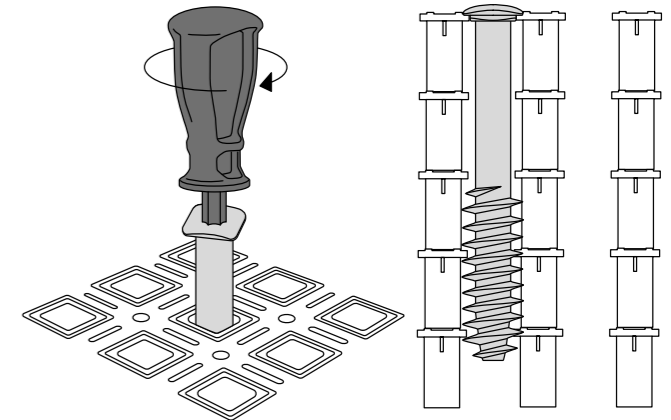
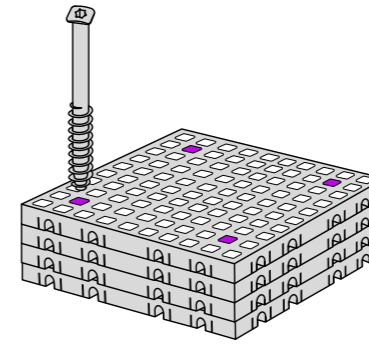
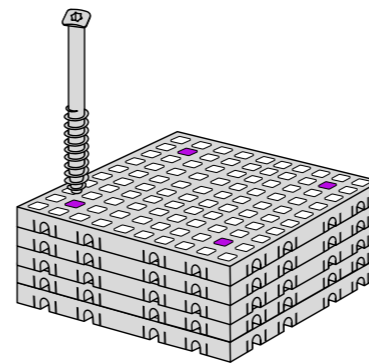


Re-Lock-L connects:

- 5 layers of tiles
- 1 SixPack + 3 layer og tiles
- 1 SixPack + 4 layers of tiles
- 2 SixPacks

Re-Lock-L can be reused and recycled for the making of new products.

Placement of Re-Lock-L:



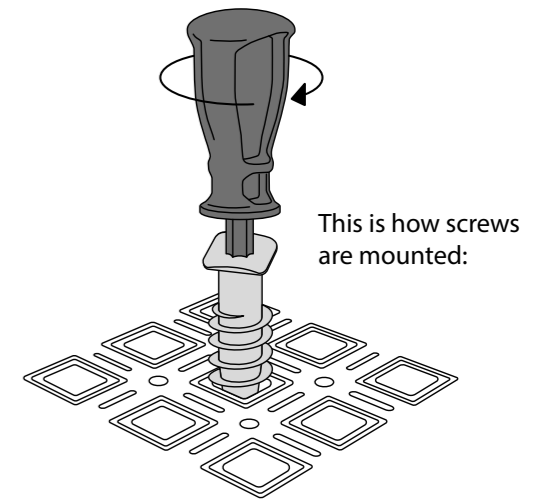
Re-Lock-Key:

All Re-Locks can be locked and opened with the Re-Lock-Key. This makes it easier to correct or reassemble a mounted ramp. For safety reasons, the locks cannot be mounted without this Key.

The Re-Lock system is using the Torx thread size 40.

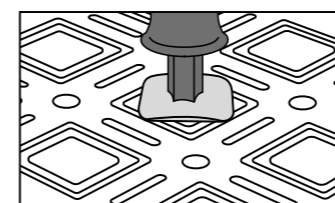
Re-Lock-Key can be reused and recycled for the making of new products.

You can also use a battery screwdriver on the lowest speed setting, to prevent melting the locks.

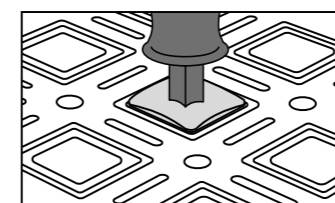


This is how screws are mounted:

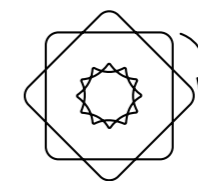
This is how you lock a Re-Lock with the Re-Lock-Key:



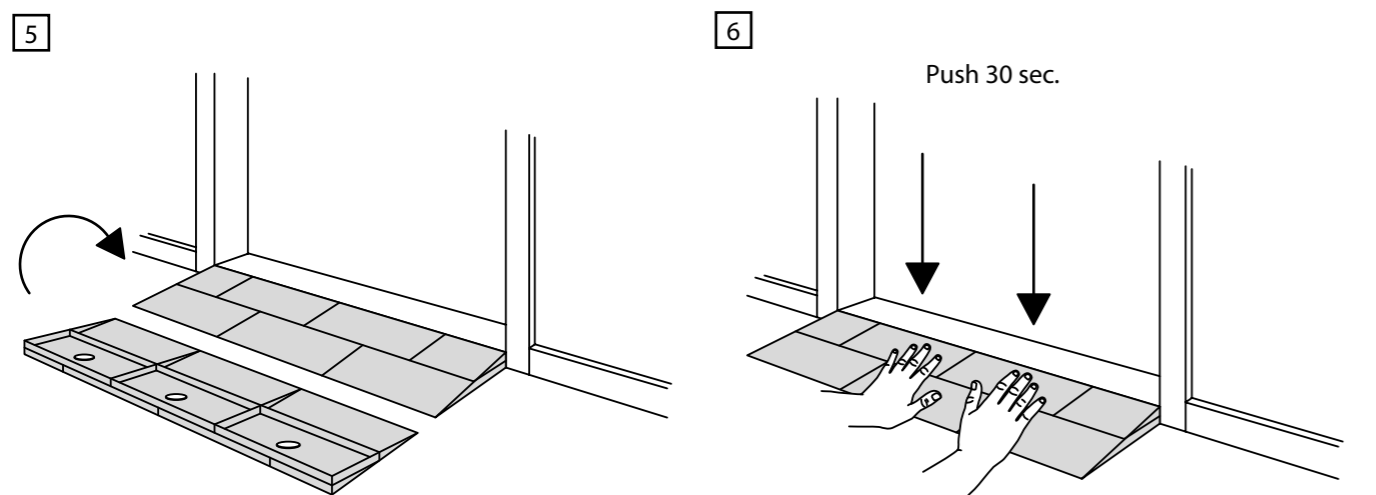
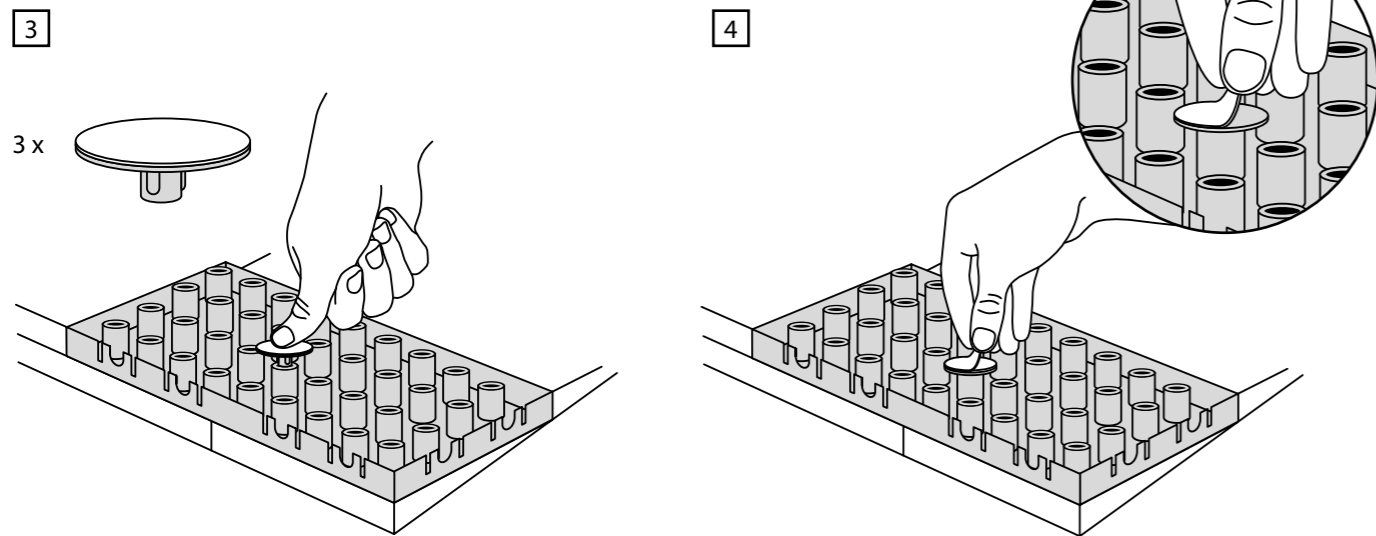
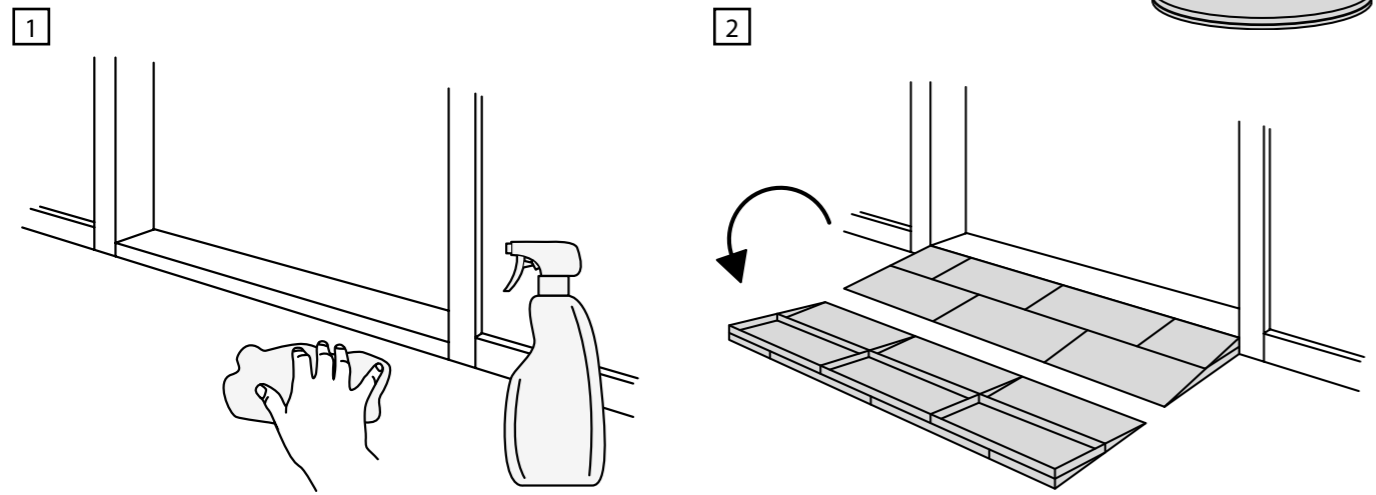
Open



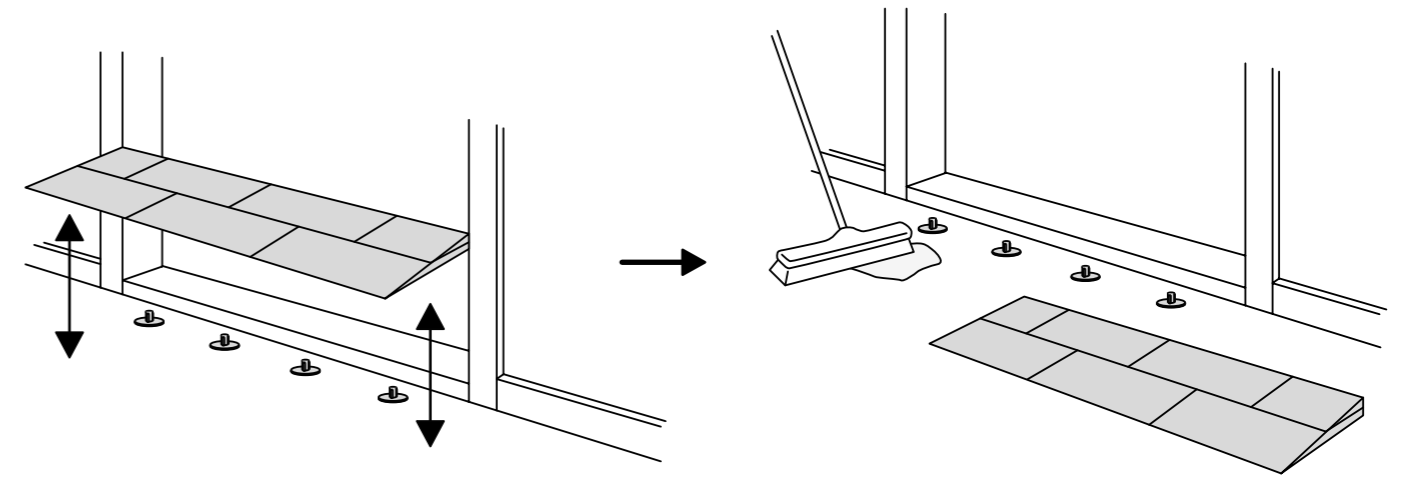
Locked



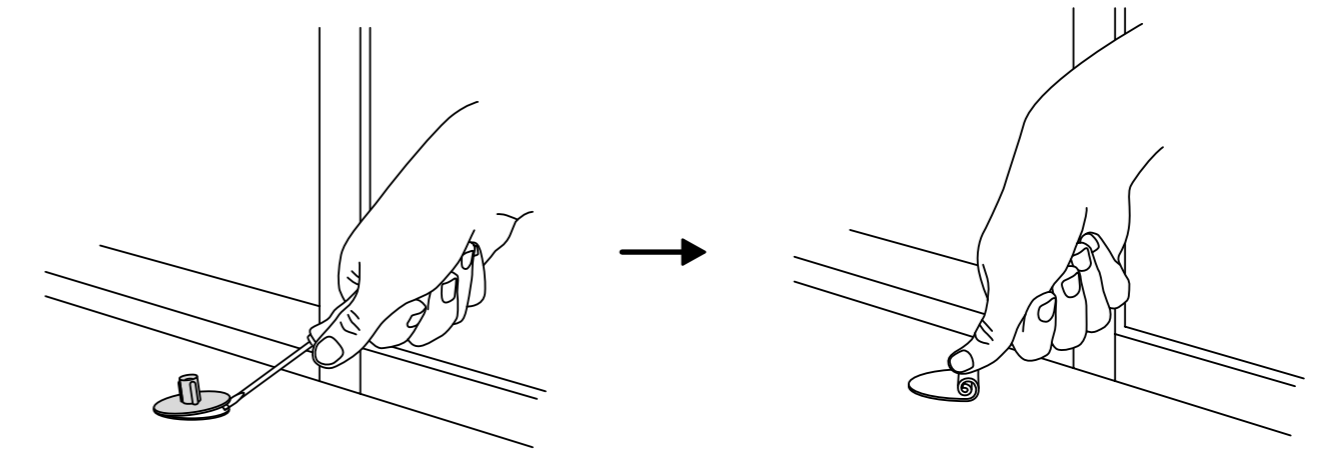
Put the Re-Lock-Key in the hexagonal hole on the Re-lock, press down lightly and turn 1/8 around. Now the layers are locked together. Reverse the procedure, to unscrew the Re-lock.



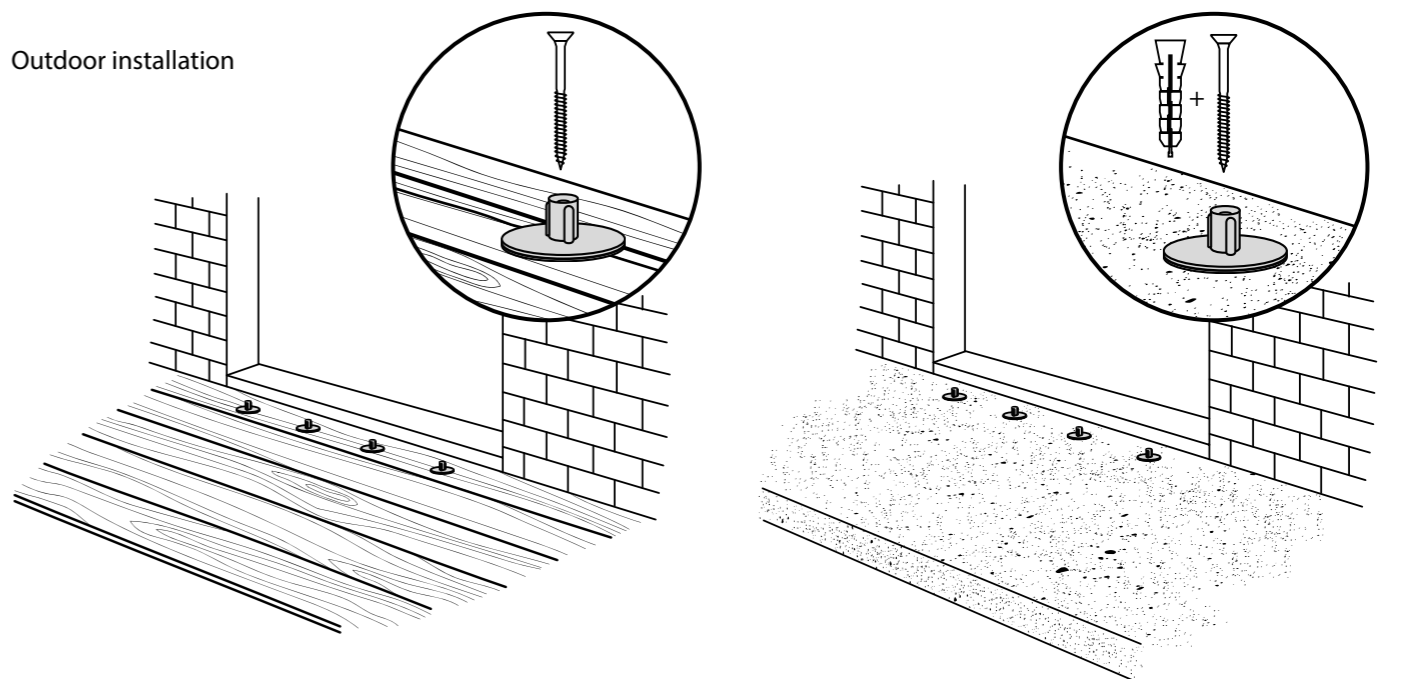
Cleaning



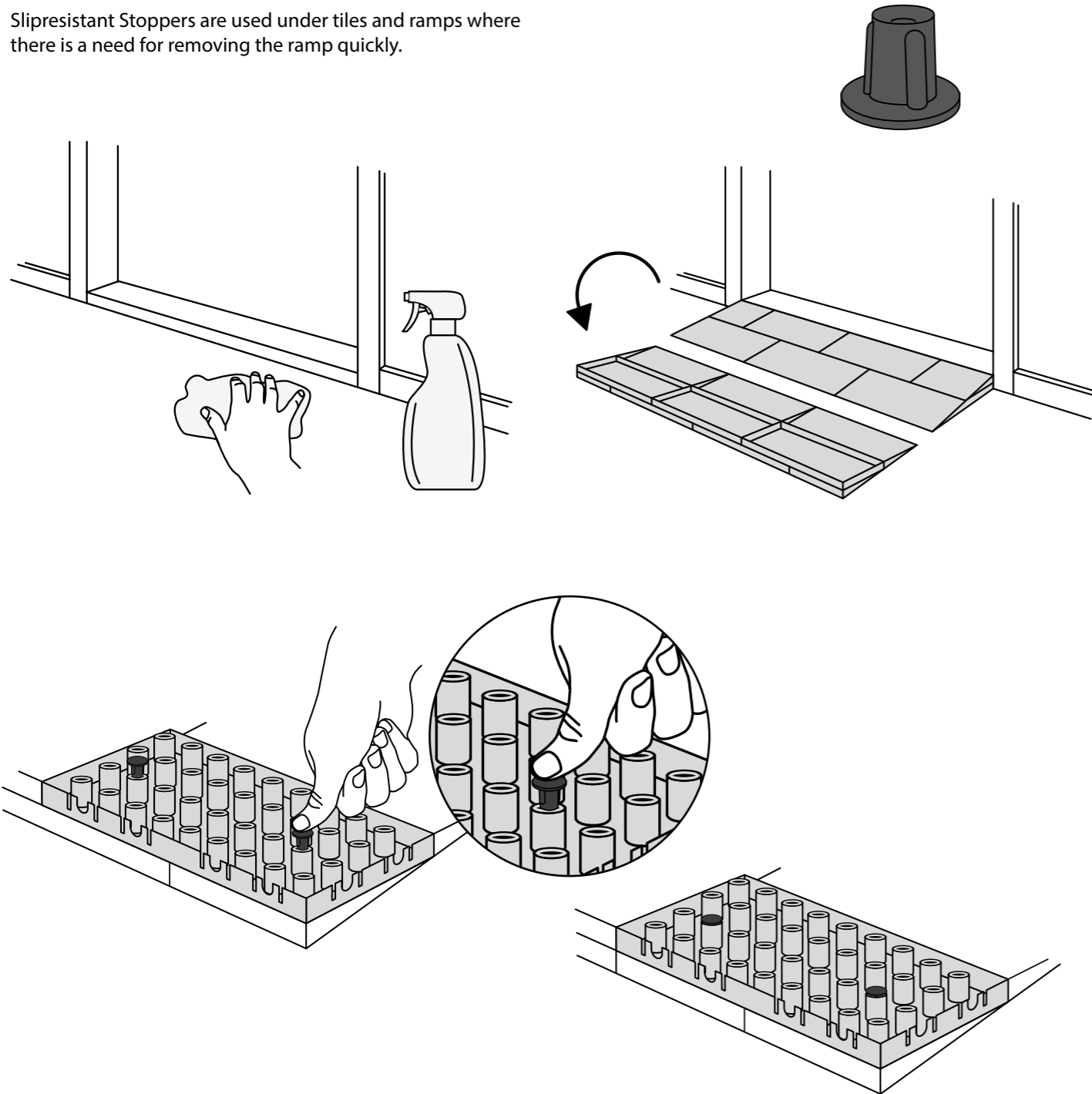
Dismantling of mounting pad and tape



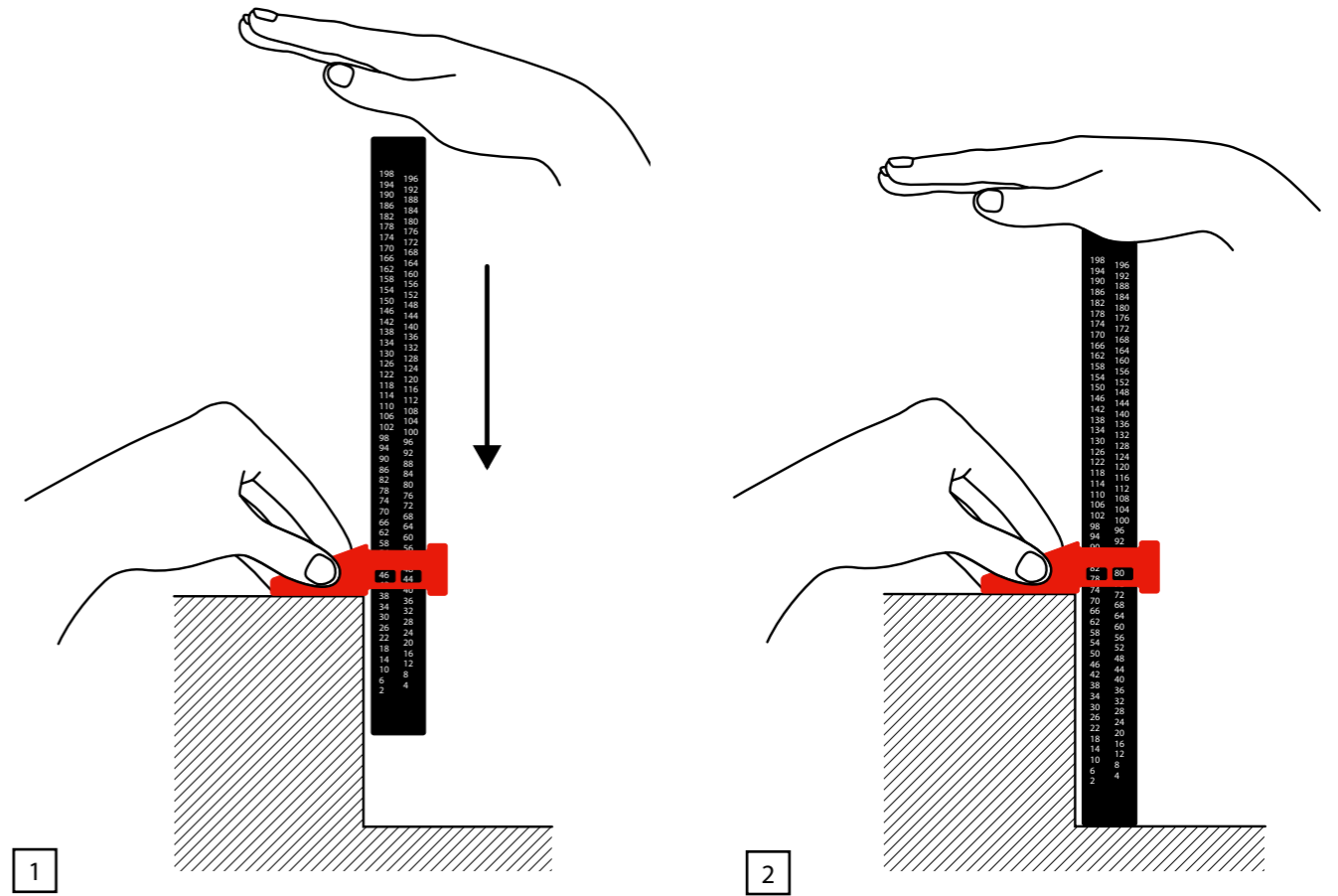
Outdoor installation



Slipresistant Stoppers are used under tiles and ramps where there is a need for removing the ramp quickly.

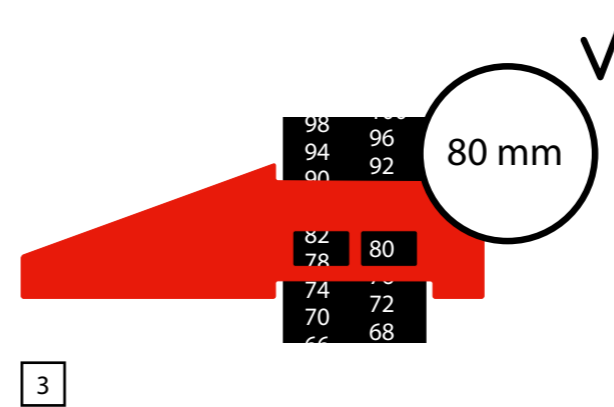


This is how you measure the height for your new ramp.

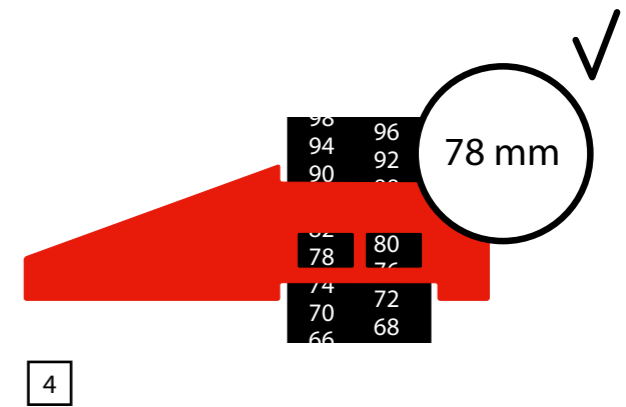


1 Place the Ramp O Meter as above, with the ruler perpendicular to the edge.

2 Hold it in place whilst you push the ruler to the ground.

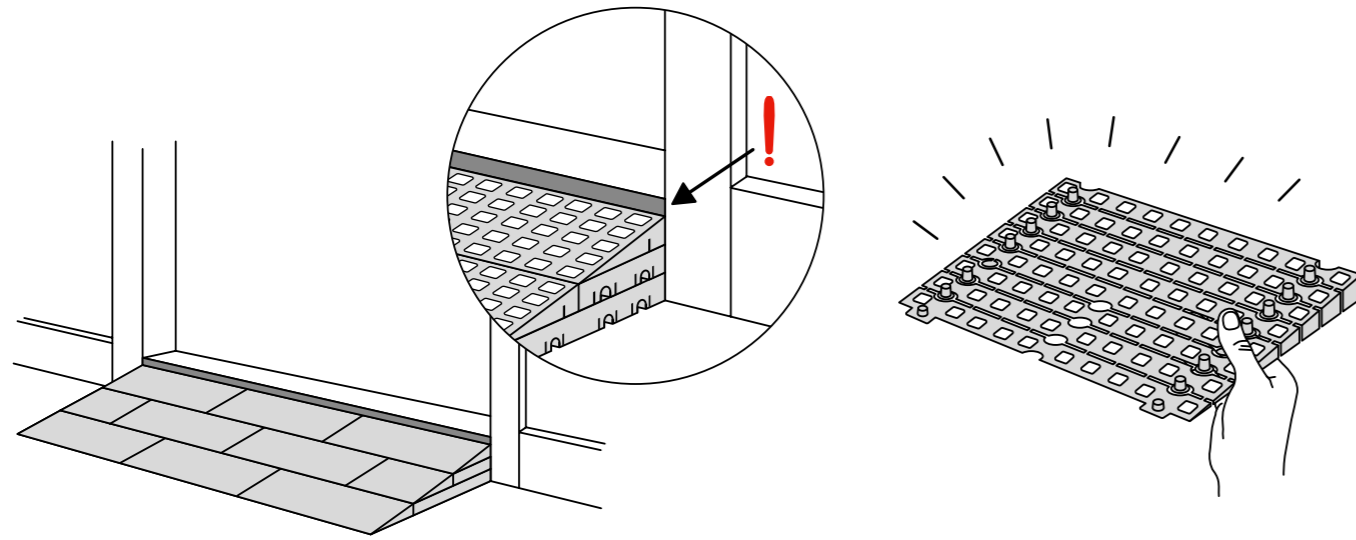
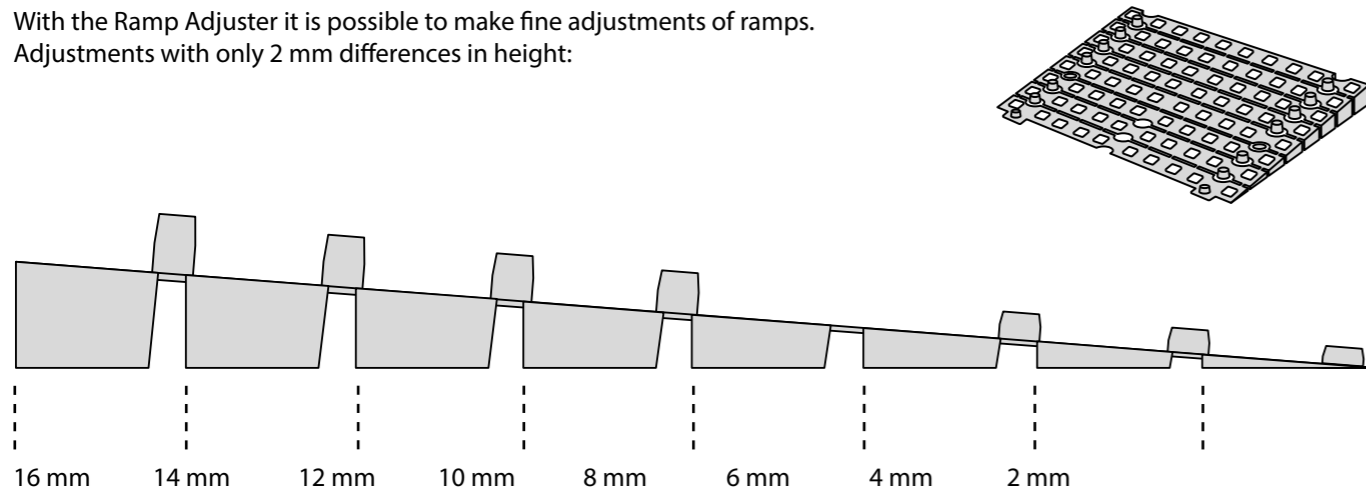


3 Read the height of the ramp which is visible in the middle of the small holes.

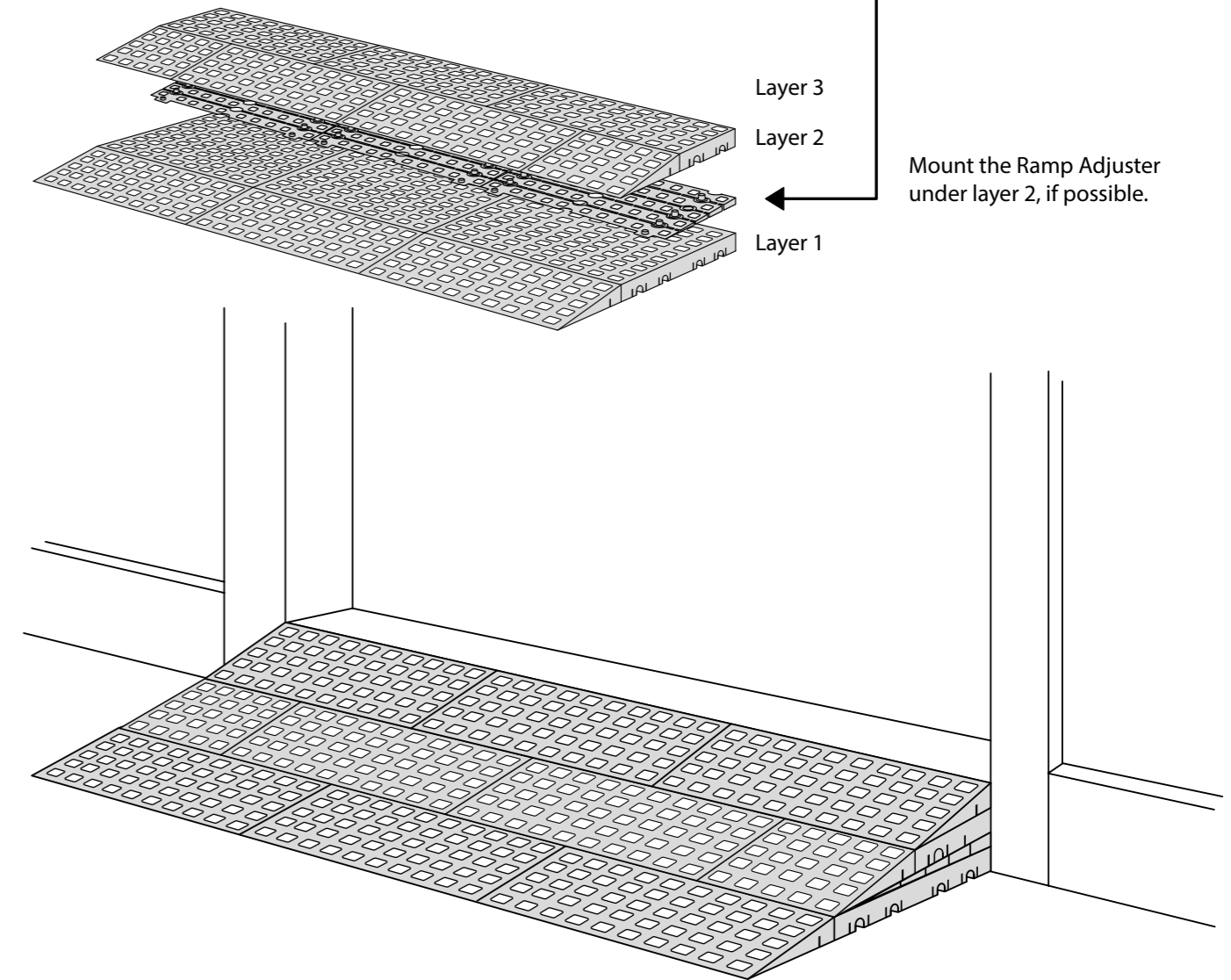
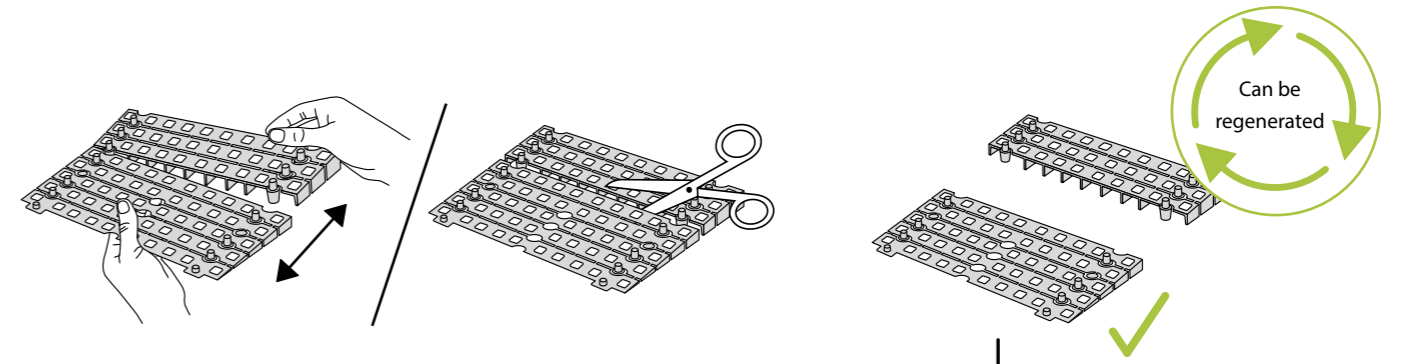
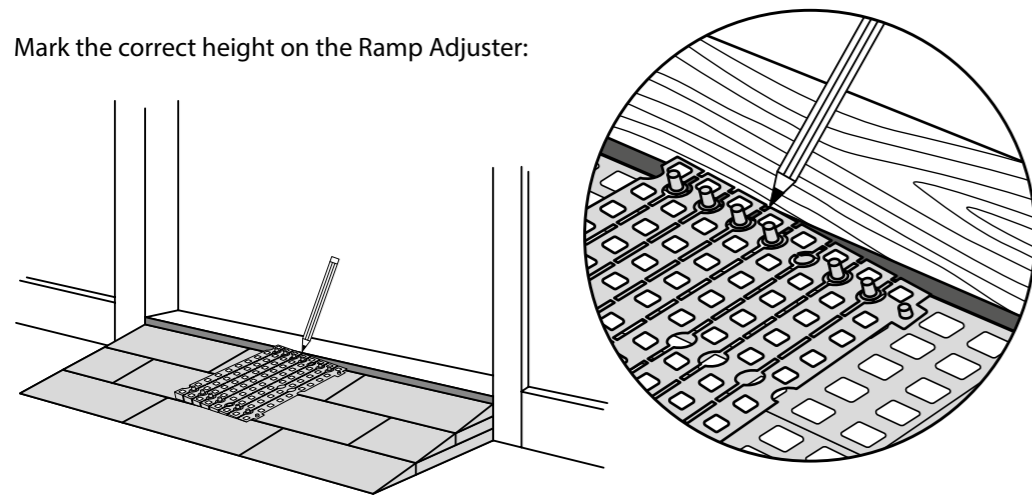


4 If two numbers are clearly visible, choose the lowest one.

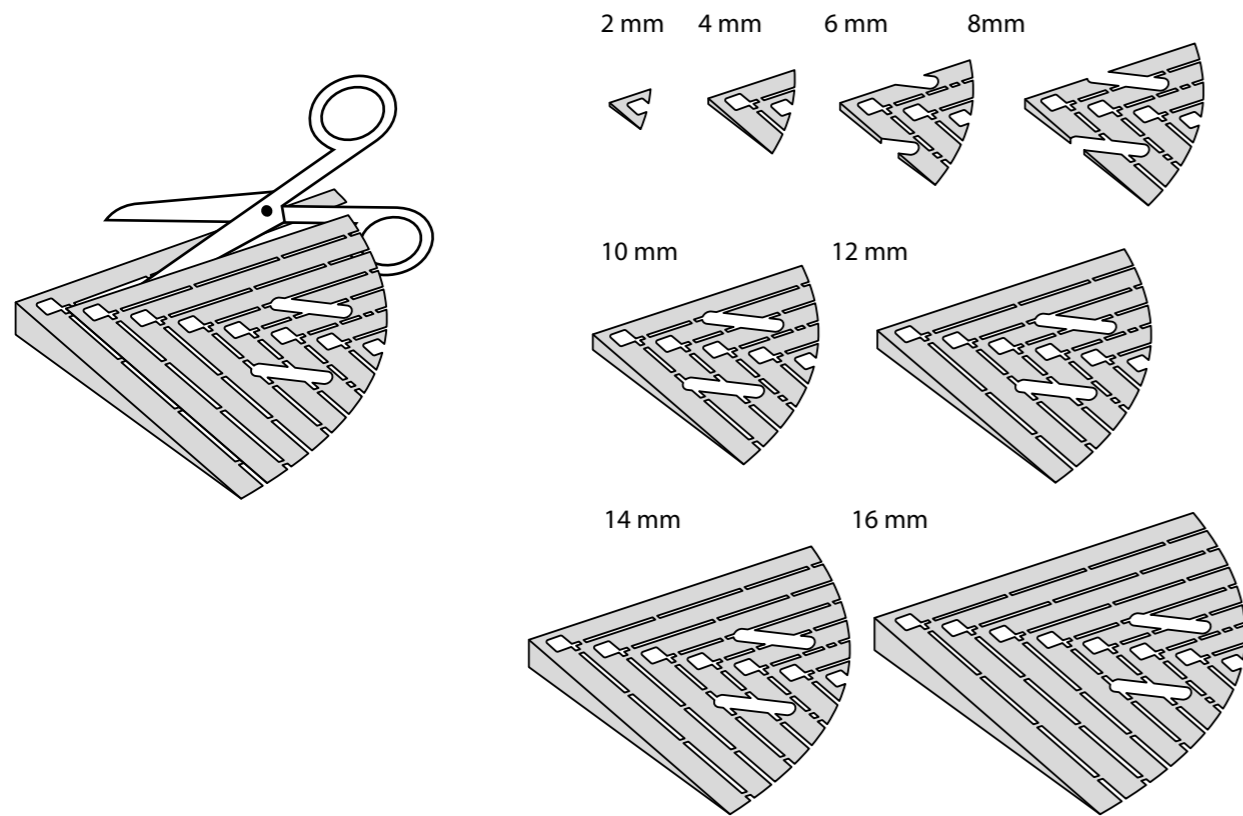
With the Ramp Adjuster it is possible to make fine adjustments of ramps.
Adjustments with only 2 mm differences in height:



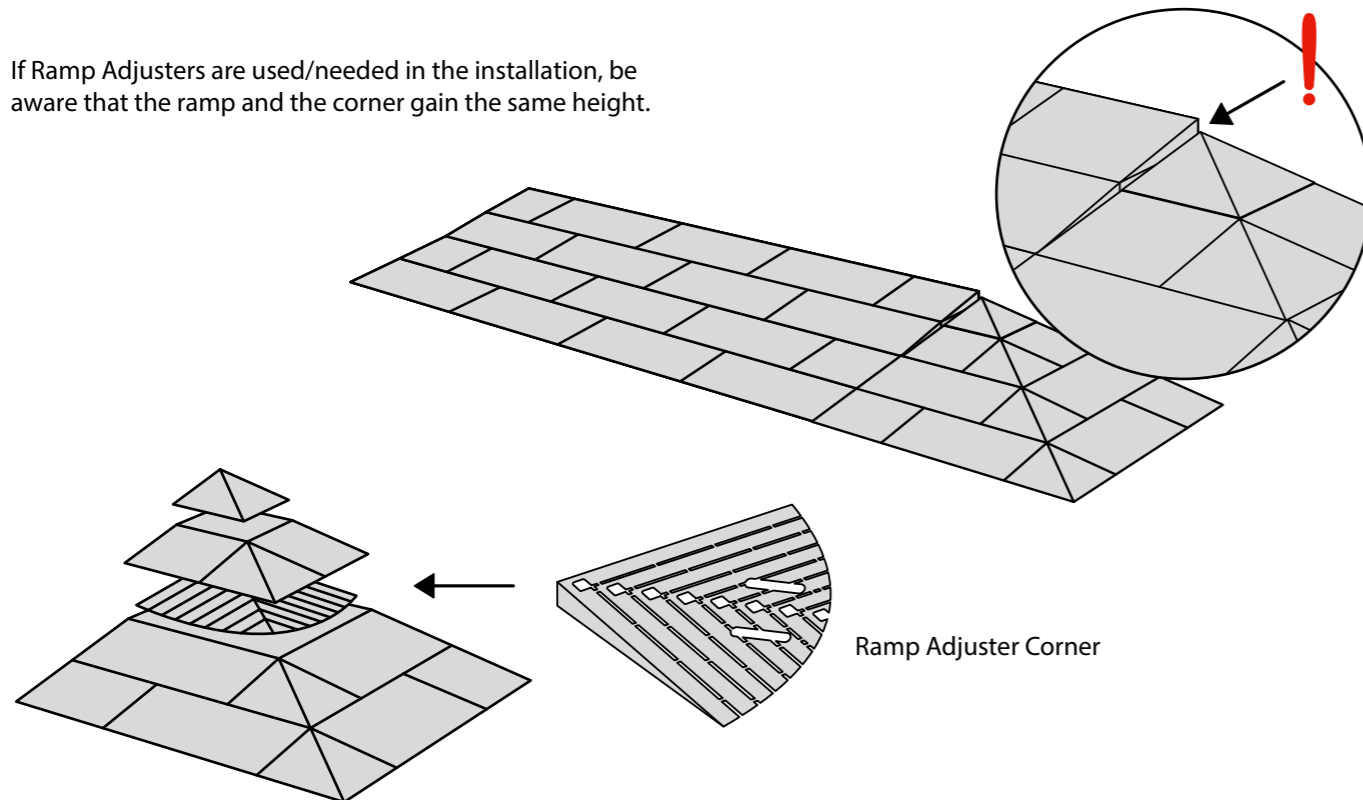
Mark the correct height on the Ramp Adjuster:



Ramp Adjuster Corner can be adjusted in these heights:



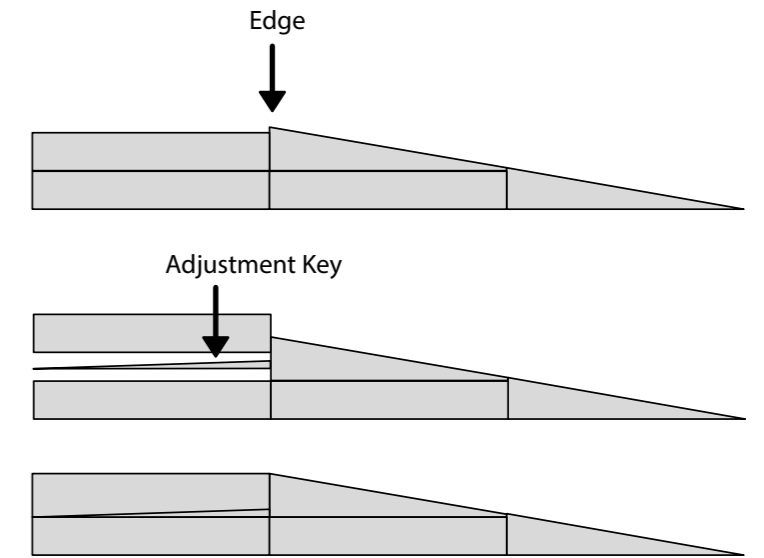
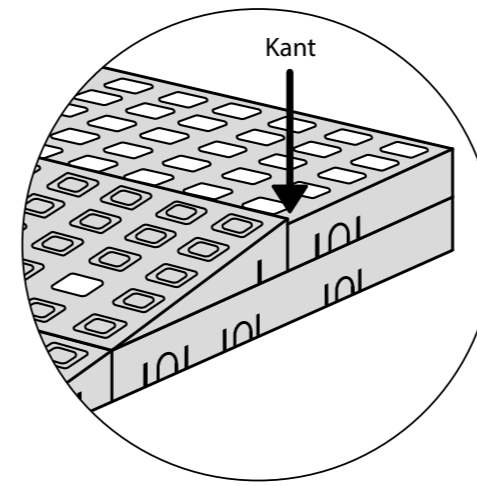
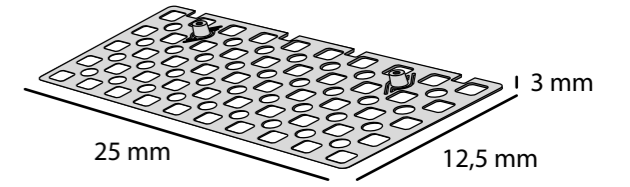
If Ramp Adjusters are used/needed in the installation, be aware that the ramp and the corner gain the same height.



Leveling of edges

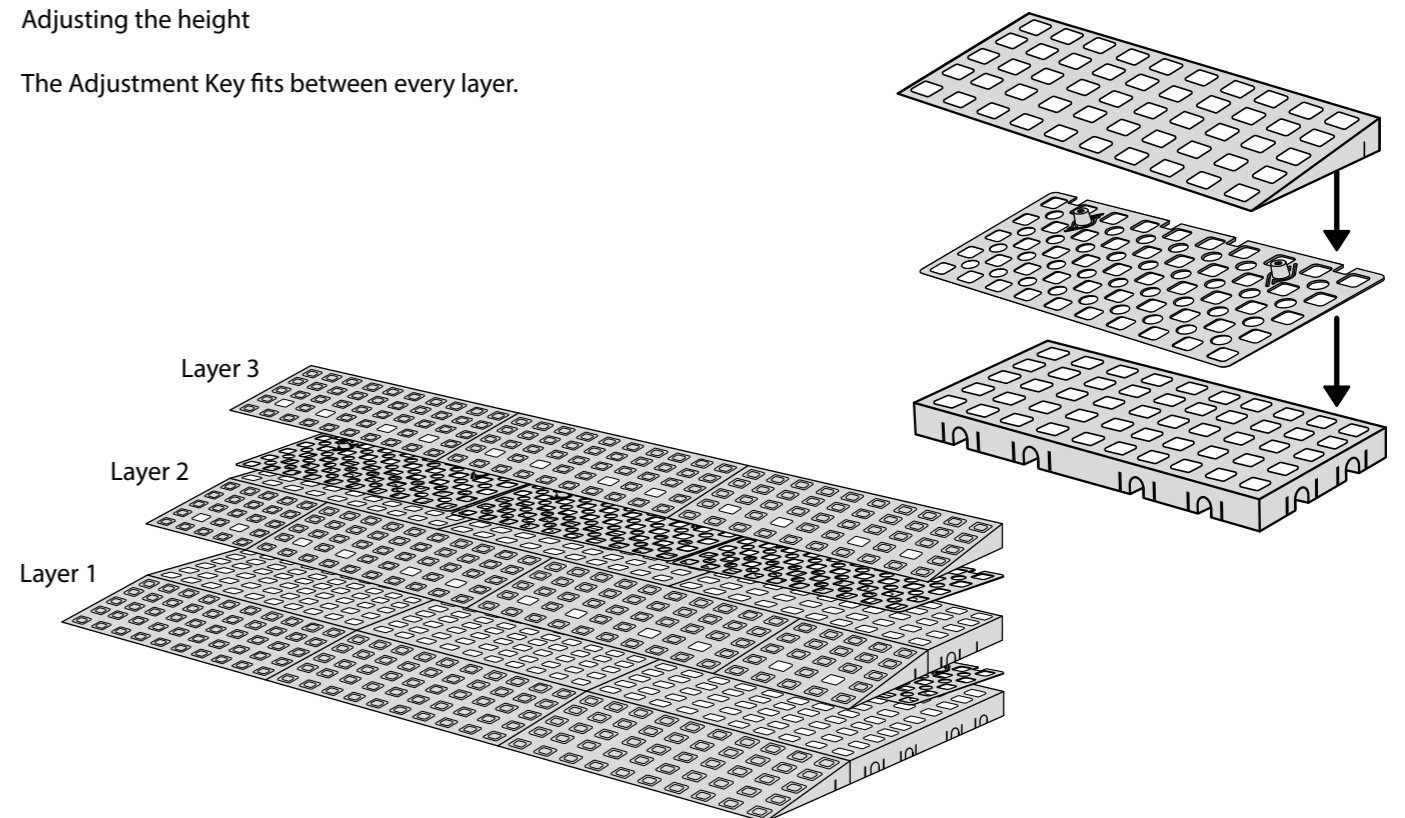
Leveling of ramps build with Ramp Type I or Type II.

If you need to remove the top layer of the ramp, you will get a small edge, because the ramps (Type I and II) are slightly higher than the tiles. The edge can be leveled with an adjustment key under the tile.



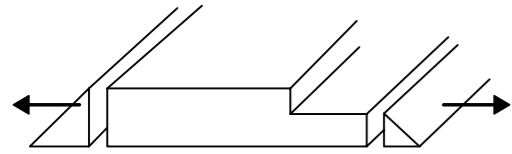
Adjusting the height

The Adjustment Key fits between every layer.

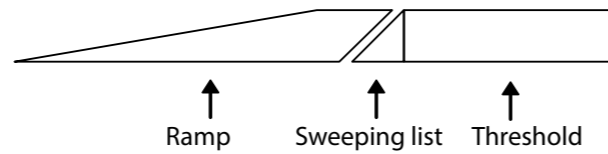


FITTING OF RAMPS TO WOODEN THRESHOLDS

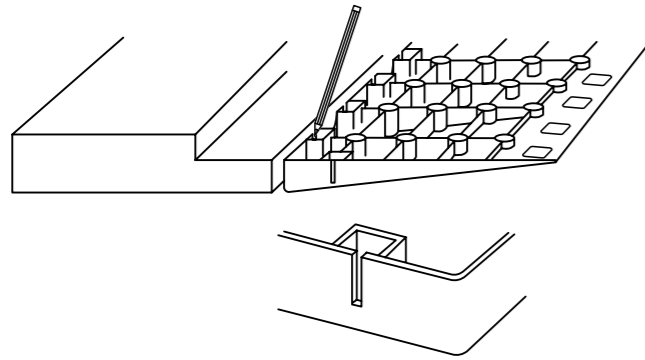
There are several ways to fit ramps to thresholds depending on the materials of the floor or if the threshold is made of wood or metal:



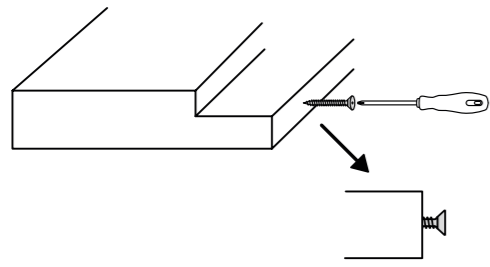
Remove any floor mouldings and save them for possible later use, or use our ramps with a 45° angle.



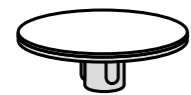
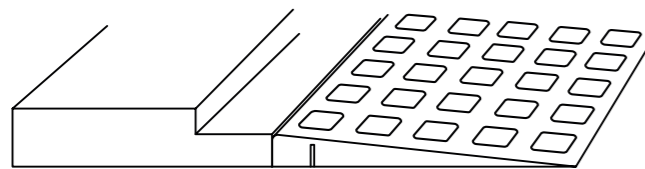
Turn the ramp upside down. Place it next to the threshold and mark in both ends of the threshold where the screws will be. Use the slots on the back of the ramp to mark the position for the screws.



Use "screw for thresholds" article no.: 12540.
Size: 3,0 x 16 mm.
Use "screwdriver PZ 2" article no.: 12575 (From the TCR assembly system bag).



Turn the ramp over and fit it over the screws head. It is now secured to the threshold but can easily be lifted of the screw.



Mounting pads

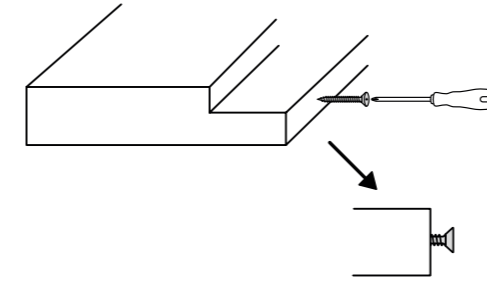


Stoppers

It is also possible to use "Mounting Pads" or "Stoppers".
See instructions for more information.

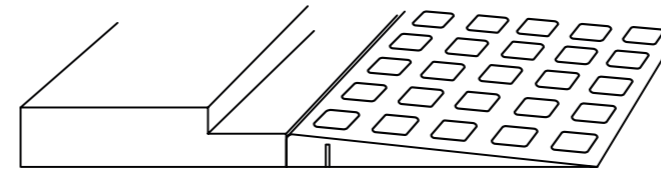
FITTING OF RAMPS TO METAL THRESHOLDS

When you need to fit a ramp to a threshold of metal, you have several options:



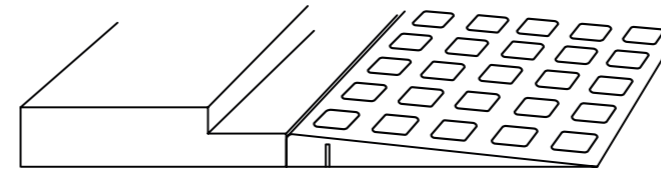
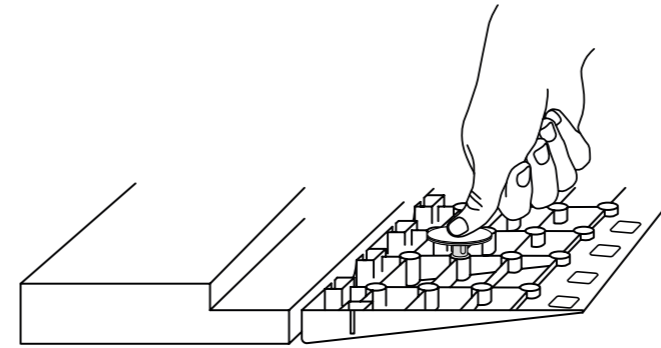
Screw in threshold

You can drill holes into the threshold and secure the ramp with screws. For this, use the "screws for metal + drill" article no.: 12541.



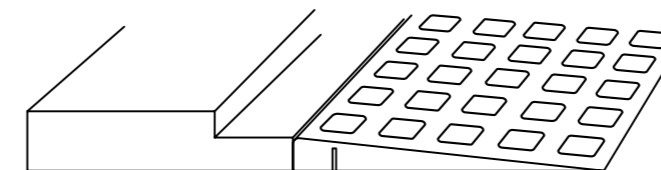
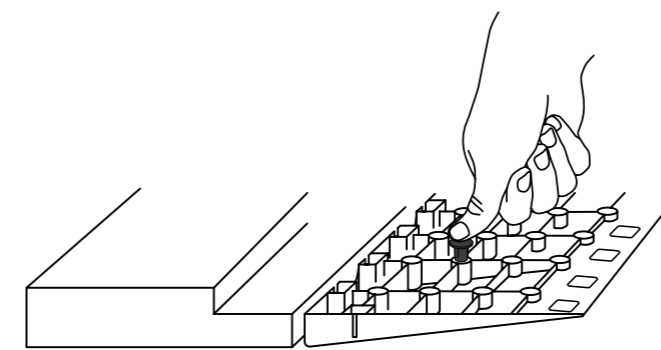
Mounting Pads

You can also secure the ramps to the floor with Mounting Pads, article no.: 12690-2. Indoor they can be used on clean floors of both wood and tiles, outdoor with a screw through the Mounting Pad and into the ground.



Stoppers

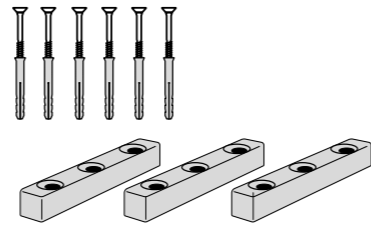
If it is not possible to secure the ramps to neither threshold nor to the floor, use "Stoppers" article no.: 12500. The Stoppers are inserted in the holes under the tiles and ramps. How many Stoppers to use, will depend on the situation.



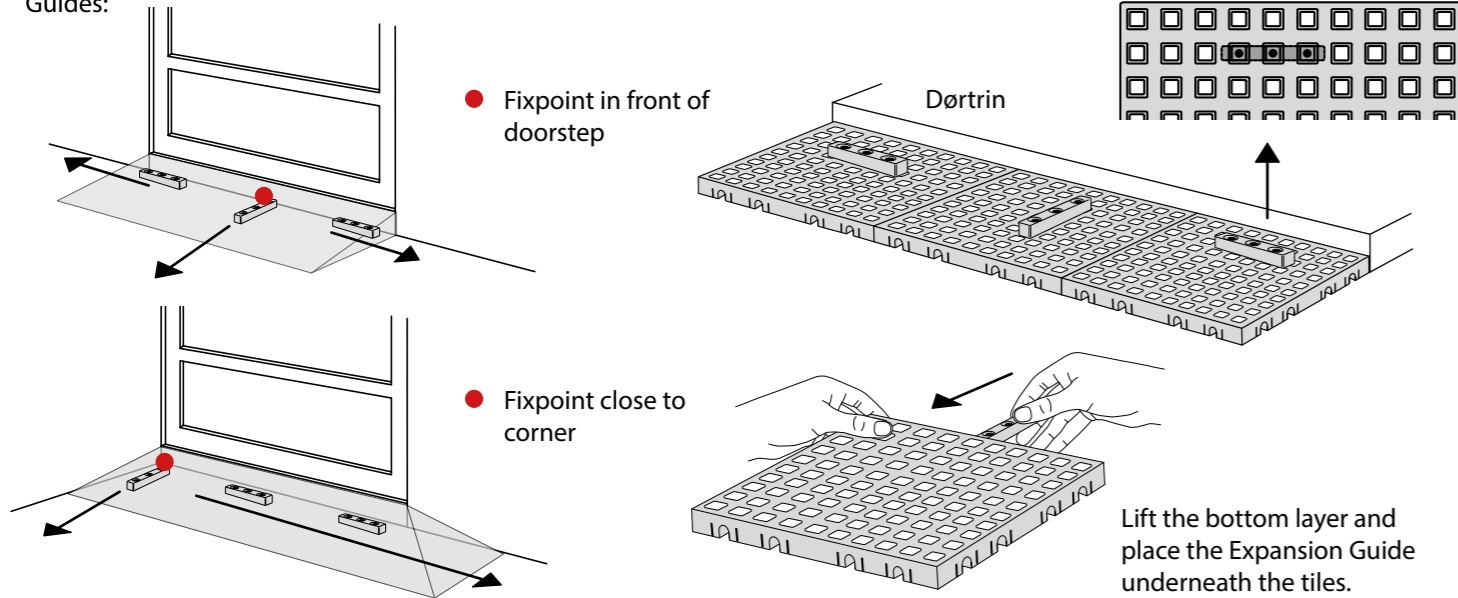
EXPANSION GUIDE

All materials expand when the temperature increases and contracts when it drops. As an example, look at the freeway bridges built on rolls, so they can expand without problems.

PE (Polyethylene) also expands, therefore the Expansion Guide is used for outdoor fixation.

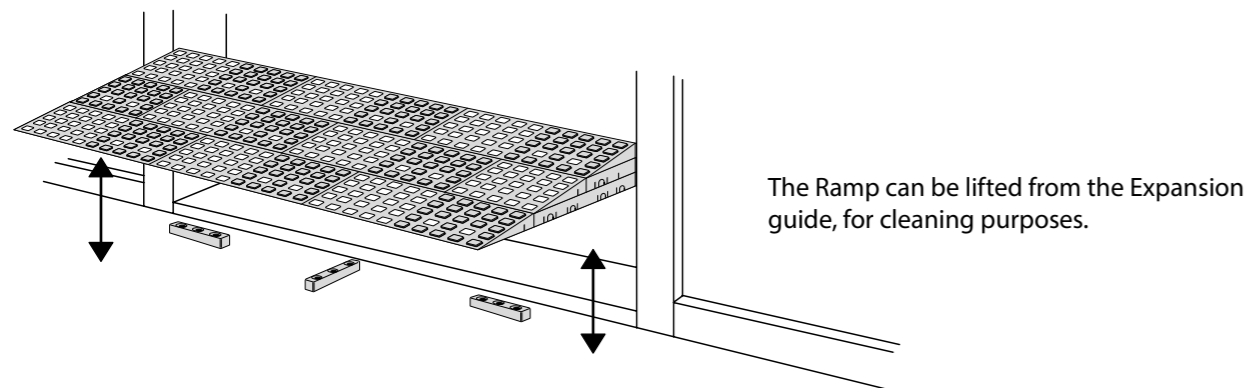
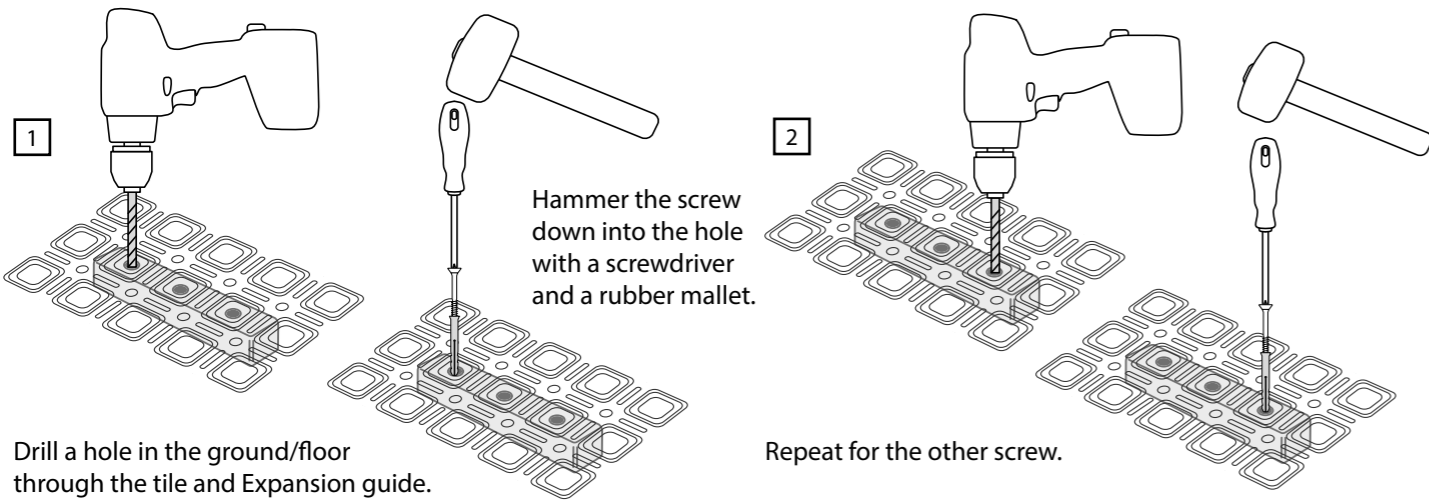


It is important to use Expansion Guides so that the ramp will expand in the intended direction. Here are a couple of examples on how to place the Expansion Guides:



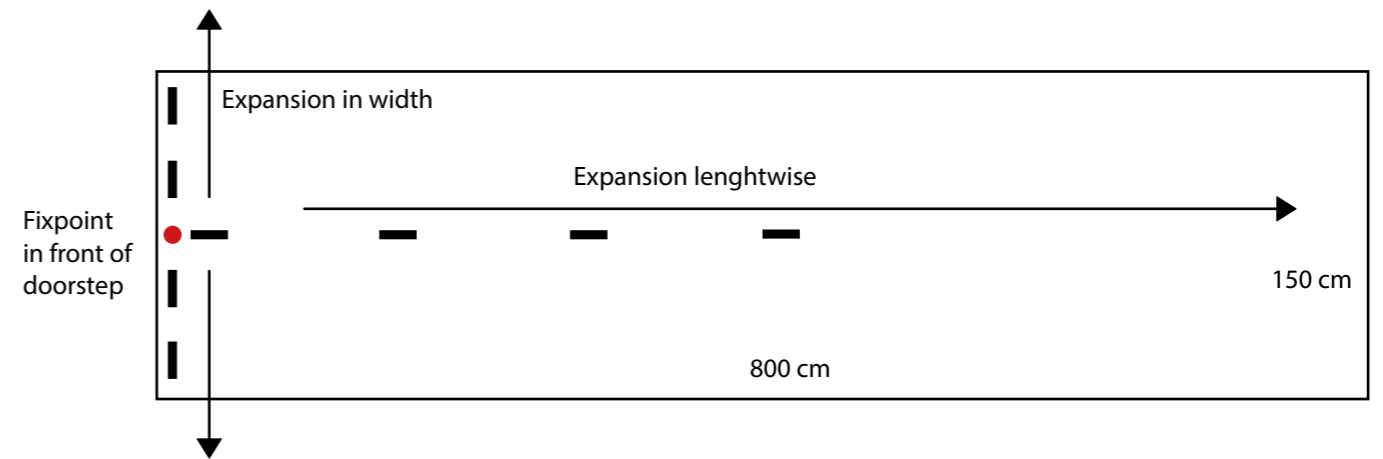
Placement of Expansion Guides:

Use, if possible, the two outer holes in the Expansion guide. (The middle hole is an extra). Fix one screw at a time.



EXPANSION OF RAMP

Example of ramp expansion:



Place the Expansion guide at the fixpoint in front of the doorstep/edge and underneath the ramp to the middle. This way you will keep the ramp in place so it will neither move away from the doorstep or to the sides.

Expansion lengthwise

When installed at 15°C, the ramp has a length of 802 cm. At 40°C in the sun, it will expand to 806 cm. In wintertime, it contracts to 800 cm.

Movement in width

When installed at 15°C, the ramp has a width of 105,9 cm. At 40°C in the sun, it will expand to 151,2 cm. In wintertime, it contracts to 150 cm.

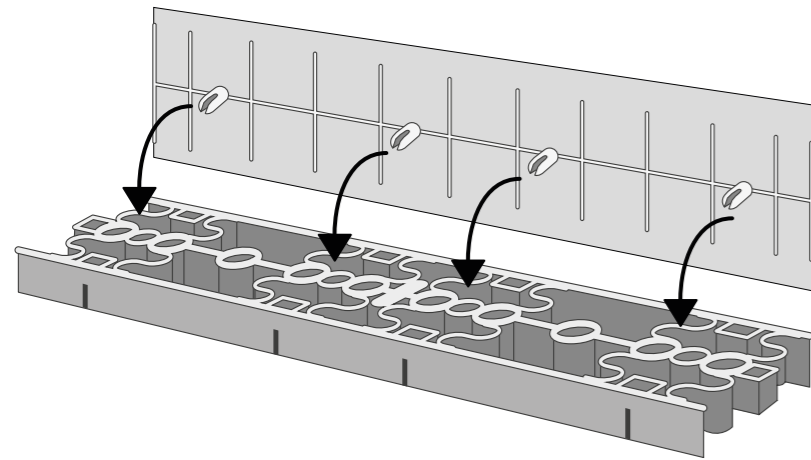
Thermal Expansion Diagram for PE (Polyethylene)

Temperature c°	Expansion %	Example (8 meters)
5 °C	+ 0,1 %	800,80 cm
10 °C	+ 0,2 %	801,60 cm
15 °C	+ 0,3 %	802,40 cm
20 °C	+ 0,4 %	803,20 cm
25 °C	+ 0,5 %	804,00 cm
30 °C	+ 0,6 %	804,80 cm
35 °C	+ 0,7 %	805,60 cm
40 °C	+ 0,8 %	806,40 cm
45 °C	+ 0,9 %	807,20 cm
50 °C	+ 1,0 %	808,00 cm
55 °C	+ 1,1 %	808,80 cm
60 °C	+ 1,2 %	809,60 cm
65 °C	+ 1,3 %	810,40 cm
70 °C	+ 1,4 %	811,20 cm
75 °C	+ 1,5 %	812,00 cm
80 °C	+ 1,6 %	812,80 cm
85 °C	+ 1,7 %	813,60 cm
90 °C	+ 1,8 %	814,40 cm
95 °C	+ 1,9 %	815,20 cm
100 °C	+ 2,0 %	816,00 cm

EXPANSION TILE

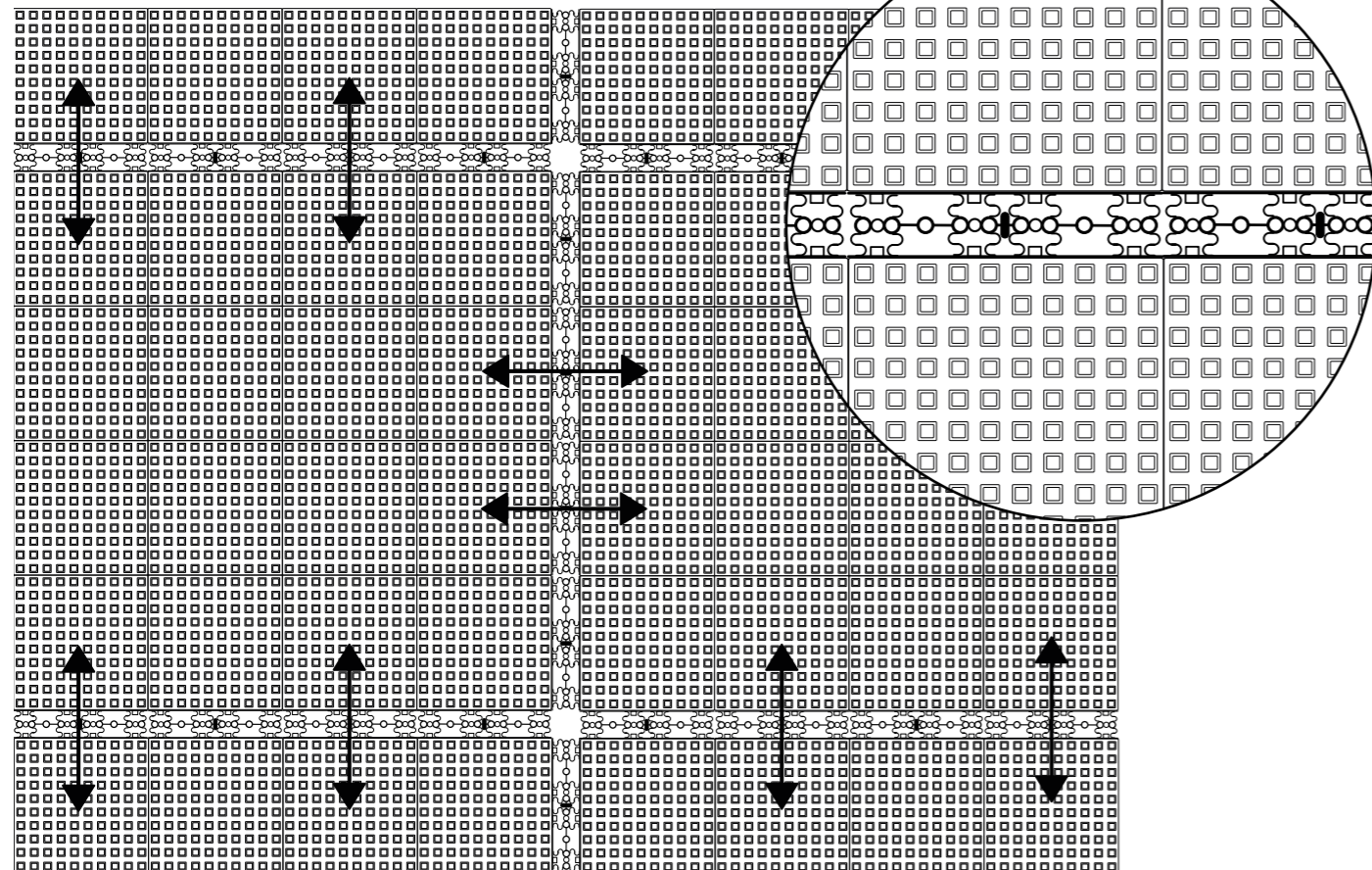
Excellent floors of tiles produced in PE, will, as many other materials, expand and contract in temperature changes and sunlight.

The Expansion tiles are used to build in between tiles in bigger floor areas, to counteract expansions and contractions which can make wave-forms in the floor.

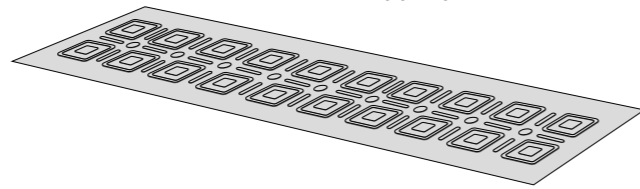


The lower part of the expansion tile is mounted between the tiles, and the upper part is placed on top.

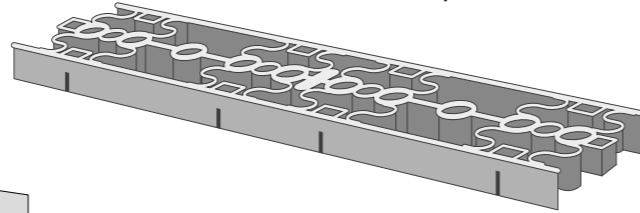
It is used in both directions as shown here:



Article no. upper part: 12531-2



Article no. lower part: 12530-2



THERMAL EXPANSION

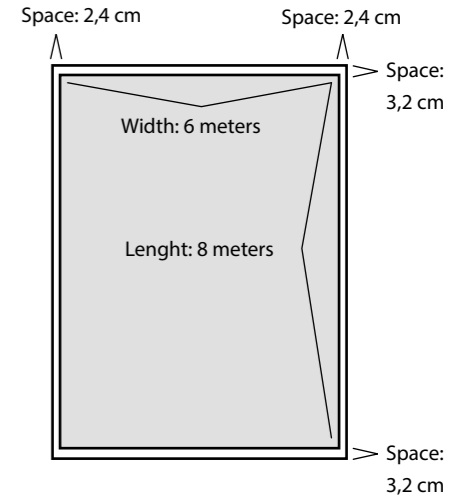
When looking at Polyethylene, being the major raw material in our product line, it has to be taken into consideration, the possible Thermal Expansion, should the installed product be exposed to increased temperatures, compared to the original temperature at the time of installation.

The diagram at page 2, shows the expected Thermal Expansion in percentages, and should be taken into consideration, especially when installing flooring of larger sizes.

Example: Flooring at an automobile painters workshop are being installed at 20 C°. Size of cabin is 6 x 8 meters and the customer wants to have the flooring to fit from wall to wall. Problem, the cabin can be heated up to 60 C° when hardening process of the paint takes place, thus making the flooring expand.

How to take the Thermal Expansion into consideration, when installing at this particular site?

1. The difference in temperature is $(60\text{ C}^\circ - 20\text{ C}^\circ) = 40\text{ C}^\circ$
2. Then looking at the diagram, we find the closest option is $+40\text{ C}^\circ = +0,8\%$
3. The length of the cabin was 8 meters, meaning at 60 C°, the flooring will become $800\text{ cm} + 0,8\% = 806,40\text{ cm}$. This means that when installing the flooring, a free space of 6,40 cm should be given allowing the flooring to meet the expected Thermal Expansion.
4. To make the appearance of the flooring look better, leaving a more uniform "spacing", the 6,40 cm could be divided with 2 = 3,20 cm, which is the space that could be advised to leave at each end of the length of the cabin.
5. For the width of the cabin: 6 meters, the principle is the same: $600\text{ cm} + 0,8\% = 604,80\text{ cm} = 4,80\text{ cm}$ required free space, again divided with 2 = 2,4 cm of free space on each side of the cabin.
6. By this, the flooring installed will be able to handle the expected Thermal Expansion at this particular site, with the expected temperature wise variations.



Thermal Expansion Diagram

Temperature C° (Increase)	Deviation %	Example (8 meters)
5 C°	+ 0,1 %	800,80 cm
10 C°	+ 0,2 %	801,60 cm
15 C°	+ 0,3 %	802,40 cm
20 C°	+ 0,4 %	803,20 cm
25 C°	+ 0,5 %	804,00 cm
30 C°	+ 0,6 %	804,80 cm
35 C°	+ 0,7 %	805,60 cm
40 C°	+ 0,8 %	806,40 cm
45 C°	+ 0,9 %	807,20 cm
50 C°	+ 1,0 %	808,00 cm
55 C°	+ 1,1 %	808,80 cm
60 C°	+ 1,2 %	809,60 cm
65 C°	+ 1,3 %	810,40 cm
70 C°	+ 1,4 %	811,20 cm
75 C°	+ 1,5 %	812,00 cm
80 C°	+ 1,6 %	812,80 cm
85 C°	+ 1,7 %	813,60 cm
90 C°	+ 1,8 %	814,40 cm
95 C°	+ 1,9 %	815,20 cm
100 C°	+ 2,0 %	816,00 cm

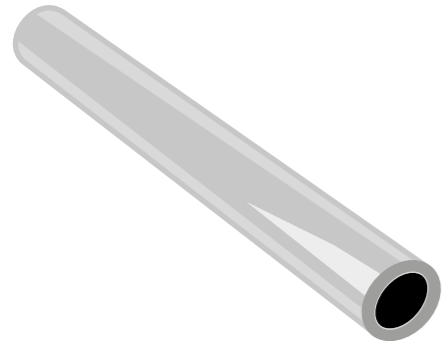
NB!

The principles of Thermal Expansion can also be used in heights, meaning when multiple layers, or ramps are involved.

Furthermore, when assembling Tiles and ramps, there is a small space of "air" between each component, actually compensation for the described thermal expansion. However, it is our experience that when using the described guidelines, the safest solution is obtained.

K-SYSTEM

K-System is a kerb system designed for Excellent Ramp System.
It is easy to mount on both ramps and tiles and comes in two different heights.



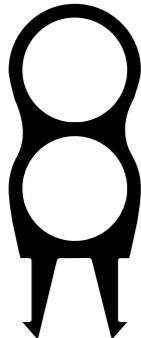
K-Tube

Length: 200 cm
U/Ø: 4 cm
I/Ø: 2,4 cm
Article no.: 17100-1



K-Lock 1

Mounted height of kerbs: 5 cm
Minimum 2 layers in ramp height needed.
Article no.: 17120



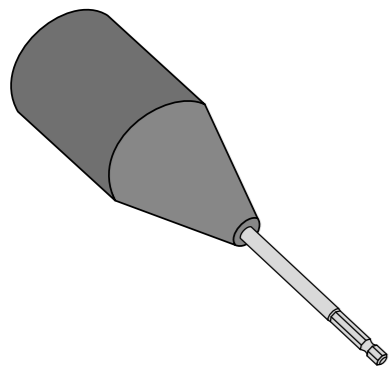
K-Lock 2

Mounted height of kerbs: 10 cm
Minimum 3 layers in ramp height needed.
Article no.: 17130



K-Stops

Mounted in both ends of K-Tubes to round the edges.
Artikel nr.: 17140

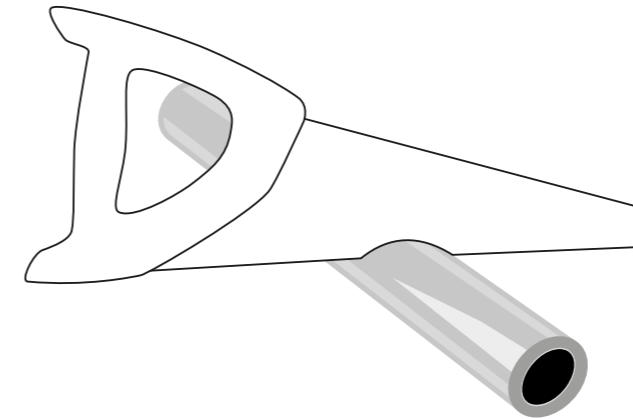
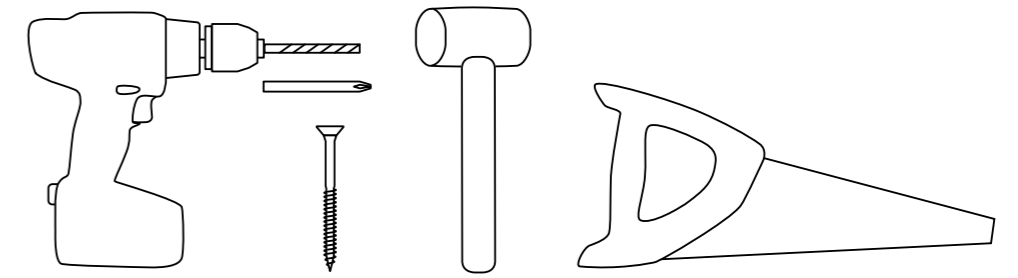


K-Drill

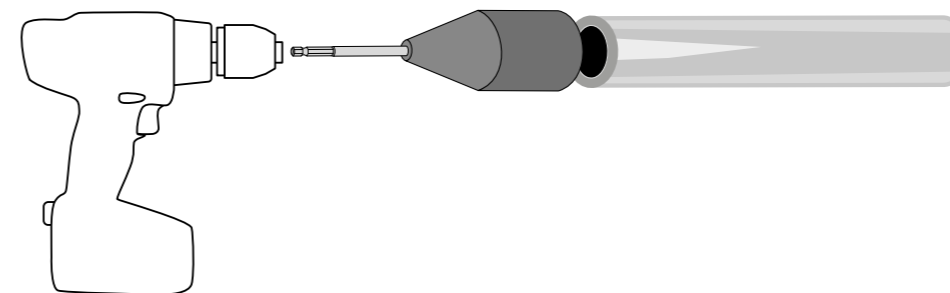
Used when drilling K-Tubes ends to fit K-Stops.
Article no.: 17150

HOW TO USE K-SYSTEM

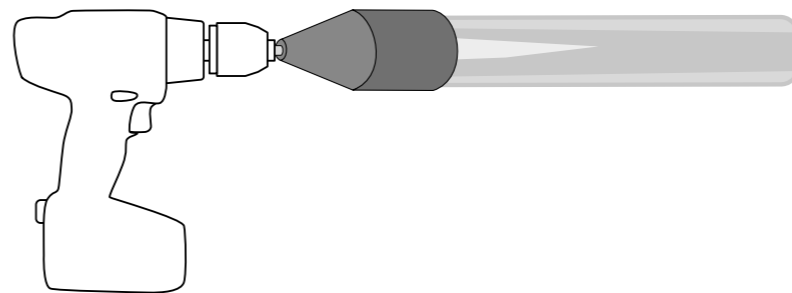
Tools needed:



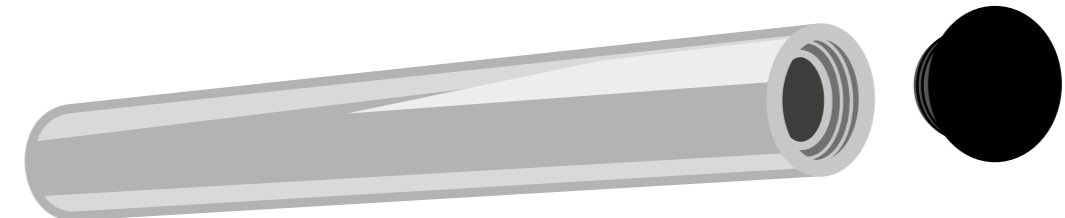
Saw the tubes into the needed lengths.



The tubes need to be drilled in both ends with the K-Drill, to mount the K-Stops.



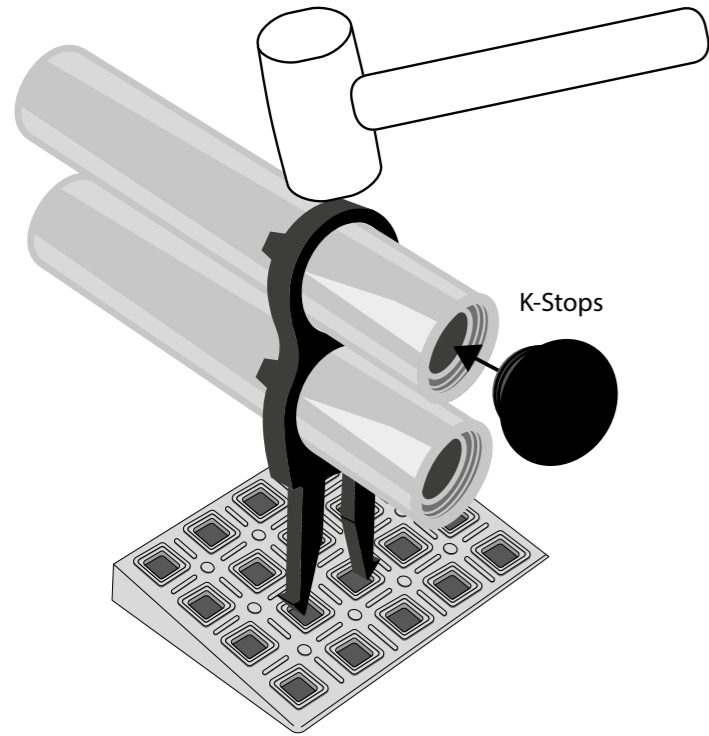
Mount the K-Drill on the Drill, press the tube into the K-Drill, and drill.



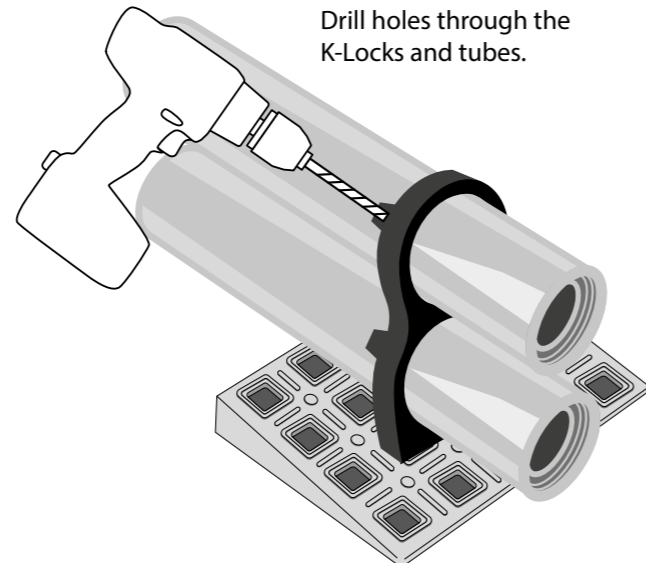
Now the tubes are ready to have the K-Stops mounted.

K-Locks have to be mounted at least two holes from the edge of the ramp. This will give the edge the strenght to withstand severe influences.

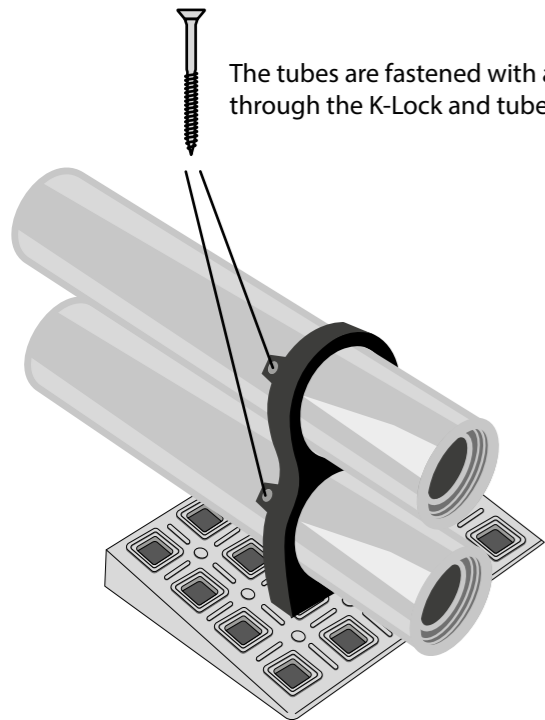
Use a rubber hammer to fasten the K-Locks.



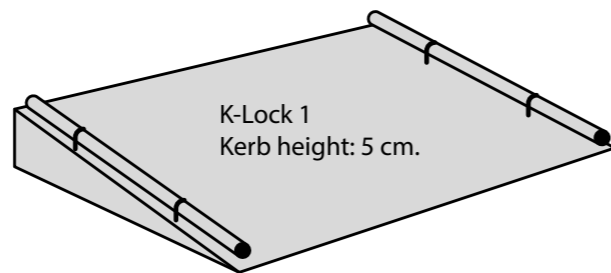
Drill holes through the K-Locks and tubes.



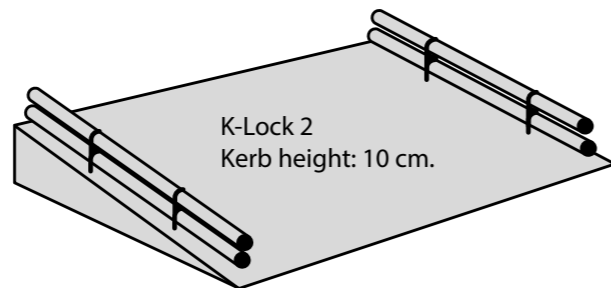
The tubes are fastened with a screw through the K-Lock and tubes.



K-Lock 1
Kerb height: 5 cm.



K-Lock 2
Kerb height: 10 cm.



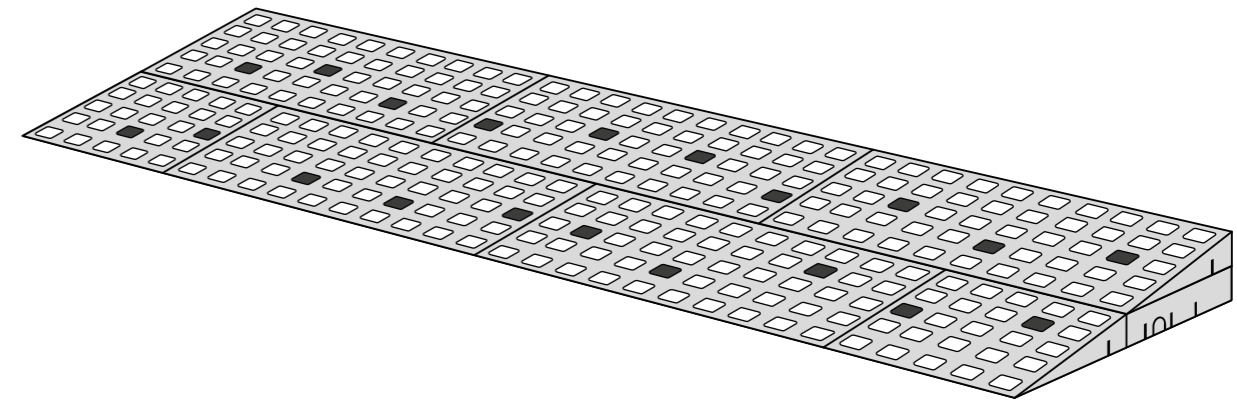
Use of Ice-Lock:

The Ice-Lock is mounted in the surface of ramps and tiles to provide an extremely slip resistant surface, under extreme weather conditions.

Dimensions:

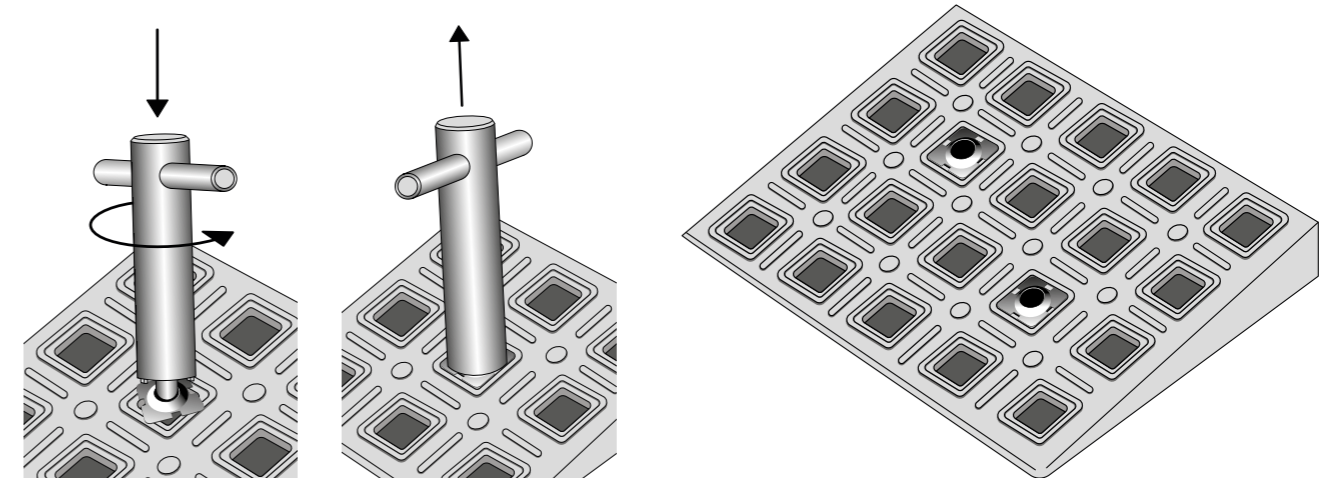
Height: 4 mm
Width: 14 mm
Depth: 14 mm

Recommended placement:



Mounting:

Use the Ice-Lock mounting tool to mount the Ice-Locks.





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