Stravifloor Deck
Installation Manual

Installation Tools and Components

- Stanley knife
- Ink marker
- Pocket tape measure
- Cross line laser (optional)
- Chalk line with gear ratio
- Leverage sheet metal snips
- Angle grinder (w/ carborundum disks)
- Battery powered screwdriver (w/ self-drilling screws)
- Adhesive spray and tape(if the perimeter isolation is done with a material different than the self-adhesive CDM Stravitec's Perimeter Strip)
- Personal protective equipment (PPE)
- Flexible, non-sag cementitious adhesive (for pool applications)

1 / Subfloor & System Components Preparation

The structural floor should comply with the required tolerances regarding the gradient (0,1% or 1 mm/m) and smoothness (max. 2 mm) prior to installation of the CDM Stravitec floating floor.

The subfloor should be dry and clean of any debris (dust, dirt, grease, foreign objects) prior to installation.

Unpack and unroll the various components and allow them to acclimatise to their environment for 24 hours or more before installation.

For pool applications:
The pool shell should be prepared with waterproofing. It is also recommended to include drainage points at the bottom to ensure proper water evacuation. Follow the recommendations of other specialties as applicable.

2 / Lateral Isolation Strip

Install Perimeter Strips against any walls, columns, and other vertical structural and non-structural elements.

The perimeter isolation strip should cover the entire lateral section from subfloor level to the top level of the finish flooring layer.

For pool applications:
The material used to decouple the pool walls from the pool shell can start at the very bottom of the wall, also serving to decouple the floating floor from the pool shell.

Please note that the drawing shows only a strip at the bottom, not the full wall surface.

Install the Lateral Isolation Mat against the pool walls and fix it to the wall using cement glue.

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3 / Stravifloor Channel

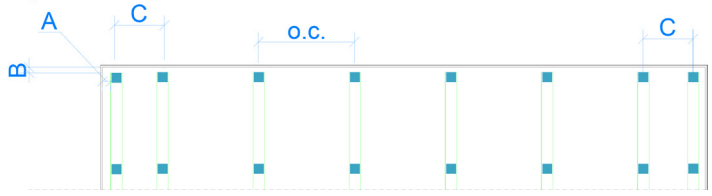
Spread out the Isolated channels to their required location. The isolated channels do not have to be glued or fixed to the structural floor. If necessary, level the Isolated channels with spacers (stiff shims) placed under the CDM Stravitec elastomer pads or spring.

The distance between the first steel channel parallel to the wall (perimeter channel) and the perimeter strip (A) will be defined over the course of the project, but as a general rule, should be on maximum 1/2 of the width of the metal profile used as lateral formwork or - if this type of profile is not being used - smaller than the total thickness of the floating floor. The distance between the end of the steel channel to the perpendicular lateral isolation layer (B) must be defined on project, but should always be ≥ 20 mm and < 1/2 width of the metal profile (or 30 mm if the metal profile is not being used).

The distance between the first two isolated channels closest to the wall (C) must be the same on both sides.

When the angle between the imaginary line perpendicular to the steel channels and the wall at the end of the same steel channels is < 20 degrees, no perimeter channel is needed. Perimeter channels must be used when:

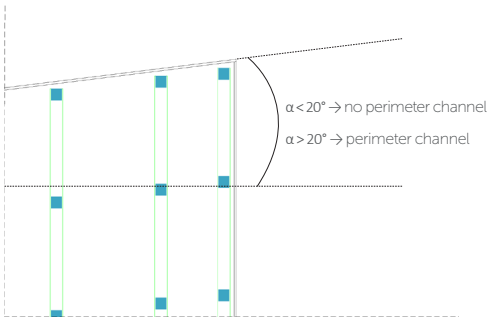
- the angle between the imaginary line perpendicular to the steel channels and the wall at the end (or bottom) of the same steel channels is ≥ 20 degrees;
- where it is necessary to compensate a higher loading of the perimeter zone.



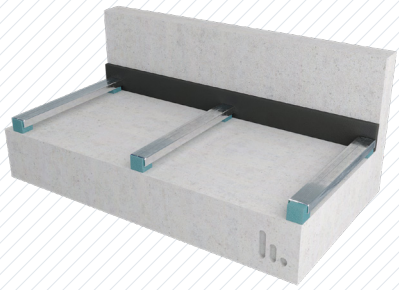
A. A < ½ width of the metal profile (or total thickness of the total floating floor if the metal profile is not being used)

B. 20 mm ≤ B < ½ width of the metal profile (or 30 mm if the metal profile is not being used)

C. C > o.c./2

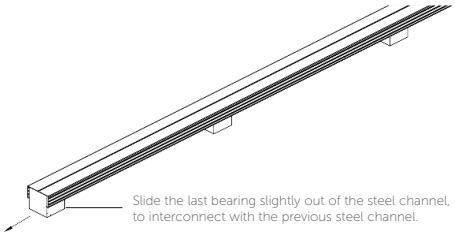


Drawing shows elastomer pads, also valid for springs.



The render sequence shows elastomer pads, which are also applicable to the springs.

Connecting steel channels must always be supported by an elastomer pad or spring to prevent deformation of unsupported steel channels under load. Isolated Channels are delivered with an elastomer pad or spring already inserted at the end of each steel channel. Slide the bearing half out of the steel channel so that you can install the previous steel channel onto the protruding bearing. Turn the very first steel channel with the fully supported end towards the wall. The other side will come to rest on the protruding bearing of the next steel channel.

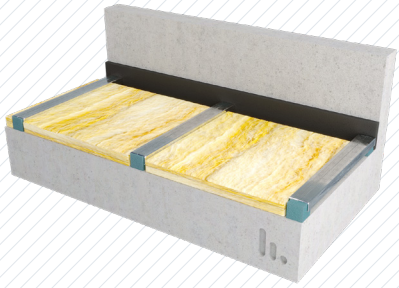


4 / Absorption Layer

Lay down low density mineral fiber wool in between the isolated channels. The thickness of the absorption layer should be smaller than the void after elastomer deflection.

Make sure not to place mineral wool under the steel channels.

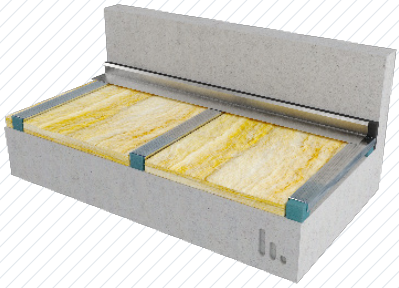
For pool applications:
Adding insulation in the void is generally not recommended for pools. Keeping the void free allows water to drain if needed, and avoids placing insulation in an environment where condensation is likely to occur, which could compromise the material.



5 / Metal Edge Profiles

Install metal edge profiles around the perimeter (pour stop). The profiles will be used as side formwork and thus, should cover the entire lateral section of the future concrete or screed floor.

More flexible lateral formwork can be used if the walls and other vertical elements are not straight.



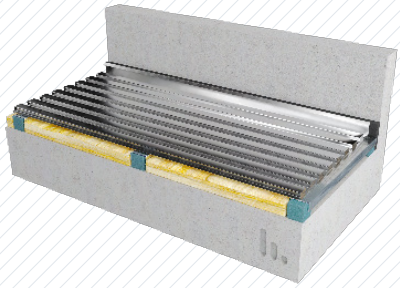
6 / Dovetailed Metal Decking

Safety warning: the metal edges of the dovetailed sheets are sharp. Always wear protective gloves and safety shoes.

The standard procedure is to lay the first row of sheets lengthwise. Place the first sheet with the blue print facing downwards, the following sheet with the print facing upwards.

The adjacent row starts with a sheet with the blue print facing upwards and so on. The decking sheets can also be laid in stretcher bond. They must be laid at right angles across the isolated channels, meaning that the profiled section of the decking sheets must be perpendicular to the isolated channels.

At the overlap, the bottom panels must be fully supported by isolated channels. Ideally, the center of the isolated channel is 50 mm removed from the short end of the bottom panel. Follow CDM Stravitec construction drawings for more information.



Crosscut overlaps

Crosscut overlaps are made by "clicking" the sheets into each other alternately (blue print downwards, then upwards) with a minimum overlap of 100 mm. Crosscut overlaps can be adjusted by simply sliding the sheets into or apart from each other once "clicked" into place. It is easier to first click the sheets together on a hard and stable surface.

Lenghtwise overlaps

Preferably, overlaps are not limited to the side flanges. In order to make the floating floor less vulnerable to construction traffic, it is necessary to include part of the profile itself in the overlap. Therefore, slide the side flanges as far as possible over the first profile. The upright part of the first profile will butt against the upright part of the first profile of the adjacent sheet.

Shortening and cut-outs

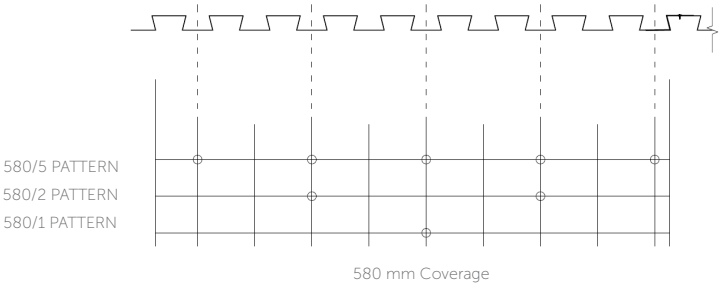
Use a carborundum disk to cut the decking sheets to size, both widthwise and lengthwise.
Cutouts can be made with the same tool or with a jigsaw. Holes through a completed floating floor can be made with a core drill (for acoustical reasons, holes and rigid elements piercing the floor system must be avoided but if it is absolutely necessary to do so, a perimeter strip must be installed against the rigid element).

Connection/gap between decking sheets and the edge perimeter profile

To prevent infiltration of concrete or screed that will be poured in situ on the decking sheets, the joints must be filled with an elastic sealer or a polyurethane foam. Pay attention to the final thickness so as not to compromise the floor stability.

Connection between decking sheets and isolated channels

Decking sheets should be fixed (do not compress the profile) with round wire nails or self-drilling screws into the upper flange of the isolated channels. Use nails or screws of limited length as not to make contact with the structural floor after deflection of the system.



Fastener pattern (recommended):

a. End support (crosscut) = 580/5 screw pattern with approved screws

b. Intermediate support = 580/2 screw pattern with approved screws

c. Sidelap (lengthwise) = max. 610mm o.c.

Notes:

a. At end and intermediate support, screw fasten deck to support channels (avoiding isolators)

b. At sidelap, screw fasten at top of flute. Do not fasten to channels.

c. Never weld u.n.o.

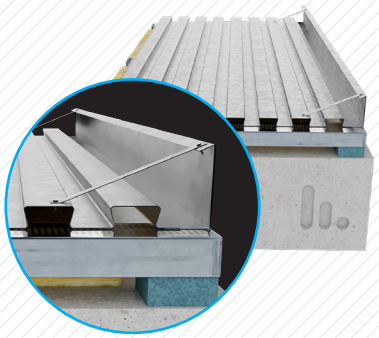
d. Sealant should be used at end supports where gaps exist

e. Typical details provided are not engineered with the diaphragm capacity of the floating slab considered. If diaphragm capacity design

Restraint straps

When floor edge closure isn't against a hard perimeter (i.e. an upstand/ perimeter wall) or around a penetration in the floor, the pour stop can be fixed to the deck sheet by restraint straps, every 500mm.

Notice that to allow the fixation of restraint straps, the edge closure profile needs to have a return lip.



7 / General Application

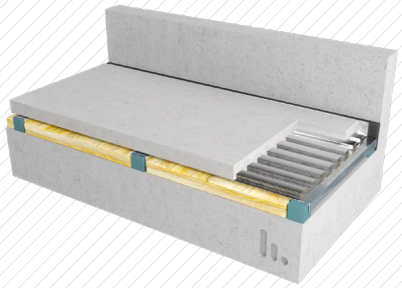
Concrete should be on minimum a C20/25 fine grade aggregate concrete or C20F4 free flowing, self-levelling, liquid screed.

When installing the decking sheets, bear in mind that this initially serves only to support the concrete and will only start functioning as reinforcement after the concrete has set. Install reinforcements, if applicable, and pour concrete as per concrete floor design.

Uneven curing and setting of the concrete topping may result in concrete curling at the perimeter and corners. If concrete curling is a concern due to the apparent climate or large size/dimensions of the concrete pour, Stravifloor Deck panels must be temporarily fixed by using Parker screws that are screwed through wedge-shaped wooden flutes. After the concrete has cured sufficiently, remove the Parker screws and flutes and fill in the holes with mortar.

Alternatively, Stravifloor Deck can be pushed down from the ceiling by using studs or other temporary supports. Uneven drying can be avoided by covering the freshly poured concrete with a polyethylene film.

The uneven curing and setting of the concrete is related with climate conditions such as air humidity, temperatures and wind exposure but also with the concrete formulation (especially formulation water level). Concrete manufacture recommendations must be required.



8 / Trim & Caulk Perimeter

Trim any excess of the perimeter isolation material to the concrete floor height or finish floor height.

Seal the gap with elastic caulking.

Special Considerations for Pool Applications

All pipe connections between the isolated pool structure and the non-isolated building structure should be flexible.

A flexible watertight sealmust be installed at the top of the lateral isolation mat to allow for differential movement between the isolated and non-isolated structures. This accommodates the additional deflection of the resilient supports when the pool is filled.