

## System A - Concealed Systems

System A 1.1: THERMATEX® non-accessible

System A 1.2: THERMATEX® demountable T-profile

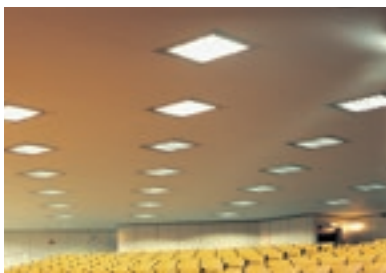
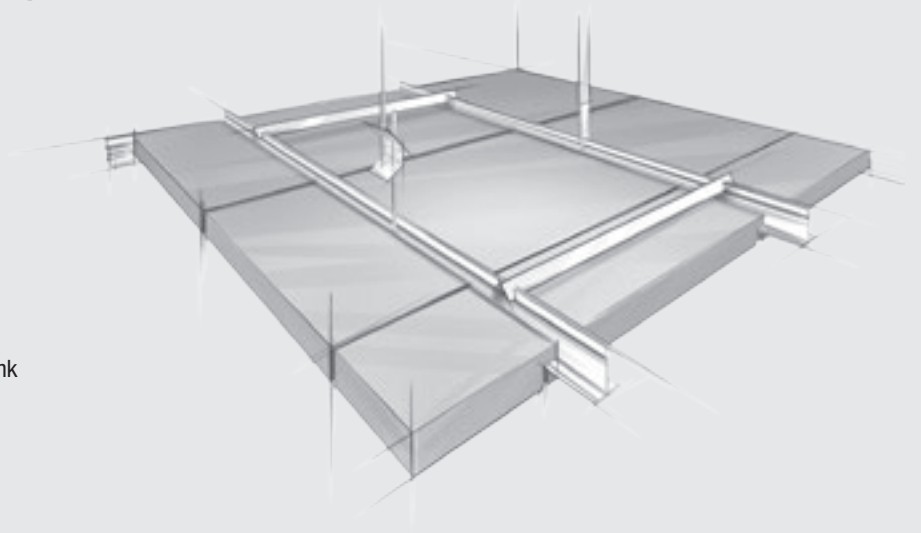
System A 1.3: THERMATEX® demountable Z-profile

System A 2.1: HERADESIGN® non-accessible

System A 2.2: HERADESIGN® demountable

System A 4.1: MONDENA® clip-in system square / plank

System A 4.2: MONDENA® hook-on system plank



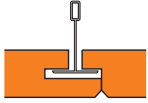

System A utilises concealed suspension profiles. The ceiling tiles can be demountable or non-accessible, according to the construction variation used. Dependent on individual requirements the ceiling void can either be accessible or non-accessible. The concealed profiles create a smooth, monolithic appearance.

## System A 1 - THERMATEX®

### Product Range

Product		Thickness [mm]	Weight [kg/m²]	Edge configuration	Module [mm]
Product programme THERMATEX®	THERMATEX® Plain/ Fine Stratos / Star	15 19	4.0 5.3	AW/GN* GN/GN	600/600; 625/625; 300/1200; 400/1200-1250*; 312.5/1250
	THERMATEX® Fine Stratos micro perforated	15 19	4.0 5.3	AW/GN* GN/GN	600/600; 625/625; 300/1200; 312.5/1250; 400/1200-1250*
	THERMATEX® Mercure	15 19	4.0 5.3	AW/GN* GN/GN	600/600; 300/1200; 400/1200-1250*
	THERMATEX® Alpha HD	19	5.2	AW/GN	600/600; 625/625
	THERMATEX® Acoustic	19	4.6	AW/GN	600/600; 625/625; 600/1200; 625/1250
	THERMATEX® dB Acoustic	24	8.4	AW/GN	600/600; 625/625
	THERMATEX® Acoustic RL	19	5.4	AW/GN	on request
	THERMATEX® Aquatec	19	5.2	AW/GN	600/600; 625/625
	THERMATEX® Plain Hygena	15 19	4.0 5.3	AW/GN	600/600; 625/625
	THERMATEX® Symetra Rg 4-16; Rg 4-10; Rg 2,5-10; Rg 4-16/4x4	19	5.3	AW/GN	600/600; 625/625

### Edge configurations

AW	
GN	

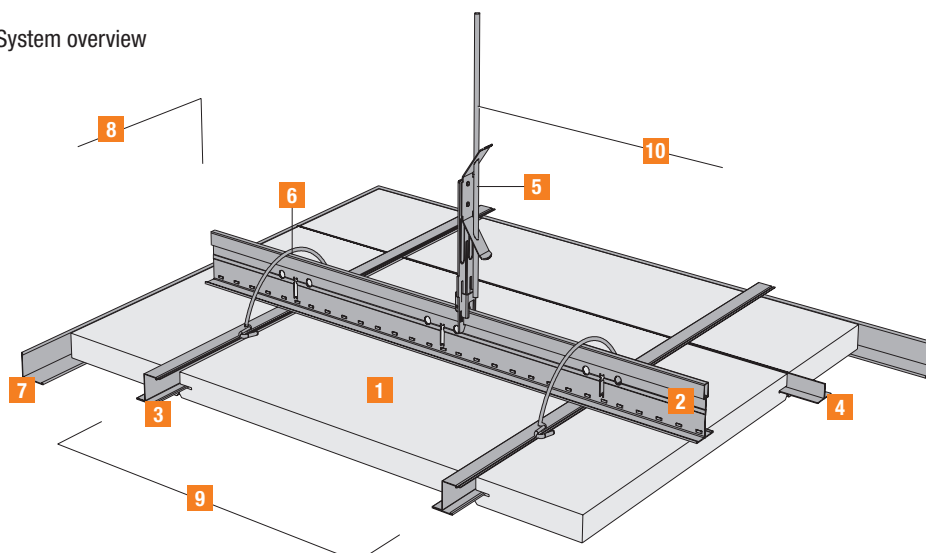
The current installation guide for suspended ceilings with concealed construction System A, does not include applications for fire rated ceilings. In the case of a fire rated ceiling, specific documents, guidelines and test certificates should be adhered to. No changes can be made to the execution of the approved construction.

All metal components for external applications or applications with an increased risk of corrosion must have special corrosion protection.

## System A 1.1 - THERMATEX® non-accessible

System A 1.1 differs from the other concealed systems in that it uses tiles with a GN edge configuration. Due to this, tiles cannot be demounted. T24/38 main runners are installed as the load bearing grid structure using conventional hangers, to which the Z-profiles are fixed with wire clips (see system diagram figure 1.1).

Figure 1.1 - System overview



### Tiles

The tiles have the same GN edge configuration on all four edges (Figure 1.2). Nevertheless, the installation should be carried out in one direction.

Figure 1.2



### Material requirements/ key

The quantities and installation times stated in Table 1.1 are for guideline only. They do not allow for waste or project specific scenarios.

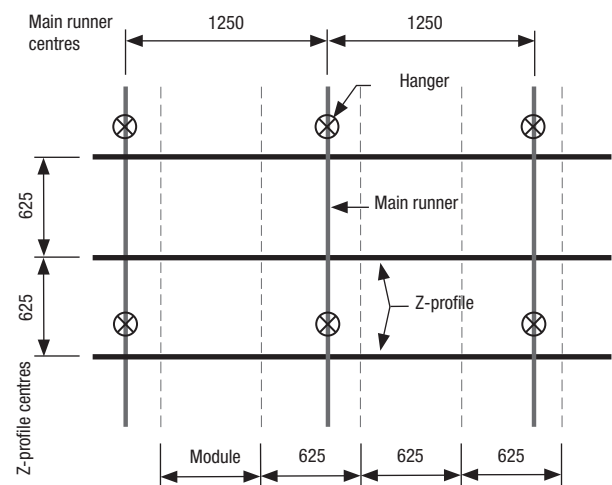
Table 1.1 - Requirements for every m<sup>2</sup> ceiling

Product description		Unit	Module mm			
			600 x 600	625 x 625	300 x 1200	312.5 x 1250
AMF THERMATEx® Mineral tiles	1	Pcs.	2.78	2.56	2.78	2.56
Main runner T24/38 - 3600/3750	2	Lin. m	0.80	0.80	0.80	0.80
Z-main profile	3	Pcs.	1.67	1.60	3.34	3.20
T-cross profile	4	Pcs.	2.78	2.56	2.78	2.56
Splice for main runner		Pcs.	0.42	0.40	0.84	0.80
Hanger	5	Pcs.	0.64	0.64	0.64	0.64
Wire clips	6	Pcs.	1.34	1.28	2.67	2.56
Perimeter profile	7	Lin. m	0.60	0.60	0.60	0.60
Perimeter wedge		Pcs.	0.30	0.30	0.30	0.30
Main runner centres	8	m	1.25	1.25	1.25	1.25
Z-profile centres	9	m	0.60	0.62	0.30	0.32
Hanger centres	10	m	1.25	1.25	1.25	1.25
Installation time		min	35	35	40	40

### Grid structure (Figure 1.3)

The main runners (T 24/38 Ventatec grid) are installed using quick hangers or other suitable, alternative hangers at 1250 mm centres (hanger centres max. 1250 mm). These are fixed to the soffit using approved fixings, dependent on the type of soffit. The grid is aligned and levelled. The Z-profiles are fixed to the installed main runners, using wire clips, dependent on the tile width. During the installation, the long edge of the tile with all-round GN edges is pushed or lay-on the Z-profile. The short edges of the tiles are reinforced or connected with T-profiles.

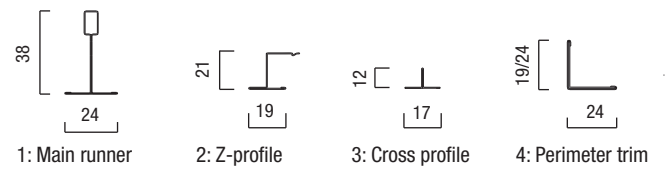
Figure 1.3



### Profiles (Figure 1.4)

- 1: Main profile T24/38 Ventatec universal main runner  
L = 3600 / 3750 mm
- 2: Z-profile Z19/21 Z-profile butt cut  
L = 4.00m
- 3: Cross profile T17/12 cross tee butt cut  
L = 600 / 625 mm
- 4: Perimeter trim L19/24 or L24/24 Ventatec L-wall angle  
L = 3.00m

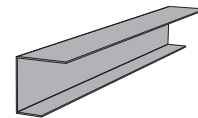
Figure 1.4



### Splices (Figure 1.5)

For a level and stable connection of the Z-profiles, splices (L = 150 mm) should be used.

Figure 1.5



### Wire clips (Figure 1.6)

The Z-profiles are fixed to the main runners with wire clips. The clip must be fully pushed onto the upper leg of the Z-profile.

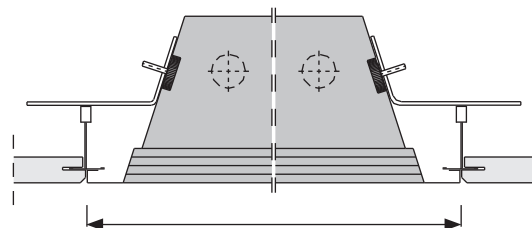
Figure 1.6



### Light fittings (Figure 1.7)

The symmetrical ceiling tile (edge GN) enables a symmetrical light fitting to be used in system A 1.1:

Figure 1.7

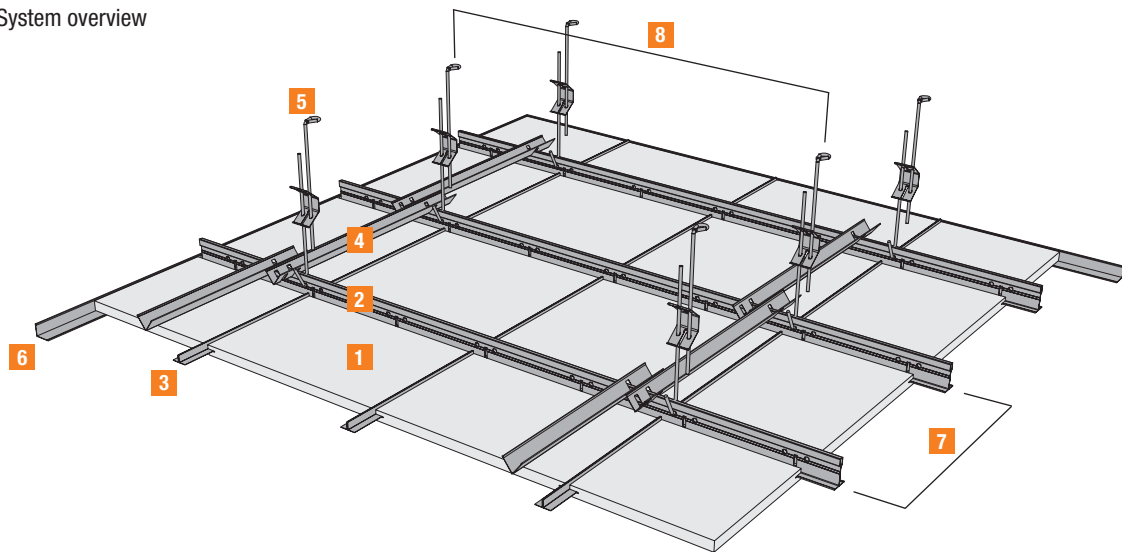


Axis dimension = aperture = size of light fitting

## System A 1.2 - THERMATEx® demountable, T-profile

System A 1.2, the most commonly used system is described below. The handling of the tiles etc. is almost identical in all of the systems. Any deviations with regards to the grid construction and other details are described in the data sheets of each system variation. System A 1.2 is a suspended ceiling construction with concealed profiles consisting of T-profile main runners, L-profile reinforcement profiles and tiles with an AW/GN edge configuration that are demountable.

Figure 2.1 - System overview



### Material requirements/ Key

The quantities and installation times stated in Table 2.1 are for guideline only. They do not allow for waste or project specific scenarios.

Table 2.1 - Requirements for every m² ceiling

Product description	Unit	Module mm			
		600 x 600	625 x 625	300 x 1200	312,5 x 1250
AMF THERMATEx® mineral tiles	1 Pcs.	2.78	2.56	2.78	2.56
T-main runner T24/38 - 3600/3750	2 Lin. m	1.67	1.60	3.34	3.20
L-cross profile	3 Pcs.	5.56	5.12	5.56	5.12
Spacer bar	4 Pcs.	1.39	1.28	2.78	2.56
Hanger	5 Pcs.	1.39	1.28	2.78	2.56
Perimeter profile	6 Lin. m	0.60	0.60	0.60	0.60
Perimeter wedge	Pcs.	0.30	0.30	0.30	0.30
Main runner centres	7 m	0.60	0.63	0.30	0.32
Hanger centres	8 m	1.20	1.25	1.20	1.25
Installation time	min	30	30	35	35

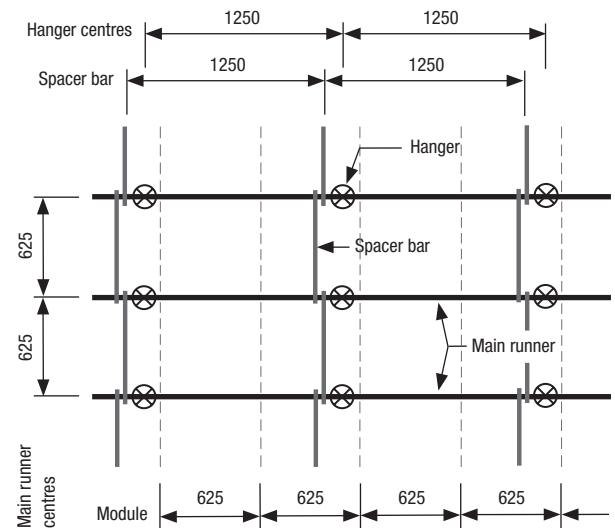
### Note

A minimum void depth of 100mm is required to enable the ceiling tiles to be installed easily without any problems.

## Grid structure

The main runners (T-profiles) are installed with quick hangers at 1250 mm centres, depending on the tile width. These are fixed to the soffit using suitable, approved fixings dependent on the soffit type. The installed profiles are aligned, levelled and fixed in the chosen module size with spacer bars at twice the length of each tile.

Figure 2.2



## Tiles

As shown in Figure 2.3, the edge configurations for the long and short edges of tiles are different. To secure the tiles in the system (support them on the main runners), the tiles feature an AW edge (demountable, Figure 2.4). This edge is pushed onto the T-profile concealing the grid at the same time. On the opposite side, the tile simply sits on the main runner. The tiles can be installed or demounted by gentle lifting and shifting the tiles.

The long edges feature a GN edge (grooved, Figure 2.5) and are reinforced with L-profiles.

The following tile types are available in the AW/GN format:

Tile	Thickness	Weight
THERMATEx® (Standard)	19 mm	5.3 kg/m <sup>2</sup>
THERMATEx® Acoustic	19 mm	4.6 kg/m <sup>2</sup>
THERMATEx® Alpha HD	19 mm	4.7 kg/m <sup>2</sup>

The full range of available formats can be found in the price list. Please contact your local sales office regarding availability and minimum order quantities.

Figure 2.3

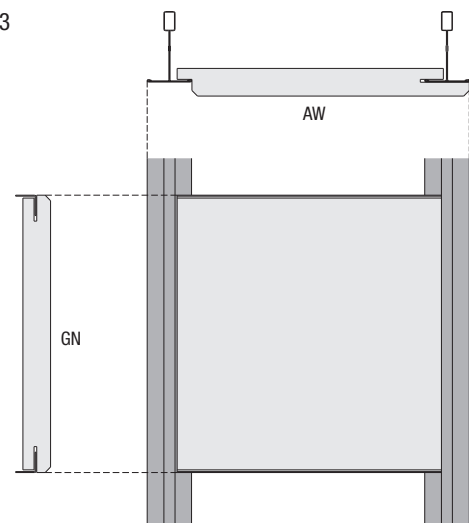
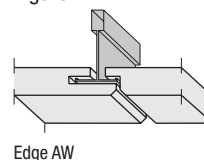
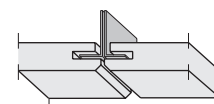


Figure 2.4



Edge AW

Figure 2.5

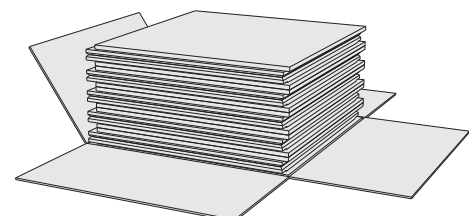


Edge GN

## Packaging

To remove the tiles from the packaging, open the packaging on all sides and remove completely (Figure 2.6).

Figure 2.6



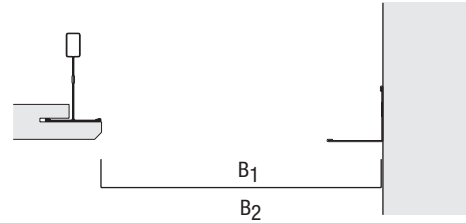
## Cut tiles

The following steps are an example for cutting the first row.

### Step 1 (Figure 2.7):

The dimensions between the main runner and perimeter trim/wall should be measured before the installation. To avoid further work, this should always be done at the start (B1) and end (B2) of every element (to account for angled walls, unevenness etc...).

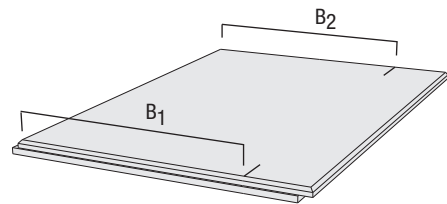
Figure 2.7



### Step 2 (Figure 2.8):

The dimensions are transferred to the tile. This can be done on the face side of the tile, but always ensure that you use clean tools. For the last tile and when cutting the last row, a 10mm gap is necessary for the perimeter wedges (page 12).

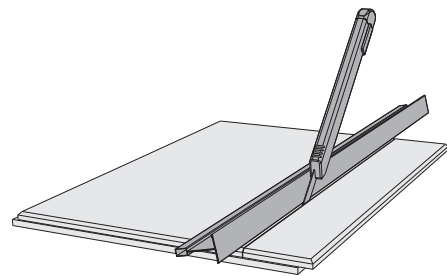
Figure 2.8



### Step 3 (Figure 2.9):

For an exact cut, please use a suitable metal guide. The cut should only be scored a few millimetres deep and serves to mark the exact position of the cut. The metal guide is then no longer required.

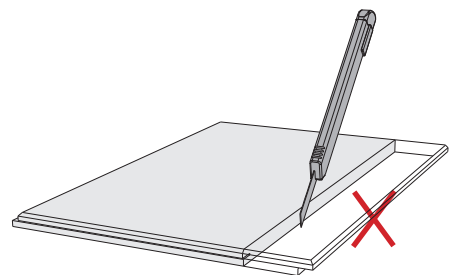
Figure 2.9



### Step 4 (Figure 2.10):

The tile is cut along the scored line to the required width/length and the off-cut disposed of.

Figure 2.10



### Note

The AW edge configuration has two different long edges. Take care when cutting the first tile to ensure the long edge with the concealed edge is removed (Figure 2.14).

Similarly with the last tile, ensure the shiplap edge is disposed of (Figure 2.15).

## Cutting tiles

### Cutting to fit at perimeters

Dependent on the direction of installation, different tolerances are required. Especially when cutting the first tile and all tiles in the first row, an exact cut is required.

For the installation of a room (Figure 2.11), the following tolerances are permitted / required:

Start:	no gap, fits exactly
Left:	no gap, fits exactly
Right:	10 mm
End:	10 mm

### Last tile in a row

To install cut tiles and the last tile in a row, the one from last tile must be left out. This tile is then installed after the cut tile.

To make handling easier, the dimension between the wall and the tile edge of the third from last tile is measured (=X, Figure 2.12).

As the last tile is installed with a perimeter wedge, a 10 mm gap is required (Figure 2.13). The exact size of the cut tile is calculated as follows:

$$Y = X - \text{module} - 10 \text{ mm}$$

### First row

The cut tiles of the first row need to be cut to the exact size. It is important that the shiplap (AW) edge is removed and the recessed edge used (Figure 2.14). This considerably eases the further installation and handling of individual elements.

### Last row

Correspondingly (see cutting of first row), the recessed edge is removed when cutting the last tile. As the tiles are installed with perimeter wedges, a 10 mm gap is required (Figure 2.15).

Figure 2.11

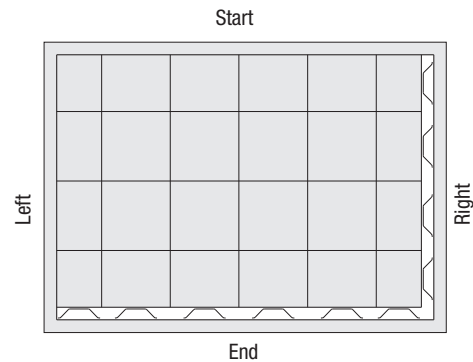


Figure 2.12

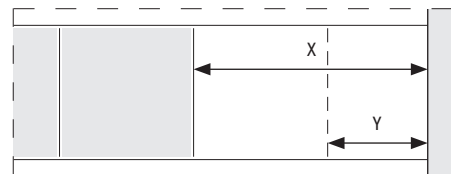


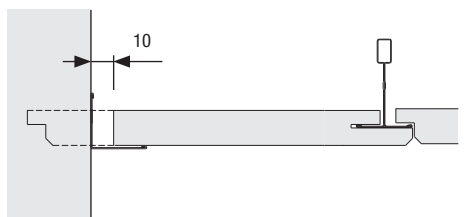
Figure 2.13



Figure 2.14



Figure 2.15





## Perimeter trims

A wide range of white, galvanized steel perimeter trims are available for the connection and support of AMF functional ceilings with perimeter walls (solid and light-weight partition).

Figure 2.16  
RW L 19/24 - 3000

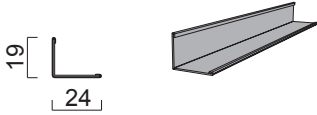


Figure 2.17  
RW L 24/24 - 3000

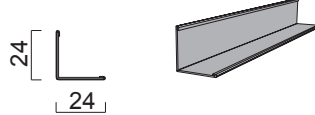
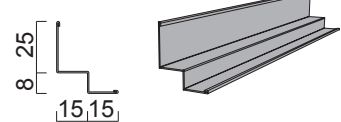


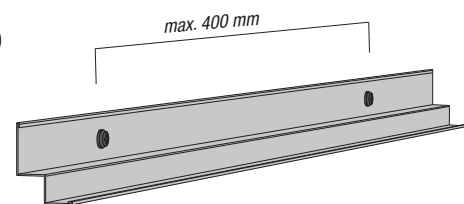
Figure 2.18  
SRW 25/15/8/15 - 3000



### Fixing

The perimeter trims should be fixed with suitable plugs and screws. For solid walls, the fixings should not exceed more than 400 mm centres (Figure 2.19). Connections to light-weight partition walls can be made using a standard wall angle (max. 625 mm centres) with at least one screw and in between with a threaded bolt. Screws without a flat head (e.g. bugle headed screws) are unsuitable for fixing as incorrect installation can lead to deformation of the perimeter trim.

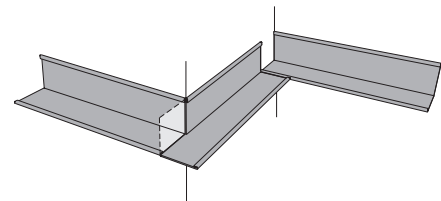
Figure 2.19



### Corner finish with L-shaped wall angle

Mitring the corners is the smartest, but also the most time consuming and technically demanding corner finish. This is even harder to implement in rooms that aren't square. In most cases, the best results are achieved by a simple butt cut, with the ends pushed together (Figure 2.20). In the case of an external corner, it is necessary to notch the vertical leg of the trim otherwise it overlaps where the tile should lie. Corners of varying angle can be easily adapted with this method. Tin snips are suitable for the cutting of the profiles.

Figure 2.20  
RWL - butt cut



When forming corners with L-shaped wall angles it is not recommended to use preformed mouldings / accessories for internal and external corners as the result is not aesthetically pleasing.

### Corner finish with SRW shadow trim

Mitred corners (Figure 2.21) should only be formed using a mitre saw. Butt cut corner finishes with shadow trim are not possible. For this reason, for corner finishes of SRW profiles, we recommend the use of preformed mouldings / accessories for internal and external corners (Figure 2.22).

Figure 2.21  
SRW - mitred

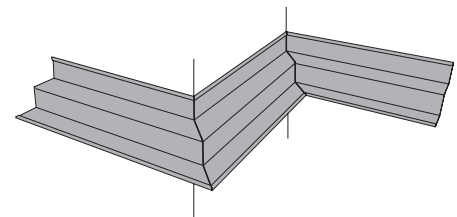
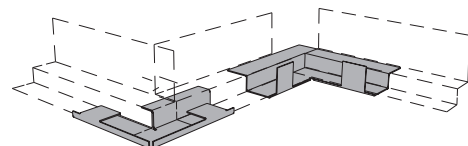


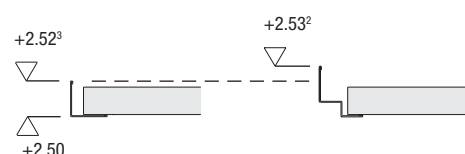
Figure 2.22  
Preformed  
moulding



### Perimeter trim installation

Due to different combination possibilities of the perimeter trim, for example, L-shaped wall angle or shadow trim, there are different installation heights (marked from the back) of the perimeter trim for the same under edge ceiling height (e.g. 2.50 m – Figure 2.23).

Figure 2.23



## Main profiles

System A2 uses T24/38 - VENTATEC® main runners as main profiles (Figure 2.24). These are identical to System C, exposed lay-in system main profiles. The profiles are available in 3600 mm and 3750 mm lengths, however, profiles should be selected according to the punches that match the tile size (hanger centres).

### Installation

Unlike the classic grid construction of a lay-in system (System C), the main runners have to be installed at a higher height than the lower horizontal leg of the perimeter trim (Figure 2.25).

Tile thickness	Height difference
15 mm	$\Delta H = \text{approx. } 8 \text{ mm}$
19 mm	$\Delta H = \text{approx. } 9 \text{ mm}$

Due to the edge configuration, the main runner opposite the under edge of the tile is set back by this dimension.

### Lay out

The main runners are set out in modules (e.g. 600 mm or 625 mm, Figure 2.26) dependent on the room layout (see chapter: Room layout).

### Cut profiles

With an exposed grid construction, such as System C, the distance of the punches (X and Y, Figure 2.27) is decisive for a suitable installation of the cross profiles. This is not applicable here. However, in order to ensure that the position of the hangers does not vary too much, the cut distance from X and Y should only differ by a few centimetres.

$$X = Y \pm 1 - 2 \text{ cm}$$

Figure 2.24

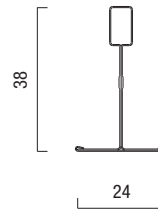


Figure 2.25

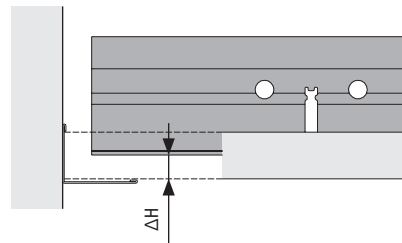


Figure 2.26

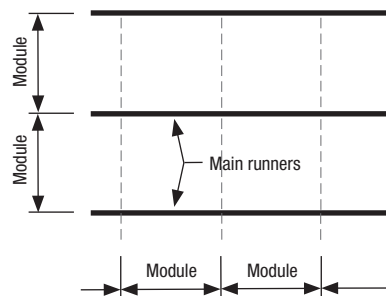
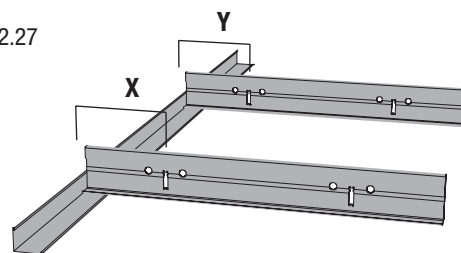


Figure 2.27



## Spacer bars

To connect the main runners, different spacer bars can be used.

These are available for different module sizes from 300 / 312.5 / 600 / 625 mm. The application does not differ in the system variations, only with regards to demounting, when more force is required.

Variant 1 and variant 3 (Figure 2.28) produce a strong, stable connection which is hard to detach when lifting tiles.

For ease of demounting in the areas around hangers (increased risk of damage), variant 2 is more suitable as it is built with more “play”.

## Lay out

Spacer bars are always situated directly alongside the hangers. The hangers should be at 1200 mm or 1250 mm centres, which also apply to the spacer bars (Figure 2.29).

This ensures that only every second tile is lay between the hangers and the spacer bars (Figure 2.30).

## Cross profiles

L-profiles are used to reinforce the tiles (Figure 2.31) and are pushed into the GN edge after the tiles have been laid (see chapter: Handling). The length of these is determined according to the tile width (tile width = profile length).

Figure 2.28

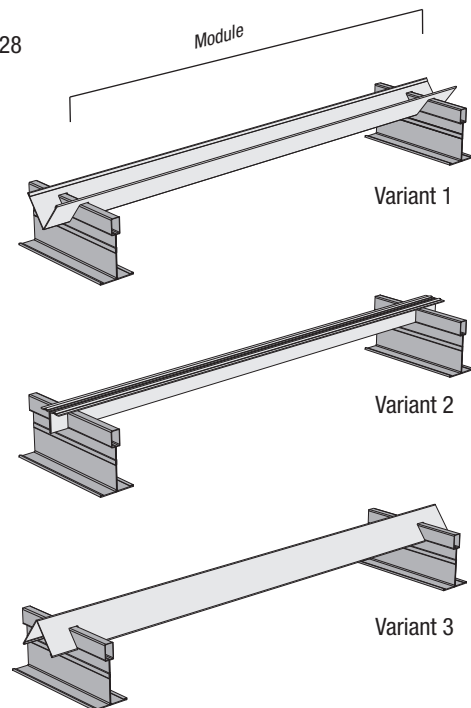


Figure 2.29

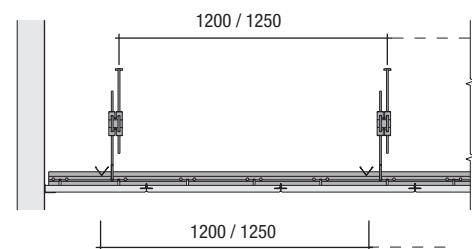


Figure 2.30

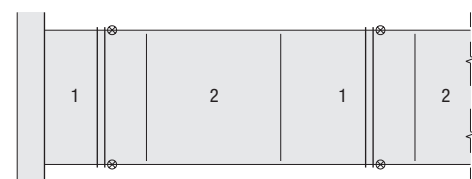
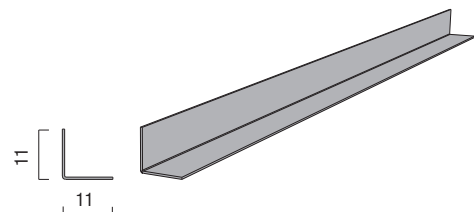


Figure 2.31



## Hangers

### Types of hangers

There are a variety of hangers available for the suspension of the grid system (Figure 2.32).

1: SHD	butterfly hanger with hook
2: SoS	quick hanger with loop
3: Ventatec Clip	clip-on butterfly hanger
4: Wire	wire min. 2mm thick
5: Ano + Anu	Nonius top and bottom parts
6: BS 10	Hanger Clickfix II
7 and 8:	direct hanger (not well suited)

When selecting a hanger, consideration should be given to achieving a slim design around the upstand of the profile.

### Hanger height

A minimum void depth of 100 mm (Figure 2.33) is required to enable easy installation of the tiles.

Due to this reason, direct hangers are not well suited.

### Distance from perimeter

The first and last hangers of the main runners are always in the area of the first or last tile (cut tile). This means the hanger can be situated no more than 50 cm from the perimeter of the ceiling (Figure 2.34).

### Quick hangers with hooks

If the system is installed to our recommendations, every second tile is blocked by spacer bars and hangers. In order that the tiles in these areas can also be removed (risk of damage in these areas cannot be eliminated), it is necessary to lay the hangers out correctly. The hooks are set out as in Figure 2.35 and all hangers should continue in the same layout, otherwise the tiles can be damaged when trying to remove them (Figure 2.36).

Figure 2.32

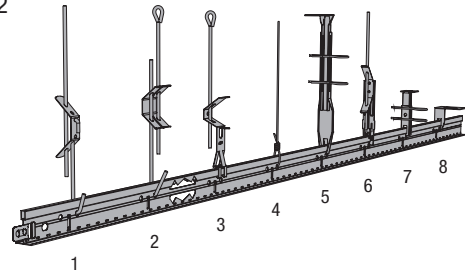


Figure 2.33

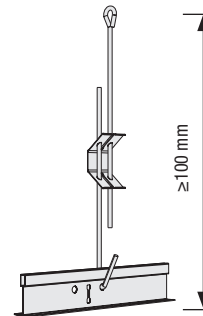


Figure 2.34

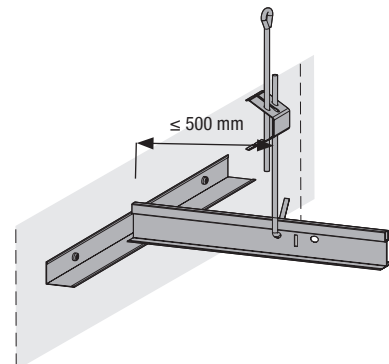


Figure 2.35

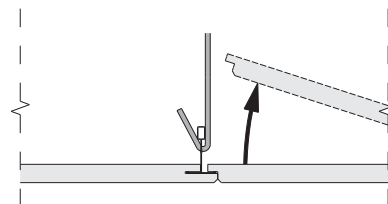
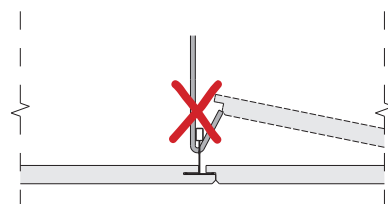


Figure 2.36

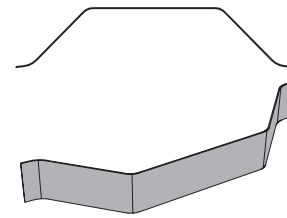


## Perimeter wedges

As in accordance with the chapter Cut tiles, as a basic rule, at least one perimeter wedge should be installed per cut edge. This is always the case with the last tile in a row and all the tiles in the last row (cut tiles).

Depending on the tightness of the wedges, it may be necessary to loosen them (with pliers), otherwise lots of force is required to install them which can lead to damaging the tiles.

Figure 2.37



## Room layout / ceiling symmetry

### Lay out

The ceiling is set out from the middle of the room in modules (module width = B).

In the example shown (Figure 2.38), there are three complete rows and a cut tile.

### Note

If the cut tile is less than half the tile width ( $B/2$ ), it will appear aesthetically poor and therefore should be avoided.

### Correction

It is aesthetically more pleasing and more efficient to install a ceiling with larger cut tiles. If, as described above, the ceiling is set out from the middle of the room but results in an unfavourable symmetry, the ceiling layout should be moved over by half a module width ( $B/2$ , Figure 2.39).

This always results in a cut tile width greater than half the module width.

### Second direction

When complete, the layout continues in the other direction. The procedure is similar to that detailed above. Starting from the middle of the room, the lay out continues in modules. If this results in a cut perimeter tile of less than half a tile width, the ceiling layout should be moved over by half a tile width resulting in a large cut perimeter tile ( $B/2$ , Figure 2.40).

### Main runner layout

The installation of the main runners can be done according to this layout. The main runners can be installed both in room width or room length direction (Figure 2.41).

Figure 2.38

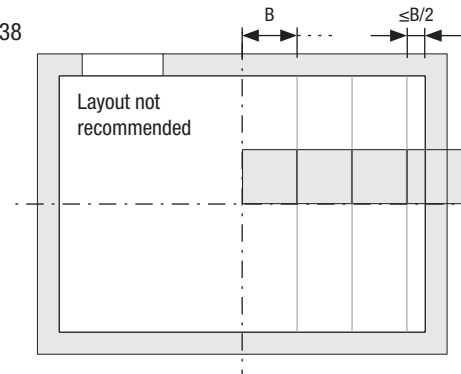


Figure 2.39

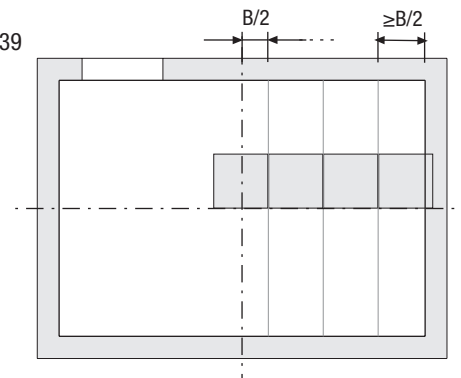


Figure 2.40

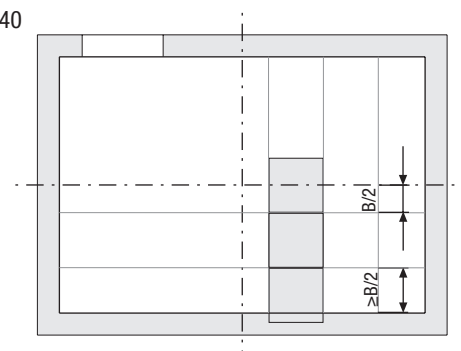
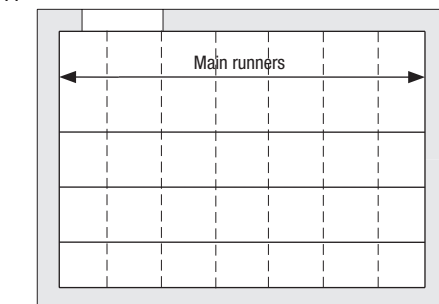


Figure 2.41



## Installation

### Step 1

All necessary preparations are to be completed including installation of the perimeter trim and hangers, main runners cut to length and mounted and spacer bars fitted (not necessary at the beginning for the entire room, but at least the row to be installed).

### Note:

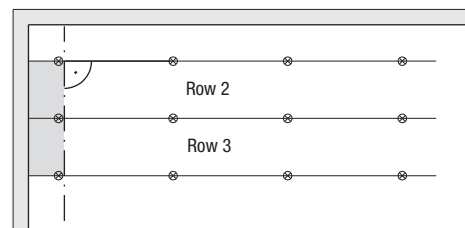
Every one of the last tiles in a row (cut tiles), is installed with a perimeter wedge.

### Step 2

As it can be difficult to align an individual main runner, we do not recommend to begin with the cut tiles (row 1). The second and third rows should be started instead (Figure 2.42). Special attention should be given to the first tiles (cut tiles) of these rows, as they will later determine the face joint pattern.

The cut tiles must be cut to the exact size and installed in alignment as well as at right angles to the main runners (Figure 2.42).

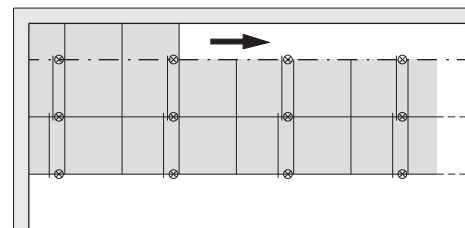
Figure 2.42



### Step 3

The cut tiles of the first row are then subsequently installed. These must be cut to the exact size required and installed without perimeter wedges (Figure 2.43). The installation of the cut tiles as the second step in the installation has the advantage that the first main runners are held in place by the other rows (2 and 3) and can not be moved. Cutting the tiles to the exact size required is therefore easier to achieve.

Figure 2.43



### Step 4

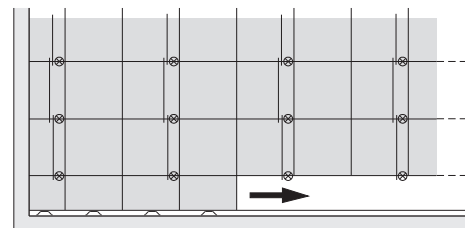
The remaining rows are completed step by step.

### Step 5

The last row is installed with a cut tile (Figure 2.44).

This is not however cut to fit exactly, but 10mm smaller as the measured size and then installed with a perimeter wedge.

Figure 2.44



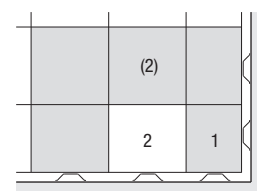
### Step 6

The corner tiles are the last to be installed (Figure 2.45).

As these are installed with perimeter wedges on two sides, it is easier to install them as the penultimate tile. The one from last tile in a row should then be installed as the last tile.

Should the installation of perimeter wedges cause a problem, they can also be installed over adjacent tiles (2).

Figure 2.45



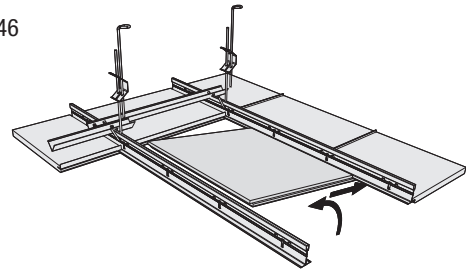
## Handling

### Step 1

To insert the tile, an area between the hangers is selected. This reduces the risk of damage due to careless handling.

In addition, it also provides sufficient space to install the reinforcement profiles. If the tile is taken in both hands on the left and right (GN sides), it can then be guided over the main runner into the ceiling void and the supporting area (similar to VT) and the opposite edge (AW) pushed onto the main runner (Figure 2.46). The tiles can then be set down.

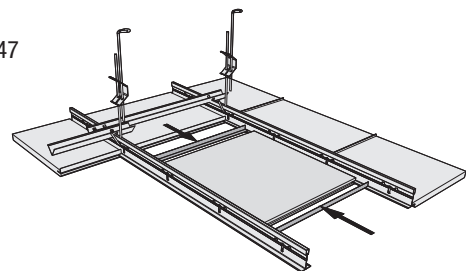
Figure 2.46



### Step 2

During the installation, the tiles can be briefly installed without reinforcement profiles, easing the handling of the tiles. As a permanent solution, every tile edge (GN edge) requires an L-reinforcement profile to be installed. This can easily be installed at this point (Figure 2.47).

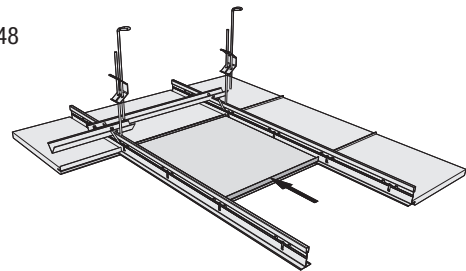
Figure 2.47



### Step 3

Finally, the tile including the reinforcement profile is pushed against the existing tile (Figure 2.48). This should be done without too much force to ensure that the joint pattern is not moved and to ensure that the tiles are not too tightly packed and remain demountable.

Figure 2.48





## Installation and removal of individual tiles

In principle, every tile in this system is directly demountable. However, there is risk of damage to the tiles in the areas around hangers and the spacer bars must also be removed. If the ceiling is to be reinstalled with the present layout, the following procedure is recommended.

Starting at the first tile of a row (cut tile), every second tile can be removed without any problem as no hangers, nor spacer bars, are present behind the tile.

### Removal

To demount the tile, it is sufficient to slightly lift the tile on one side (similar to VT) until it can be pushed over the main runner. The tile and reinforcement profile can then be removed.

### Installation

#### Step 1

Insert the reinforcement profile into the GN edge, however it should be displaced by 4 or 5 cm ( $=X$ , Figure 2.49). This is necessary so that the reinforcement profile sits on the main runner and doesn't hinder the further installation. Prepared like this, the tile can be manoeuvred into the ceiling void and the protruding reinforcement profile lay onto the main runner (Figure 2.50).

Figure 2.49

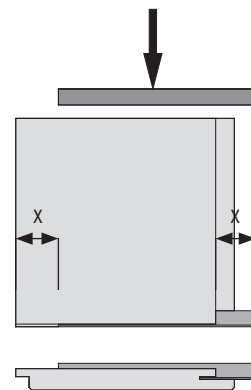
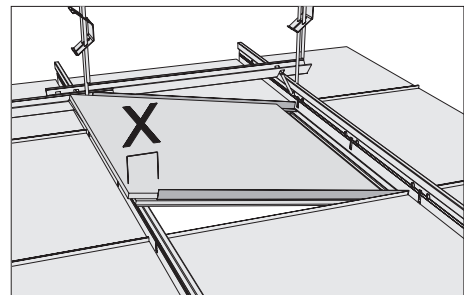


Figure 2.50



#### Step 2

Finally, the tiles are pushed in the direction of the protruding reinforcement profile and the AW edge onto the main runner (Figure 2.51 and 2.52). With a low angle (tiles only slightly lifted) this should be possible without any problems. The tile then has to be let go.

Figure 2.51

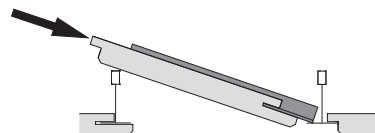
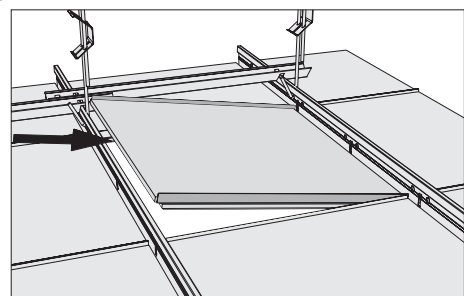


Figure 2.52



### Note

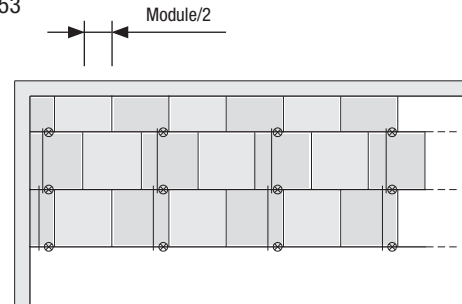
Should one of the reinforcement profiles slip during the installation, hindering the further installation of tiles, remove the tile and the reinforcement profile and repeat the installation.

## Installation – staggered formation

To install the tiles with staggered joints (without cross joints) the installation should follow as for the conventional system. The only difference is the lay out of the tiles, which are shifted half a tile width in every row (Figure 2.53).

Special attention should be given when installing the first tile in every row, as this determines the tile pattern and joint position. Due to the staggered layout, the resulting cut tiles can be both bigger and smaller than half the tiles width.

Figure 2.53



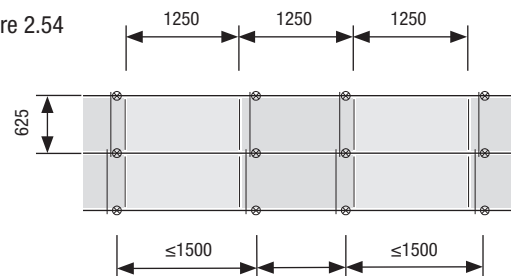
## Installation of large format tiles

If large format tiles (600 x 1200 or 625 x 1250 mm) are to be installed, this should already be taken into account when installing the hangers.

It is important to ensure that every other tile is installed without a hanger or spacer bar behind.

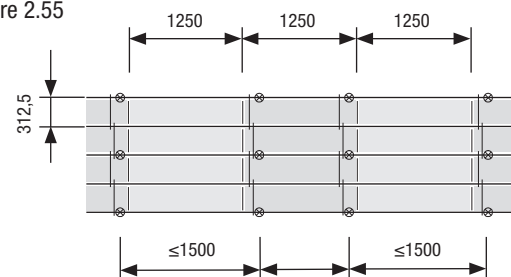
Therefore, the hanger centres (Figure 2.54) alternate between approx. 1500 mm and 1000 mm. The spacer bars are installed immediately adjacent to the hangers.

Figure 2.54



For tile widths of 300 mm or 312.5 mm, the main runner centres must be reduced accordingly (Figure 2.55). Hanger and spacer bar centres alternate as described above.

Figure 2.55

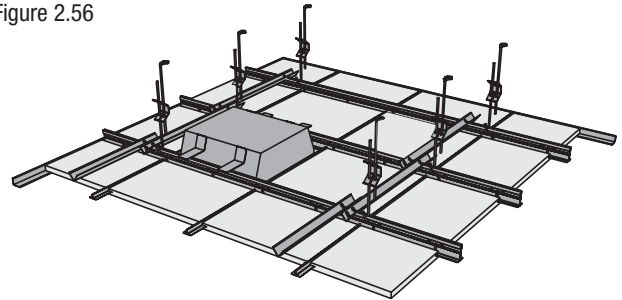


## Light fittings / additional loads

### General

There are various methods of fixing integrated services, dependent on their size and weight. Generally, in every case, further provisions need to be made to meet the required load transfer. No loading should be applied to the tiles. The only exception to this is loads less than 0.3kg where no additional provisions for load transfer are necessary.

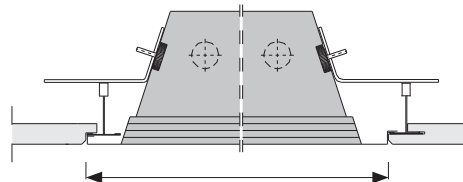
Figure 2.56



### Modular lighting

Due to the asymmetrical edge configuration of system A 1.2 (Figure 2.3), as a rule, standard light fittings can not be used. In system A 1.2 (main profiles max. 625mm and hanger centres max. 1250mm) light fittings up to 6.0kg can be installed without additional hangers. For the other systems it is necessary to install additional hangers.

Figure 2.57



### Fixtures and fittings

If fixtures such as down lighters or loud speakers etc. are not directly supported from the soffit, reinforcement should be provided to the reverse side of the tile (Figure 2.58) that transfers the weight to the grid system (according to the loading ability of the grid system with additional hangers).

When screw fixing, a pattsess e.g. plasterboard or mdf board (Figure 2.59) should be used.

Figure 2.58

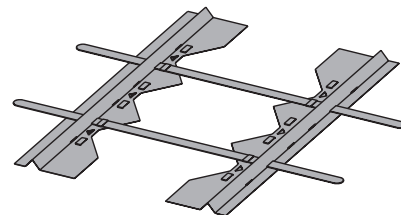
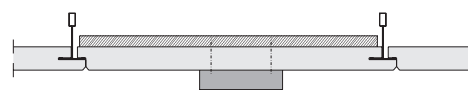


Figure 2.59



### Apertures

The maximum aperture size can not be exactly defined. We recommend, depending on the type of tile, to keep a border of at least 80mm. The bigger the aperture and the bigger the tile, the more susceptible they are to damage and breakage. In every case, careful handling of the tiles is essential.

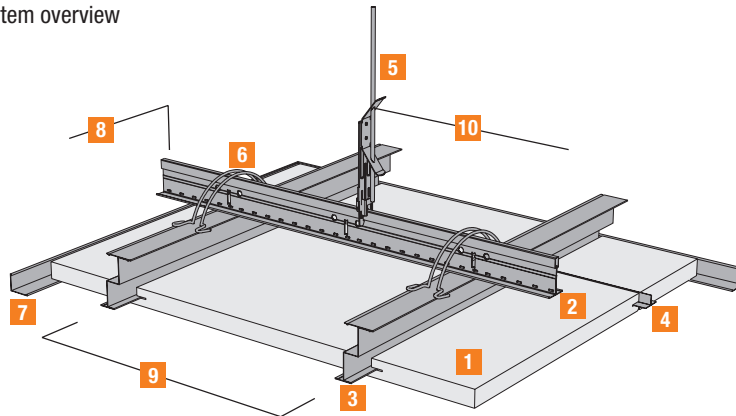
The cutting can be carried out with a Stanley knife or another suitable tool.

To ensure a central installation with the AW edge configuration, the offset between the face and reverse side of the tile should be taken into account.

## System A 1.3 - THERMATEX® demountable, Z-profile

System A 1.3 is constructed similarly to system A 1.1, but is demountable. T24/38 main runners are installed as the load bearing grid structure, using conventional hangers, to which the Z-profiles are fixed with wire clips (see system overview Figure 3.1). The tiles are demountable due to the AW edge configuration. The GN edge is reinforced with an L-section. T-profiles as used in System A 1.1 can not be used.

Figure 3.1 - System overview



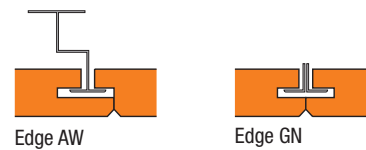
### AW/GN tiles (Figure 3.2)

The tiles have different edge configurations.

AW: demountable (installed with Z-profiles)

GN: grooved (installed with L-profiles)

Figure 3.2



### Material requirements/ key

The quantities and installation times stated in Table 3.1 are for guideline only. They do not include waste or project specific scenarios.

Table 3.1 - Requirements for every m<sup>2</sup> ceiling

Product description		Unit	Module mm			
			600 x 600	625 x 625	300 x 1200	312.5 x 1250
AMF THERMATEX® mineral tiles	1	Pcs.	2.78	2.56	2.78	2.56
Main runner T24/38 - 3600/3750	2	lin. m	0.80	0.80	0.80	0.80
Z-profile	3	Pcs.	1.67	1.60	3.34	3.20
L-cross profile	4	Pcs.	5.56	5.12	5.56	5.12
Splice for Z-profile		Pcs.	0.42	0.40	0.84	0.80
Hanger	5	Pcs.	0.64	0.64	0.64	0.64
Wire clip	6	Pcs.	2.67	2.56	5.34	5.12
Perimeter profile	7	lin. m	0.60	0.60	0.60	0.60
Perimeter wedge		Pcs.	0.30	0.30	0.30	0.30
Main runner centres	8	m	1.25	1.25	1.25	1.25
Z-profile centres	9	m	0.60	0.62	0.30	0.32
Hanger centres	10	m	1.25	1.25	1.25	1.25
Installation time		min	35	35	40	40

### Note

The main runners can impede the installation and/ or demounting of tiles. When this is the case, the tile can be inserted into an adjacent module and pushed into the correct position.

### Grid installation (Figure 3.3)

The main runners (T 24/38 Ventatec grid) are installed using quick hangers or other suitable, alternative hangers at 1250 mm centres (hanger centres max. 1250 mm). These are fixed to the soffit using approved fixings, dependent on the type of soffit. The grid is aligned and levelled. The Z-profiles are fixed to the installed main runners, using wire clips, dependent on the tile width. During the installation, the AW edge of the tile is pushed or lay-on the Z-profile. The short edges of the tiles are reinforced with L-profiles.

### Profiles (Figure 3.4)

- |                      |   |
|----------------------|---|
| 1: Main profile      | T24/38 Ventatec universal main runner<br>L = 3600 / 3750 mm   |
| 2: Z-profile         | Z19/57/34 Z-profile butt cut<br>L = 4.00 m                    |
| 3: Cross profile     | L 11/11 cross tee butt cut<br>L = 600 / 625 or 300 / 312.5 mm |
| 4: Perimeter profile | L19/24 or L24/24 Ventatec L-wall angle<br>L = 3.00 m          |

### Splices (Figure 3.5)

For a level and stable connection of the Z-profiles, splices (L = 150mm) should be used.

### Wire clips (Figure 3.6)

The Z-profiles are fixed to the main runners with wire clips. The clip must be fully pushed onto the upper leg of the Z-profile. For the installation of profiles, one wire clip at the start is sufficient and then following adjustment and tile installation, a second should be installed at every junction.

### Light fittings (Figure 3.7)

An asymmetrical light fitting is required due to the AW edge configuration. A standard light fitting is not possible:

Axis dimension = aperture = size of light fitting

Figure 3.3

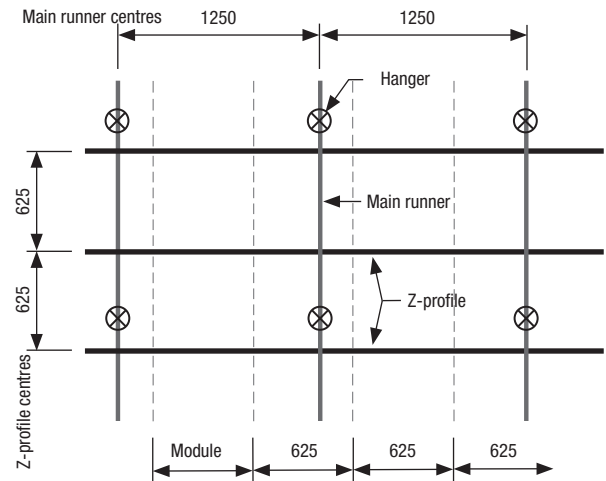


Figure 3.4

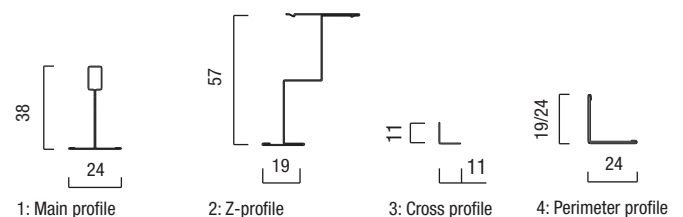


Figure 3.5

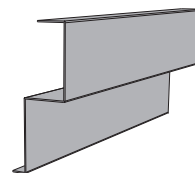
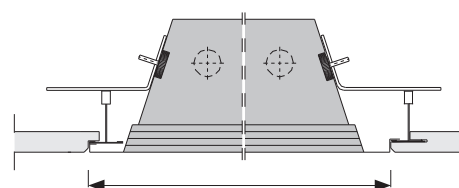


Figure 3.6



Figure 3.7

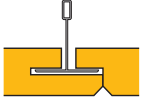
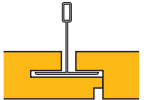
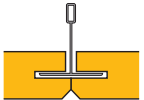


## System A 2 - HERADESIGN®

### Product Range

Product		Thickness [mm]	Weight [kg/m²]	Edge configuration	Module [mm]
Product programme HERADESIGN®	HERADESIGN® superfine	35	15.0	VK-10 VK-10/5	600/600; 600/1200
	HERADESIGN® fine	35	16.3		
	HERADESIGN® micro	35	19.0		
	HERADESIGN® superfine	25 35	11.3 15.0	VK-09	600/600; 600/1200
	HERADESIGN® fine	25 35	12.4 16.3		
	HERADESIGN® micro	25 35	15.0 19.0		
	HERADESIGN® macro	25	15.0		
	HERADESIGN® plano	25	15.0		
Product programme A2	HERADESIGN® superfine A2	25	12.0	VK-09	600/600; 600/1200
	HERADESIGN® fine A2	25	19.0		

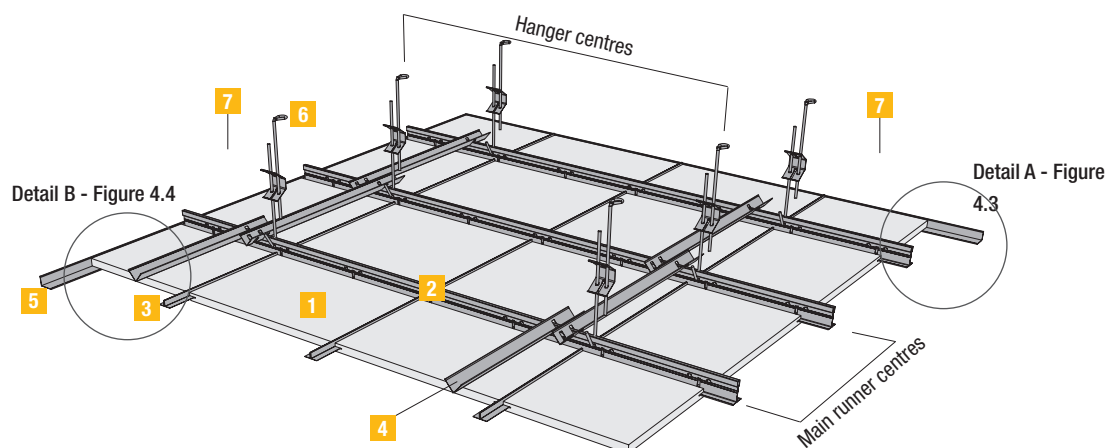
### Edge configurations

VK-10	
VK-10/5	
VK-09	

## System A 2.1 - HERADESIGN® non-accessible

System A 2.1 is a HERADESIGN® suspended ceiling with concealed T-profiles. The push-in installation and the use of tiles with a VK 09 edge configuration mean the tiles are non-accessible. Using suitable hangers, the T35/38 main runners (DONN® DX35) are installed as main profiles (see system overview Figure 4.1).

Figure 4.1 - System overview

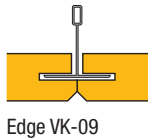


**VK tiles** (Figure 4.2)

The tiles have the following edge configuration:

**VK-09:** grooved and beveled on all sides, 5 mm bevel

Figure 4.2



Edge VK-09

**Material requirements/ key**

The quantities and installation times stated in Table 4.1 are for guideline only. They do not allow for waste or project specific scenarios.

**Note**

**Cross bracing:** If the cross profiles are not anchored in the main runners (butt cut T-profiles pushed together), the system must be cross braced with spacer bars (see system overview, No. 4). The spacer bars are lay out so that over every second tile a spacer bar is present at maximum 1250 mm centres.

**Access to the ceiling void:** Access to the ceiling void is via integrated maintenance openings. For every maintenance opening, the two main runners each require an additional hanger around the middle of the tile.



For the implementation requirements see DIN 18168 part 1 "Lightweight ceiling linings and suspended ceilings", or DIN-EN13964 "Suspended ceilings – requirements and test methods".

**Table 4.1 – Requirements for every m<sup>2</sup> ceiling**

	Product description	Article number	Module [mm]	
			600 x 600	600 x 1200
1	HERADESIGN® Wood wool tile		2.78 Pcs.	1.39 Pcs.
2	Main runner	DX35 XH 370 W	1.70 lin. m	1.70 lin. m
3	Cross profile	DCT 60	2.78 lin. m	1.39 lin. m
4	Spacer bar	DMK 60/62.5	1.39 lin. m	1.39 lin. m
5	Perimeter trim		0.40 lin. m	0.40 lin. m
6	Hanger		1.38 Pcs.	1.38 Pcs.
7	Perimeter wedges	DCC 8	0.80 Pcs.	0.80 Pcs.

All figures are estimates and do not include waste.

**Table 4.2 – maximum permitted weight for every m<sup>2</sup> ceiling when using Nonius hangers**

Hanger centres	Module [mm]	
	600 x 600	600 x 1200
	Main runner centres	
	600 mm	600 mm
800 mm	30.0 kg	30.0 kg
1000 mm	30.0 kg	30.0 kg
1200 mm	20.0 kg	20.0 kg
<b>Note:</b> The load per m <sup>2</sup> must be distributed evenly (no extra point loads permitted). Deflection after loading is in accordance with class 1 (L/500) of EN 13964 when the grid structure is installed as shown.		
		
For other constructions, loads or hanger centres, please contact Knauf AMF.		

## Installation

Install the perimeter trim **5** at the required height.  
Lay out the modules with equal perimeter fields.

Install the hangers **6** or stagger sliders with slotted metal strips and hang and align the main runners **2**.

Stagger the hanger and grid joints and install an additional hanger at every joint. Starting in the middle of the room, insert the HERADESIGN® acoustic tiles in fields. To insert the tiles, the main runners must be pushed apart.

Install spacer bars **4** and cross profiles **3** as cross bracing. Install perimeter tiles with a 10 mm gap on the perimeter trim **5** and fix with perimeter wedges **7**.

If a mineral wool overlay is required, it must be in tile format and installed step by step with the tiles.

Figure 4.3 - Perimeter connection Detail A

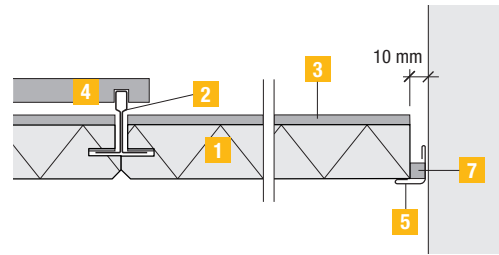
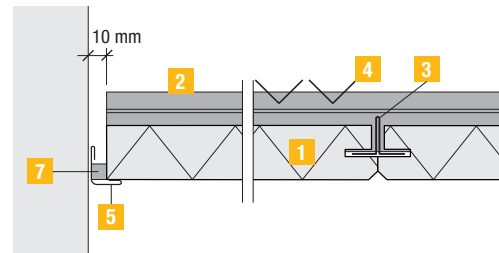


Figure 4.4 - Perimeter connection Detail B



## Note

For suspended ceilings that are subject to vibrations and for large suspension heights, or where the hangers are fixed to steel or wood substructures, an adequate number of hangers must be set diagonally in both directions in order to minimise the swaying of the ceiling. Ceiling statics are necessary.

Mineral wool or film overlays are installed step by step with the acoustic tiles. Film joints and connections must be taped. PE films up to 30 µm thick do not impair acoustic absorption of the absorber and serve as trickle protection.

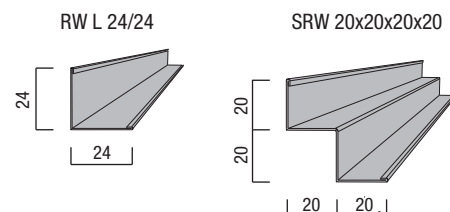
The corrosion protection of all metal parts must be in accordance with the prevailing conditions in the room. Tiles which are damaged, soiled or have colour deviations may not be installed.

## Perimeter profiles

### Formats

A variety of profiles are available for the perimeter connection of the suspended ceiling:

	Thickness	Length	Article number
Wall angle 24/24	0.5 mm	3.00 m	RW L24/24
Shadow trim 20/20/20/20	0.7 mm	3.05 m	SRW 20x20x20x20

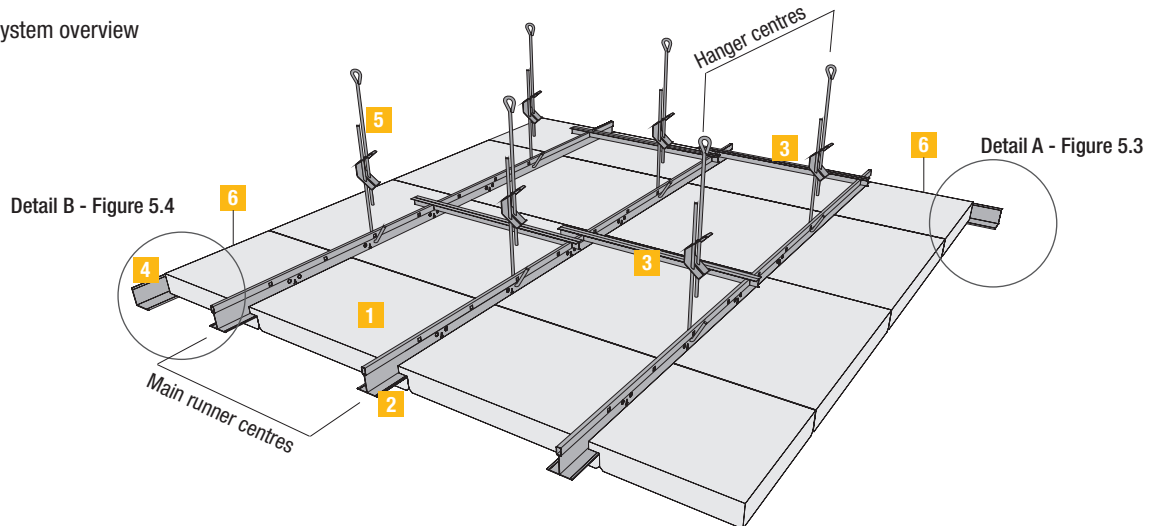




## System A 2.2 - HERADESIGN® demountable

System A 2.2 is similarly constructed to system A 2.1, but is demountable. The VK-10 and VK-10/5 edge configurations of the ceiling tiles make the system demountable. Using suitable hangers, the T35/38 main runners (DONN® DX35) are installed as main profiles (see system overview Figure 5.1).

Figure 5.1 - System overview



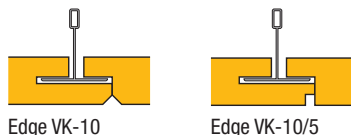
### VK tiles (Figure 5.2)

The tiles have different edge configurations

**VK-10:** long side grooved and all-round bevel, 5 mm bevel

**VK-10/5:** long side grooved and all-round square edge with 5 mm gap

Figure 5.2



### Material requirements / key

The quantities and installation times stated in Table 5.1 are for guideline only. They do not allow for waste or project specific scenarios.

### Note

**Cross bracing:** As there are no cross profiles between the main runners, spacer bars must be used to cross brace the system. The spacer bars are lay out so that over every second tile a spacer bar is present at maximum 1250 mm centres. Every second tile is then immediately demountable.

**Access to the ceiling void:** Every second tile is demountable. Determine the movable end of the tile and then push the tile upwards and diagonally remove from the grid. For larger access openings, remove the spacer bars from surrounding tiles and demount the tiles. When reinstalling the tiles, ensure the spacer bars are also reinstalled.



For the implementation requirements see DIN 18168 part 1 "Lightweight ceiling linings and suspended ceilings", or DIN-EN 13964 "Suspended ceilings – requirements and test methods"

Table 5.1 - Requirements for every m² ceiling

Product description		Article number	Module	
			600 x 600	600 x 1200
1	HERADESIGN® Wood wool tile		2.78 Pcs.	1.39 Pcs.
2	Main runner	DX35 XH 370 W	1.70 lin. m	1.70 lin. m
3	Spacer bar	DMK 60/62.5	1.39 lin. m	1.39 lin. m
4	Perimeter trim		0.40 lin. m	0.40 lin. m
5	Hanger		1.38 Pcs.	1.38 Pcs.
6	Perimeter wedge	DCC 8	0.80 Pcs.	0.80 Pcs.

All figures are estimates and do not include waste.

Table 5.2 - maximum permitted weight for every m² ceiling when using Nonius hangers

Hanger centres	Module [mm]	
	600 x 600	600 x 1200
	Main runner centres	
	600 mm	600 mm
800 mm	30.0 kg	30.0 kg
1000 mm	30.0 kg	30.0 kg
1200 mm	20.0 kg	20.0 kg
<b>Note:</b> The load per m² must be distributed evenly (no extra point loads permitted). Deflection after loading is in accordance with class 1 (L/500) of EN 13964 when the grid structure is installed as shown.		
		
For other constructions, loads or hanger centres, please contact Knauf AMF.		

## Installation

Install the perimeter trim **4** at the required height.  
Lay out the modules with equal perimeter fields.

Install the hangers **5** or stagger sliders with slotted metal strips and hang and align the main runners **2**.

Stagger the hanger and grid joints and install an additional hanger at every joint. Starting in the middle of the room, insert the HERADESIGN® acoustic tiles in fields.

Install spacer bars **3** and cross profiles as cross bracing. Install perimeter tiles with a 10 mm gap on the perimeter trim **4**, and fix with perimeter wedges **6**.

If a mineral wool overlay is required, it must be in tile format and installed step by step with the tiles so that the acoustic tiles can be pushed upwards for access to the ceiling void.

## Note

For suspended ceilings that are subject to vibrations and for large suspension heights, or where the hangers are fixed to steel or wood substructures, an adequate number of hangers must be set diagonally in both directions in order to minimise the swaying of the ceiling. Ceiling statics are necessary.

The corrosion protection of all metal parts must be in accordance with the prevailing conditions in the room. Tiles which are damaged, soiled or have colour deviations may not be installed.

Minimum suspension height: To install the tiles without any problem, a minimum suspension height of 14 cm is required with wire hangers or flat hangers or 19 cm for suspensions with sliders or Nonius hangers.

Suspension height: Distance between under edge of T-profile to the under edge of soffit. For mineral wool overlays, the minimum suspension height must be increased by the thickness of the mineral wool.

## Perimeter profiles

### Formats

A variety of profiles are available for the perimeter connection of the suspended ceiling:

	Thickness	Length	Article number
Wall angle 24/24	0.5 mm	3.00 m	RW L24/24
Shadow trim 20/20/20/20	0.7 mm	3.05 m	SRW 20x20x20x20

Figure 5.3 - Perimeter connection Detail A

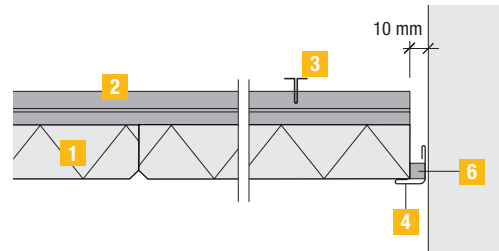
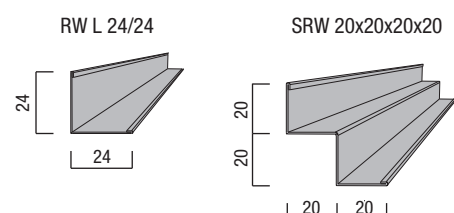
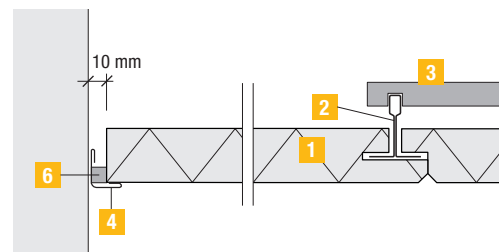
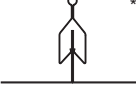
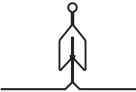



Figure 5.4 - Perimeter connection Detail B



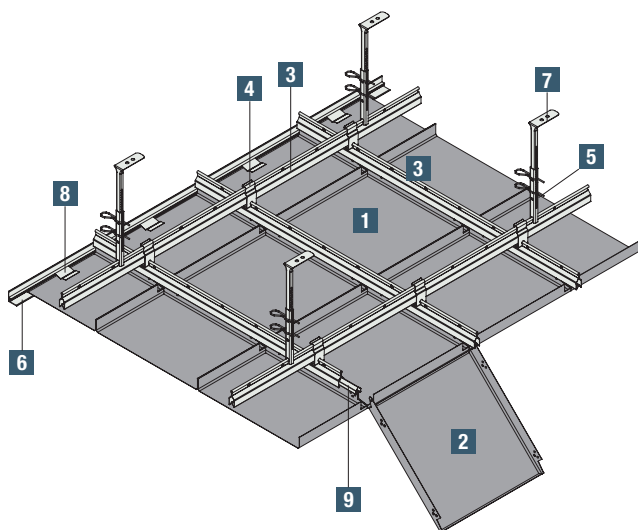
## System A 4 - MONDENA®

	Product	Thickness [mm]	Weight [kg/m <sup>2</sup> ]	Edge configuration	Module [mm]		
Product programme MONDENA®	Square cassette	0.6	5.5 - 6.0	with all-round 45° Sharp edge	600/600, 625/625 * 675/675	Clip-in Sharp edge	 no bevel
	Plank cassette	0.6	5.5 - 6.0	Square edge no bevel	L = 800 - 3000, B = 250 - 625	Clip-in bevel	 45° bevel
	Plank cassette	0.6	5.5 - 6.0	Hook-on system with square edge	L = 800 - 3000, B = 250 - 625	Hook-on SK	 hook-on system

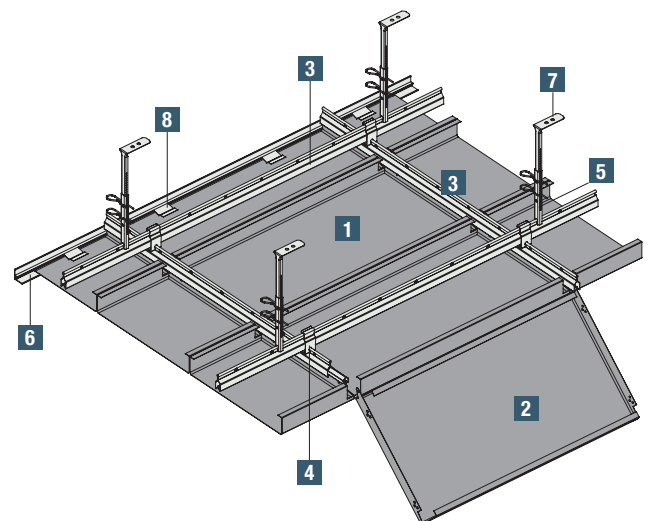
### System A 4.1 - MONDENA® clip-in system square /plank cassettes

System A 4.1 (clip-in system) is quick and efficient both in terms of installation and maintenance, as each individual tile can be removed or optionally swung down (clip-in swing-down variant) giving access to the ceiling void.

- Concealed grid construction
- The ceiling tiles can be individually removed at any time or optional swing-down
- Easy to adjust to the room geometry
- Efficient and simple installation
- Can be used for both small and large areas
- Ideal for administrative and industrial buildings, retail spaces, department stores, exhibition rooms, office buildings, service rooms, sanitary facilities, technical rooms, commercial kitchens (according to local trade controls) etc.



Clip-in system square cassette as clip-in swing-down variant





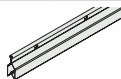


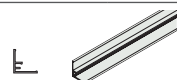


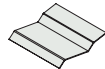
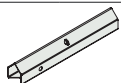


Clip-in system plank cassette as clip-in swing-down variant

### Material requirements/ key

The quantities and installation times stated are for guideline only.

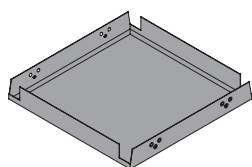
They do not include waste or project specific scenarios.

Product				Description		Weight	Module mm / requirement for every m² ceiling			
						kg / PU	Unit	600 x 600	625 x 625	600 x 1500
1	Clip-in cassette - square / plank tiles			Galvanised steel 0.6 mm 45° bevel, all-round	Galvanised steel 0.6 mm square edge no bevel	--	Pcs.	2.78	2.56	1.11
2	Clip-in/swing-down cassette - square / plank tiles			Galvanised steel 0.6 mm 45° bevel, all-round	Galvanised steel 0.6 mm square edge no bevel	--	Pcs.			
3	Clip-in profile			Galvanised steel 0,6 mm 16 x 38 mm Length: 4000 mm		18.00	lin. m	2.4	2.2	1.67
4	Cross connector for clip-in profile			Galvanised steel 0.6 mm 28 x 54 mm		1.40	Pcs.	1.2	1.1	0.67
5	Nonius hanger (lower part)			Galvanised steel 1.00 mm, 15 x 9,5 mm Length: 190 mm		3.00	Pcs.	1	1	0.67
6	Perimeter trim			Aluminium 1.5 mm L / 25 x 25 mm with groove for spring clip Length: 4000 mm		8.40	lin. m	As required		
	Shadow trim (optional)			Aluminium 1.5 mm W / 25 x 20 x 20 x 25 mm with groove for spring clip Length: 4000 mm		13.60	lin. m	As required		
7	Nonius hanger (upper part) sourced on site			Galvanised steel 1.00 mm 15 x 9.5 mm Length: 85 - 440 mm		3.00	Pcs.	1	1	0.67
8	Spring clip			Aluminium 0,5 mm 38 x 40 mm		0.22	Pcs.	3-4	3-4	4-6
9	Splice for clip-in profile			Galvanised steel 0.6 mm 15 x 18 mm Length: 100 mm		2.00	Pcs.	0.4	0.4	0.42

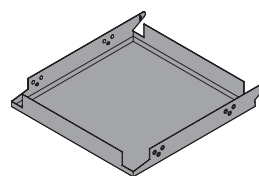
### Clip-in cassettes or clip-in swing-down cassettes

Square cassette: The edge configuration has an all-round 45° bevel (5 mm)

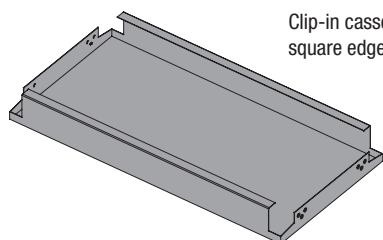
Plank cassette: square edge – no bevel



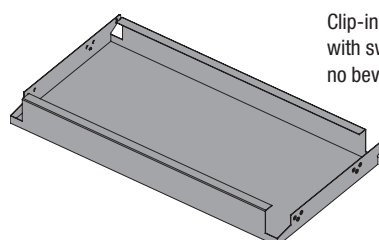
Clip-in cassette, square with 45° bevel



Clip-in cassette, square with swing-down function, 45° bevel (clip-in swing-down variant)



Clip-in cassette, plank square edge, no bevel



Clip-in cassette, plank with swing-down function, no bevel (clip-in swing-down variant)

## Technical Properties

System	Clip-in system or clip-in system with swing-down function (clip-in swing-down variant)
Material	Galvanised sheet steel 0.6 mm
Dimensions	600 x 600 mm, 625 x 625 mm, 675 x 675 mm Plank format: length= 800 - 3000 mm, width= 250 - 625 mm
Weight / m <sup>2</sup>	Galvanised steel 0.6 mm plain approx. 6.0 kg/m <sup>2</sup> (approx. 5.5 kg/m <sup>2</sup> perforated) Aluminium 0.7 mm plain approx. 5.0 kg/m <sup>2</sup> (approx. 4.5 kg/m <sup>2</sup> perforated)
Edge configuration square cassette	4-sides with 45° bevel (only square) - except 675 mm size (only sharp edged) Short side: 2 x H= 30 mm with clip-in pips (optional with swing-down tab) Short side: 2 x H= 30 mm no clip-in pips, no swing-down tab
Edge configuration plank cassette	square edge - no bevel Short side: H= 30 mm with clip-in pips (optional with swing-down tab) Long side: H= approx. 40 mm according to structural requirements, with internal C edge 13 mm
Perforation	Standard perforation patterns Rg 1613, Rd 1625, Rg 2516, Rd 3022 plain border all-round (other perforations on request)
Coating	Powder coated pure white similar to RAL 9010, matt, gloss level 20%, HYGIENE coating on request
Building material class	A2-s1,d0 according to EN 13501-1
Light reflection as per EN 5036	approx. 90 % pure white similar to RAL 9010, matt, gloss level 20%, unperforated (standard)

The metal cassettes / tiles are produced in accordance with TAIM and EN 13964.

### Installation guidelines

The perimeter connection is carried out using wall angle or shadow trim.

After aligning the upper clip-in profile, the lower clip-in profile for the cassettes is connected with cross connectors in cassette modules and the cassettes clipped-in, row by row.

### Perimeter trims

For connecting to surrounding walls (solid or light-weight partition) and supports, the following profiles are available.

Figure 6.1 - Aluminium perimeter trim



Figure 6.2 - Aluminium shadow trim (optional)

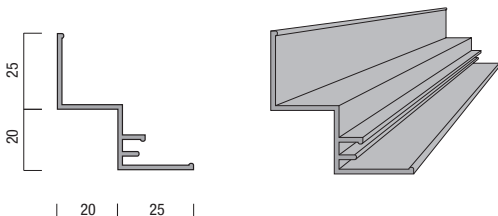


Figure 6.3

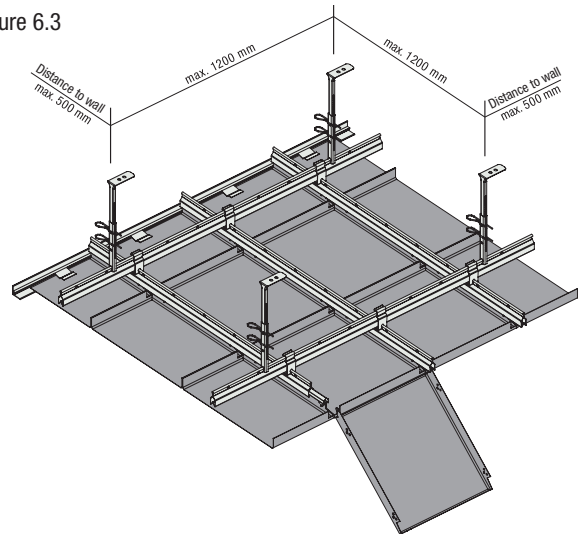
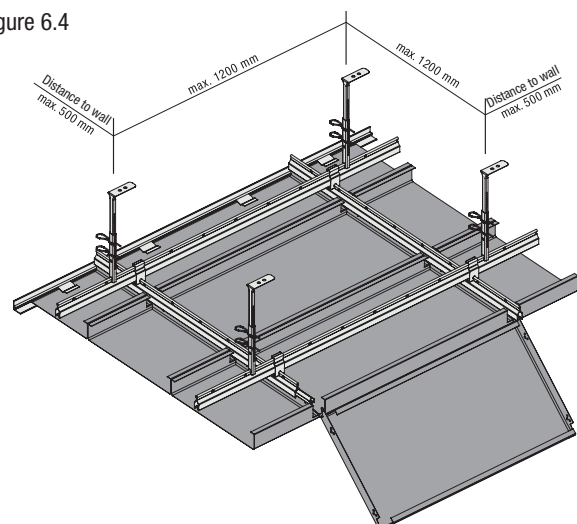


Figure 6.4



### Marking out (Figure 6.5)

The position of the Nonius hanger upper parts (as per DIN 18168) must be marked out on the soffit before installation (laser, tape measure, chalk line, etc.). Drill and install the plugs and fix the Nonius upper parts, adjusting to approximate height.

The perimeter trim must be fixed at the required height with suitable fixings before installing the grid structure. The perimeter trim should be mitred.

### Installation (Figure 6.6)

The upper clip-in profiles are fixed to the soffit with hangers (Nonius lower parts for clip-in profiles + upper parts) according to the structural requirements. The minimum suspension height is approximately 280 mm (soffit to under edge of suspended ceiling). The clip-in profiles are extended in alignment with splice connectors and the joints should be staggered across the entire ceiling area. A hanger should be fixed near every joint (max. 100 mm).

Normally, the lower clip-in profiles are lay out to run parallel with the long side of the room.

Push the cross connectors onto the upper clip-in profile and fix the lower clip-in profile. Together with the cross connectors, push the Nonius lower parts on to the upper clip-in profile. Then fix the upper profile, with the Nonius lower parts + cross connectors pushed on, to the upper Nonius hanger parts with two security pins. Cut the clip-in profiles to the required size, pushing splice connectors in at clip-in profile joints.

### Installing the metal cassettes

Starting with the longest room side, install the first complete row of tiles and with the aid of a guide string (or laser), place the tiles (corner to corner) in an exact row parallel to the wall (avoid unevenness of the tiles). Install the cut cassettes in the open area between the installed row of cassettes and the wall.

### Cut tiles

To cut the metal tiles by using either a band saw with metal blade or electric nibbler. Please use the spring clips to hold down the cut metal tiles. The cut cassettes are pushed in from below at a slight angle between the upper edge of the perimeter trim and the lower edge of the clip-in profile. Tilt the front edge of the cassette slightly towards the perimeter trim edge and push in. Push the cassette upstand up into the clip-in profile. In corners, always install the corner cassette cut on two sides first and then the adjacent cut tiles. Continue the installation with the next complete row of cassettes as previously described.

Figure 6.5:

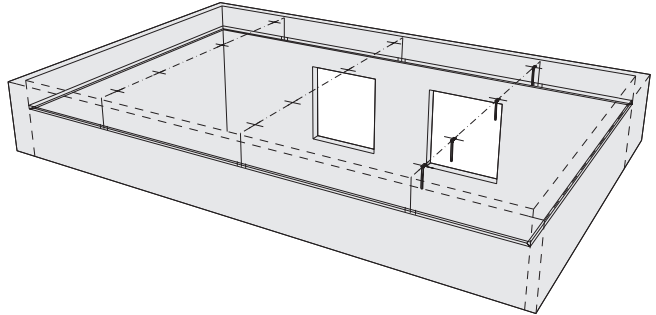
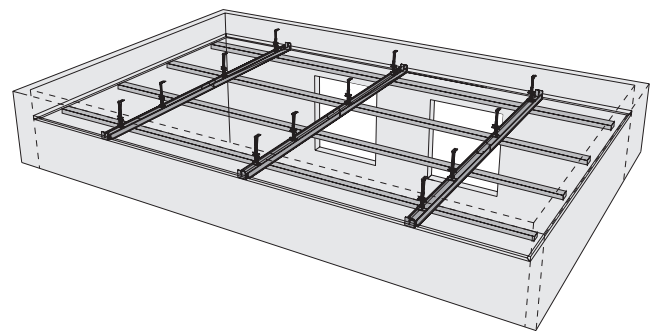


Figure 6.6



For cut cassettes at the perimeter, the cut edge is held in place on the perimeter trim with perimeter wedges. Fixtures such as lighting, ventilation, sprinkler systems etc. must be additionally and separately supported.

Dimensions of the cut cassette = dimension from the cassette edge to the front edge of the perimeter profile + 15 mm for supporting area.

### General

Generally, additional loads must be supported from the soffit with additional hangers. Integrated fittings such as downlights, loud speakers etc. require reverse side reinforcement to transfer the load to the grid system (additional hangers required for the grid profiles). Check the ceiling void for low hanging services and where necessary agree required measures with the site manager.

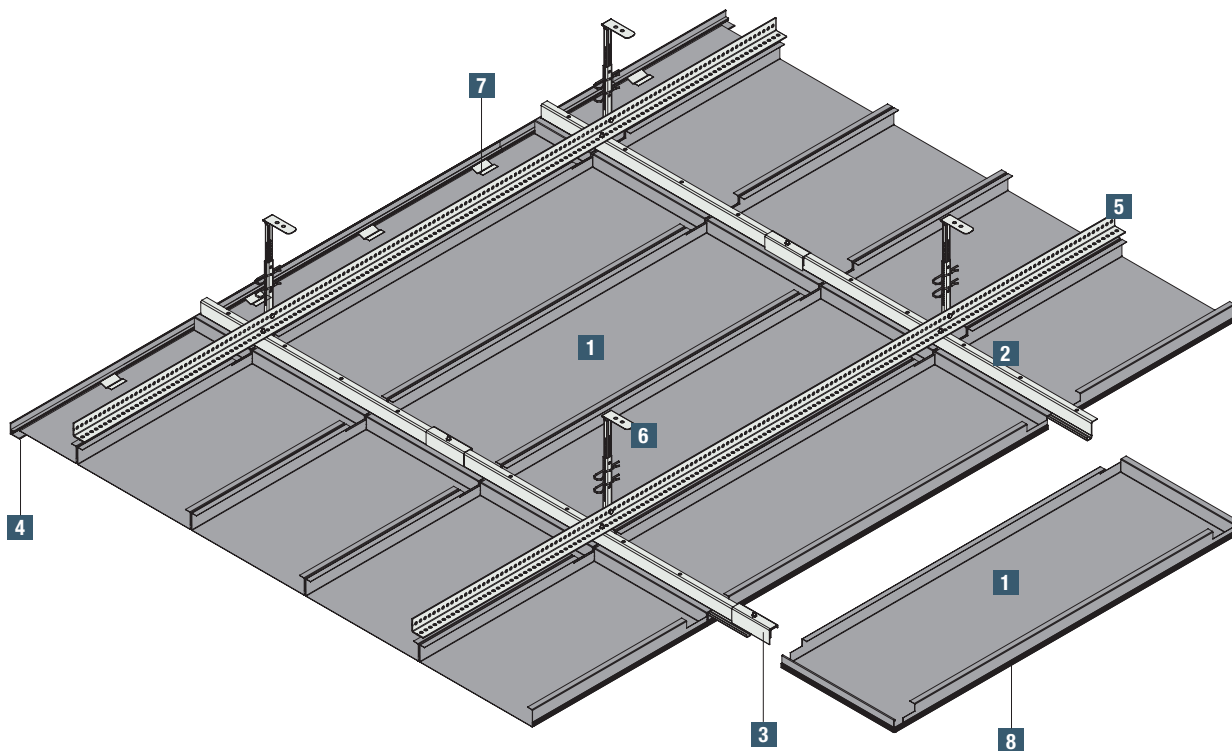
### Demounting

Always remove cassettes by inserting a removal tool into the clip-in profile at the corner of the cassette. Note: Do not insert the removal tool in the gap of installation holes. No other methods may be used to remove the ceiling tiles / cassettes

## System A 4.2 - MONDENA® Hook-on system - planks

The hook-on system A 4.2 is a quick and efficient system both in installation and maintenance as the ceiling void can be easily accessed without tools.

- Concealed substructure
- Flexible system, simple planning
- Numerous application areas
- Good sound absorption due to large absorption area
- Easy installation, alignment and demounting - low maintenance system
- Convenient access to ceiling void, without use of tools
- The system is suitable for corridors and large areas or public areas, as well as heated/chilled ceilings



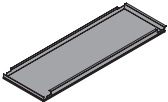
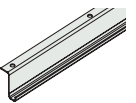
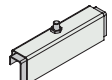
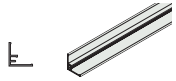
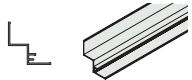
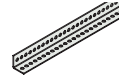
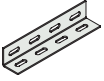

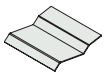

The grid angle shown serves as a cross profile to reinforce and fix the Z hook-on profiles. Other L-angle profiles, minimum 1 - 2.00 mm thickness and 30 x 30 mm can be used.



### Material requirements/ key

The quantities and installation times stated are for guideline only.

They do not allow for waste or project specific scenarios.

Product			Description	Module / requirement per m <sup>2</sup> ceiling	
				Length: 800 - 3000 mm Width: 250 - 625 mm	
1	Plank tile for hook-on system		Galvanised steel 0,6 mm square edge 1200 mm 1800 mm	Depending on tile size	
				1200 mm	1800 mm
2	Z – hook-on profile		Galvanised steel 1,25 mm 19 x 38 x 15 x 7 mm Length: 4000 mm	0.84 m	0.56 m
3	Z – hook-on profile connector		Galvanised steel 1.25 mm, 2 - part Length: 100 mm / 18 x 18 mm Length: 100 mm / 35 x 22.5 x 7	0.21 Pcs.	0.14 Pcs.
4	Perimeter trim		Aluminium 1.5 mm RWL 25/25 M with groove for spring clip Length: 4000 mm	As required	As required
	Shadow trim (optional)		Aluminium 1.5 mm SRW 25/20/25 M with groove for spring clip Length: 4000 mm	As required	As required
5	Grid angle		Galvanised steel 2.0 mm L / 30 x 30 mm Length: 4000 mm both legs drilled at regular intervals	0.84 m	0.84 m
	Grid angle connector		Galvanised steel 2.0 mm L / 30 x 30 mm Length: 150 mm drilled at regular intervals to fit grid angle	0.21 Pcs.	0.21 Pcs.
6	Nonius hanger		Galvanised steel 1.25 mm 15 x 9.5 mm Length: according to client requirements	0.7 Pcs.	0.7 Pcs.
7	Spring clip		Aluminium 0.5 mm 38 x 40 mm	Approx. 4 Pcs.	Approx. 4 - 5 Pcs.
8	Sealing strip		9 x 3 mm (1x short and 1x long side) factory applied	--	--

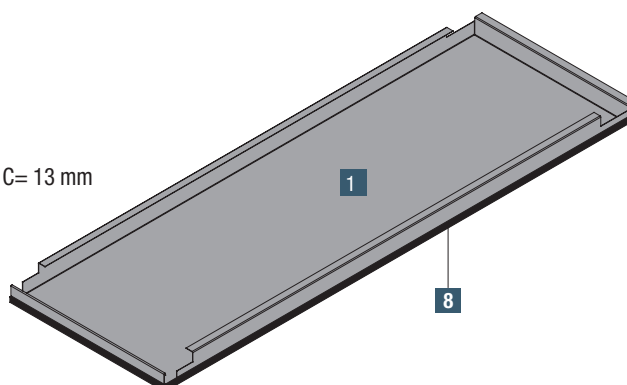
### Plank tiles – hook-on system

Edges:

Short side 1: H= 30.6 mm, Z = approx. 15 mm outwards;

Short side 2: inward hook, H= 30 mm;

Long side: H= approx. 35 - 45 mm, according to structural requirements, C= 13 mm



The metal cassettes / tiles are produced in accordance with TAIM and EN 13964.



### Technical Properties

System	Plank tiles for concealed hook-on system (plain or perforated)
Material	Galvanised steel 0.6 mm
Size / module	Length: 800 - 3000 mm, width: 250 - 625 mm
Edge configurations	square edge with sealing strip 9 x 3 mm, 1x short side , 1x long side
Perforation	Standard perforation patterns Rg 1613, Rd 1625, Rg 2516, Rd 3022 (other perforation patterns on request)
Coating	Powder coated pure white similar to RAL 9010, matt, gloss level 20% HYGIENE coating on request
Building material class	A2-s1,d0 as per EN 13501-1
Light reflection as per EN 5036	approx. 90 % pure white similar to RAL 9010, matt, gloss level 20%, unperforated (standard)

The metal cassettes / tiles are produced in accordance with TAIM and EN 13964.

### Perimeter trims

For connecting Knauf AMF metal ceilings to surrounding walls (solid or light-weight partition) and supports, the following profiles are available.

Figure 7.1 - Wall angle

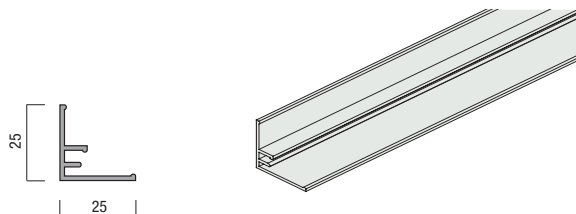
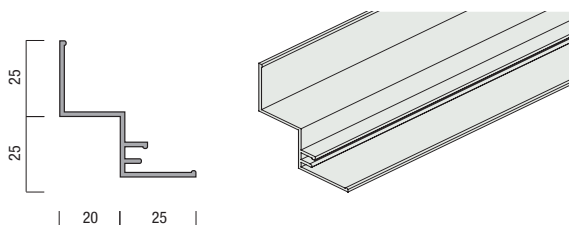


Figure 7.2 - Shadow trim (optional)

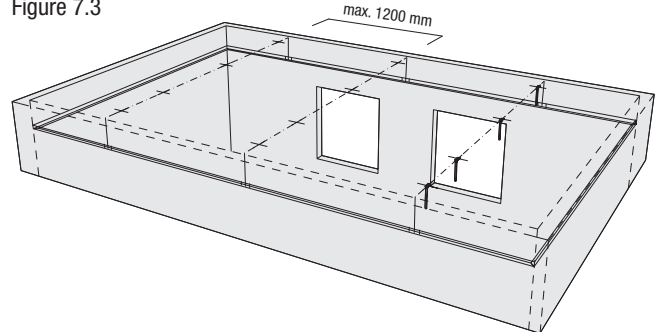


### Marking out (Figure 7.3)

The position of the Nonius hanger upper parts (as per DIN 18168) must be marked out on the soffit before installation (laser, tape measure, chalk line, etc.). Drill and install the plugs and fix the Nonius upper parts, adjusting to approximate height.

The perimeter trim must be fixed at the required height with suitable fixings before installing the grid structure. The perimeter trim should be mitred.

Figure 7.3



### Installation (Figure 7.4)

Fix the pre-drilled grid angles as cross profiles at 1200 mm centres, to the Nonius hangers. The grid angles should be fixed together with grid angle connectors. The Z hook-on profiles are fixed to the grid angles as long profiles with M6 bolts. The Z hook-on profiles are connected together using Z hookon profile connectors. Once the substructure is fixed, the Nonius hangers must be adjusted to the exact, required height.

### First element

Starting with the longest room side, install the first complete row of tiles and with the aid of a guide string (or laser), place the tiles (corner to corner) in an exact row parallel to the wall (avoid unevenness of the tiles). Install the cut cassettes in the open area between the installed row of cassettes and the wall.

Dimensions of the cut cassette = dimension from the cassette edge to the front edge of the perimeter trim + 15 mm for supporting area.

### Handling

The cut cassettes are pushed in from below at a slight angle between the upper edge of the perimeter trim and the lower edge of the clip-in profile. Tilt the front edge of the cassette slightly towards the perimeter

trim edge and push in. Push the cassette upstand up into the clip-in profile. In corners, always install the corner cassette cut on two sides first and then the adjacent cut tiles. Continue the installation with the next complete row of cassettes as previously described. With open gaps at the wall, the first row can begin directly on the wall as long as care is taken that the tiles long side is perpendicular to the wall.

Always ensure the short side hooks/flanges are facing in the same direction.

### Demounting

Corridors: Lift the tiles out without using tools.  
Rooms: Lift the tiles short side with the Z outward edge approx. 40 mm and the short side with the inward hook approx. 10mm and pull the tile out in the long direction of the Z-profile

Figure 7.4

