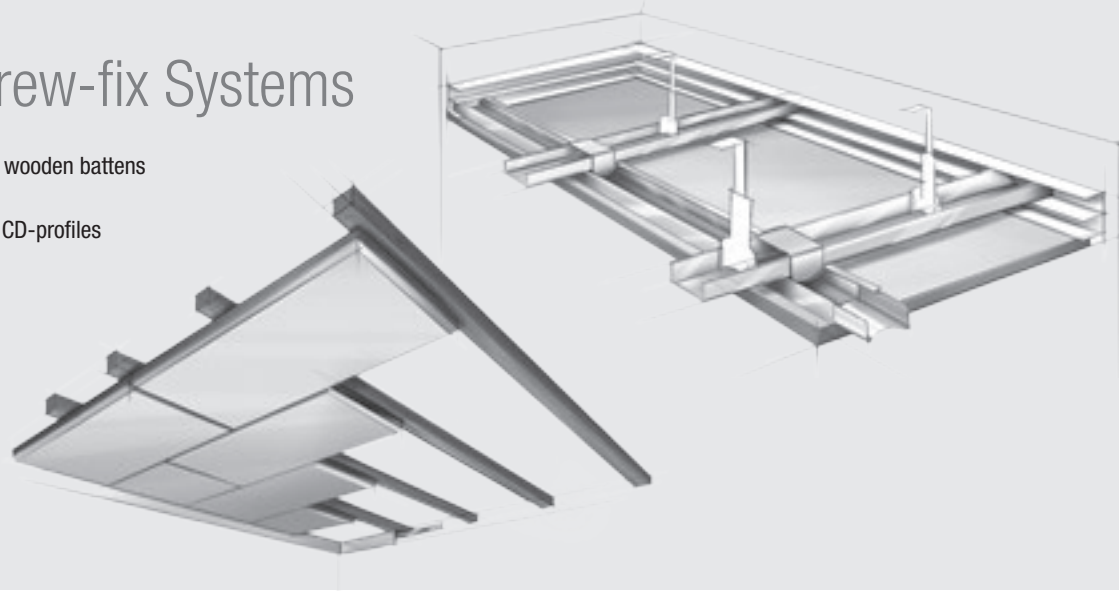


# System B - Screw-fix Systems

System B 2.1: HERADESIGN® on wooden battens








System B 2.2: HERADESIGN® on CD-profiles



## Product Range

Product		Thickness [mm]	Weight [kg/m²]	Edge configuration <sup>2)</sup>	Main profile centres [mm]	Tile size <sup>1)</sup> [mm]
Product programme	HERADESIGN® superfine	15	7.8	GK AK-00 AK-01	300; 312,5 400; 416,6 <sup>1)</sup>	600/600 600/1200 625/625 625/1250
	HERADESIGN® fine	15	8.2			
	HERADESIGN® superfine	25 / 35	11.3 / 15.0	GK AK-00 AK-01 AK-02 AK-03	600; 625 600; 625	
	HERADESIGN® fine	25 / 35	12.4 / 16.3			
	HERADESIGN® macro	25	12.4			
	HERADESIGN® micro	25 / 35	15.0 / 19.0			
	HERADESIGN® plano	25	15.0	AK-00, AK-01, AK-02, AK-03 AK-01, SK-04, SK-06, VK-09		
Product programme A2	HERADESIGN® superfine A2	15	12.0	GK AK-00 AK-01	300; 312,5 400; 416,6 <sup>1)</sup>	600/600 600/1200 625/625 625/1250
	HERADESIGN® fine A2	15	13.0			
	HERADESIGN® superfine A2	25	18.0	GK AK-00 AK-01 AK-02 AK-03	600; 625	
	HERADESIGN® fine A2	25	19.0			
Product programme plus <sup>3)</sup>	HERADESIGN® superfine plus	40 (15/25) 50 (25/25)	10.1 13.6	AK-01 plus	600 <sup>3)</sup>	600/1200
	HERADESIGN® fine plus	40 (15/25) 50 (25/25)	10.5 14.7			
	HERADESIGN® micro plus	50 (25/25)	17.3			
	HERADESIGN® plano plus	50 (25/25)	17.3			

## Edge Configurations

GK <sup>2)</sup>	
AK-00 <sup>2)</sup>	
AK-01	
AK-02/5	
AK-02/10	
AK-02/20	
AK-03	

1) Alternatively, for tile sizes 600/1200 and 625/1250, batten centres can be 1/3 of the tile length.

15 mm tile thickness: Not suitable for external applications or swimming pools.

2) Note: GK edge configuration – square edge, no bevel.

Increased care required by installation. Due to the permissible tolerances of the tile thickness of  $\pm 1$  mm and no bevel, height differences between the tiles may be visible. Additional painting of the tile edges is recommended.

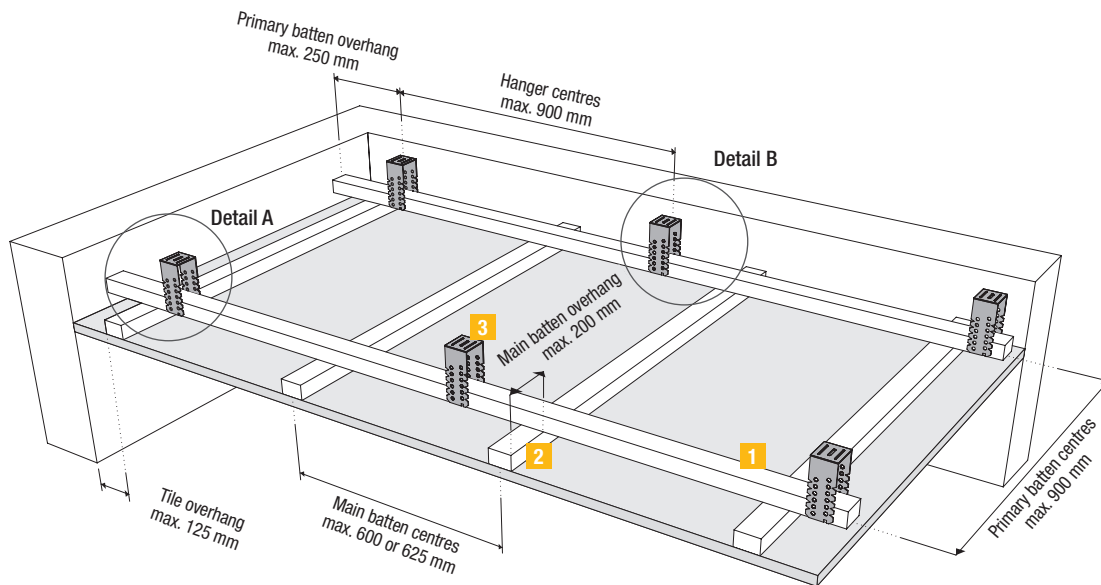
Note: Knauf AMF Deckensysteme GmbH is not a kit provider in terms of EN 13964.

3) Note: Observe the screw pattern for HERADESIGN® plus.

## System B 2.1 - HERADESIGN® tiles on wooden battens

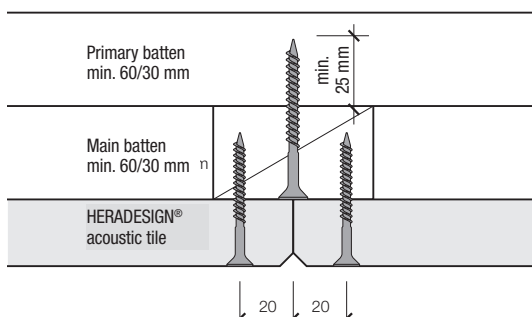
### Sizes and dimensions

The HERADESIGN® acoustic tiles are screw-fixed with HERADESIGN® screws onto wooden battens with a cross-section of minimum 30/60 mm. Batten centres maximum 600 or 625 mm. The primary battens should be at maximum 900 mm centres (ball impact resistant version). The hangers are fixed in 900/900 modules.



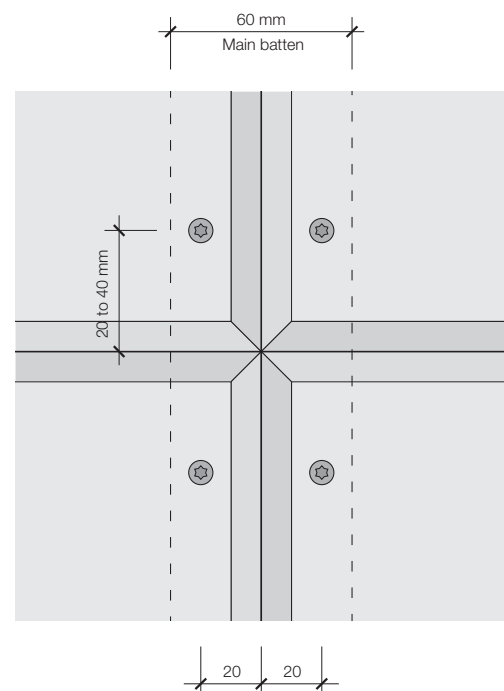
### Connecting the primary battens / main battens

The main battens are fixed to the primary battens 60/30 or 60/40 with  $\geq 4.5 \times 55$  mm screws according to DIN 7997. Screw depth minimum 25 mm. Number of screws according to static requirements. Recommended: Two per connection point. However, according to DIN 18168/T1 one single screw is permitted ( $\geq 5 \times 55$  mm)



The minimum cross-section of the primary batten is 60/40 mm or 60/30 mm according to DIN 18168 or EN 13964, if the primary and main battens have the same cross-section.

### Screws



### Maximum centres of the substructure for deflection class 1 according to EN 13964 (max. deflection $L/500$ )

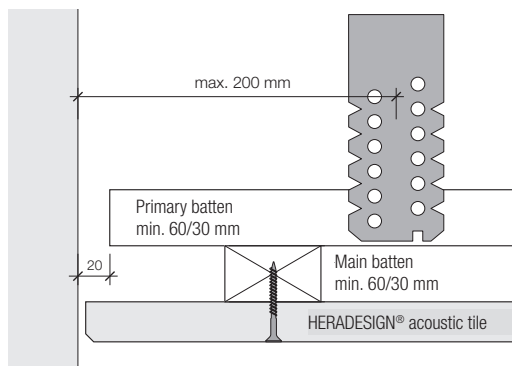
Primary battens cross-section (w/h) 60/30, 60/40 mm	Main battens max. 600 or 625 mm centres	Maximum load (incl. own weight of the ceiling in $\text{kN/m}^2$ )		
Centres	Cross-section w/h	Maximum hanger centres		
		750 mm	900 mm	1150 mm
max. 600 mm	60/30, 60/40	0.55 $\text{kN/m}^2$	0.45 $\text{kN/m}^2$	0.35 $\text{kN/m}^2$
max. 900 mm	60/30, 60/40	0.35 $\text{kN/m}^2$	0.25 $\text{kN/m}^2$	

Max. hanger load: 0.40 kN. With a permissible hanger load of 0.25 kN, the additional loads must be multiplied by 0.6, i.e. reduced. Wood quality class S 10 as per EN 1912. For F 30, EI 30 ceilings, or ceilings that are ball impact resistant the centres and cross sections must be according to the test certificate.

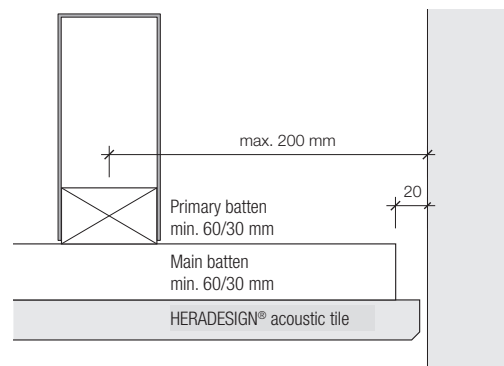
### Material requirements

Component	Centres	Unit	Approx. material requirements for every $\text{m}^2$ ceiling *)	Comments
1 Primary batten 60/30 mm	C = 600 mm	lin. m	1.7	For 4000 mm lengths
	C = 900 mm		1.3	
2 Main batten 60/30 mm	600 mm	lin. m	1.7	
	625 mm		1.6	
3 Hanger	C = 600 mm	pcs.	2.4	Permitted hanger load max. 0.4 kN
	C = 900 mm		2.0	

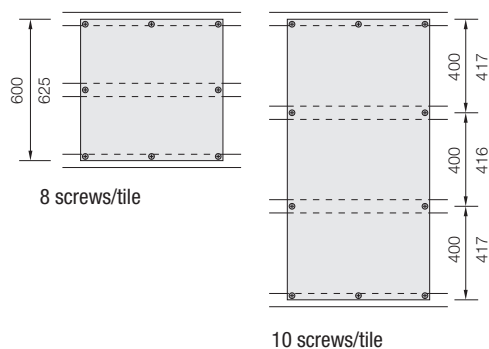
#### Perimeter connection Detail A



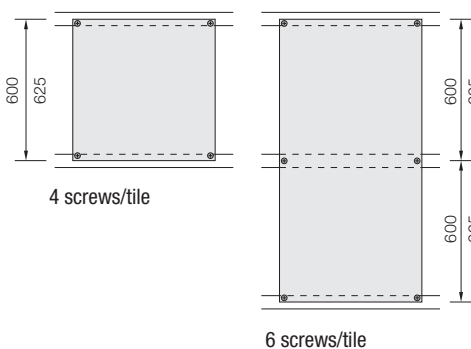
#### Perimeter connection Detail B



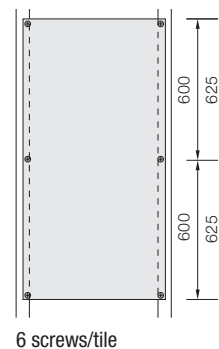
#### Screw pattern for 15 mm tiles



#### Screw pattern for 25 mm and 35 mm tiles



#### Screw pattern Product programme plus for 40 mm and 50 mm tiles



## Ball impact resistant fixing as per EN 13964, Annex D or DIN 18032 / part 3

Installation type	Thickness [mm]	Edge configuration	Main batten centres [mm]	Primary and main batten cross section	Primary batten and Nonius hanger centres <sup>6*)</sup> [mm]
Ceiling	35/25	AK-01	600; 625	≥ 60/30	900
Wall	35	AK-01	600; 625	≥ 60/30	900
Wall <sup>7*)</sup>	25	AK-01	300; 312.5	≥ 60/30	900

<sup>6\*)</sup> without additional loads. For additional loads, as per Table "Maximum centres of the substructure" for screw-fixing onto wooden battens.  
<sup>7\*)</sup> For HERADESIGN® superfine A2 and HERADESIGN® fine A2

**Note:** pieces cut to size with a length of less than 500 mm must be supported on all four sides.

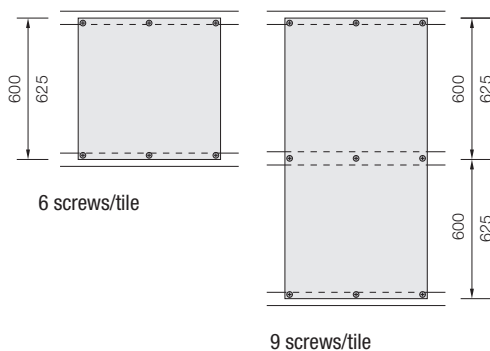
## Screw patterns

For ball impact resistant fixing of HERADESIGN® acoustic tiles, at least three screws must be used per tile width and support.

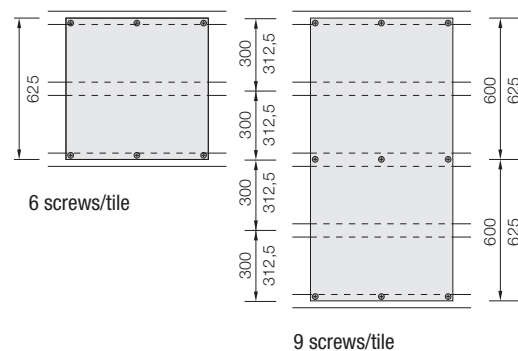
Max. screw centres ≤ 315 mm. This also applies to covered external applications, for EI30 suspended ceilings and vibrating constructions.

**Ceiling installation: 25 mm and 35 mm tiles**

**Wall installation: 35 mm tiles**



**Wall installation: 25 mm tiles <sup>\*)</sup>**

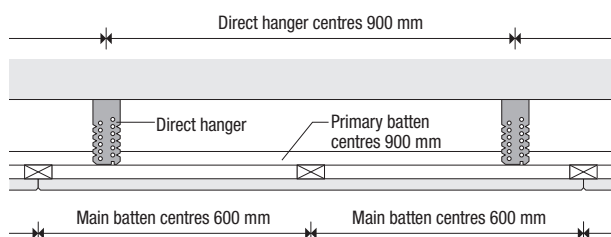


<sup>\*)</sup> For wall installation of 25 mm HERADESIGN® tiles, the main batten centres are reduced to 300 or 312.5 mm. The position and number of the screws remains the same.

## Construction diagrams

**Ceiling installation - cross grid**

(vertical section)



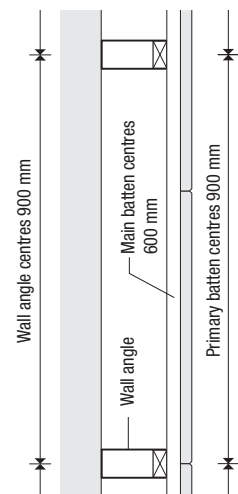
**Wall installation – parallel grid**

(horizontal section)



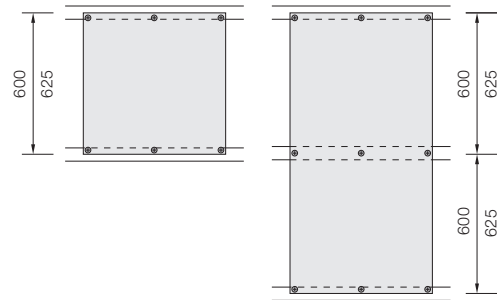
**Wall installation – cross grid**

(horizontal section)



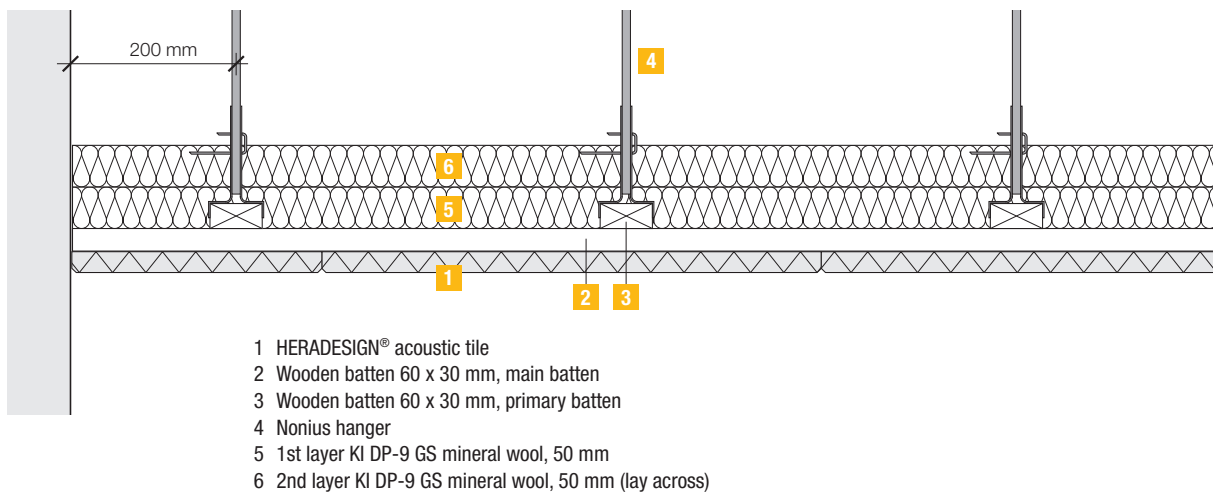
### Fire resistance as per EN 1364-2, or EN 1363-1

HERADESIGN® suspended ceilings have been tested as an independent ceiling element for fire exposure from below. The test reports describe the installation procedure, test conditions and the test results of the tested construction. Any significant deviation in terms of size, construction, loading and spanning are not covered in the test report and have to be clarified with a fire expert. The fixing of the tiles and the substructure centres are as per the test certificate. For EI-30 constructions, the two mineral wool overlays must be lay cross-wise, i.e. at 90°. The mineral wool must be installed with butted and staggered joints.

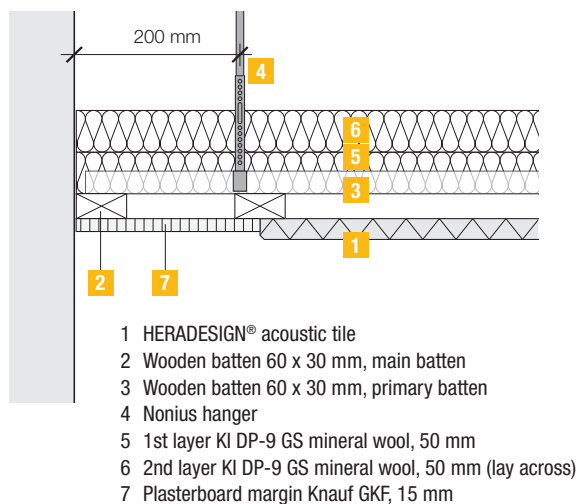


### EI 30 HERADESIGN® suspended ceiling as independent fire protection

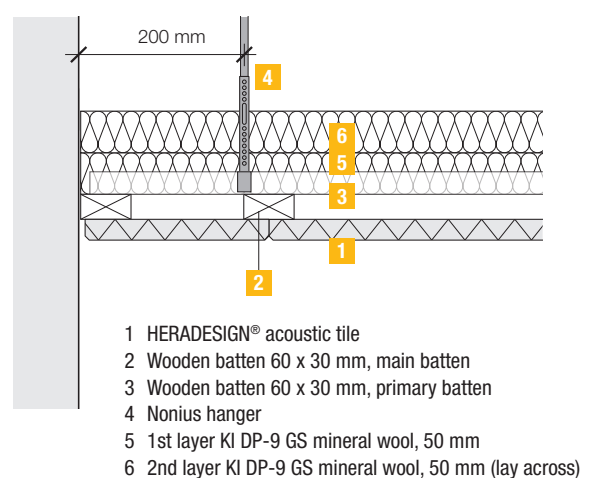
#### Wall connection without shadow gap



#### Wall connection with plasterboard margin with or without shadow gap



#### Wall connection with shadow gap



**Note:** The classifications are only valid for the tested components. Changes to the ceiling construction are not permitted. For the exact tested construction please refer to the test certificate and data sheet for this construction.

## Installation guidelines and advice

For the installation requirements see DIN 18168 “Lightweight ceiling linings and suspended ceilings”, as well as EN 13964 “Suspended ceilings – requirements and test methods”.

- Before starting installation, check the underlying structure for sufficient load-bearing capacity.
- Fix the wooden battens to the soffit or pre-installed hangers at the required centres with corrosion protected screws.
- Distribute the battens symmetrically (equal edge fields).
- For large ceilings, begin installation from the centre of the room.
- HERADESIGN® tiles are pushed together, aligned and fixed according to the screw pattern with HERADESIGN® screws (DIN 7997) (head diameter  $\geq 9$  mm) to the battens. For each tile width and centre distance, two screws are required. For covered external areas, ceilings and walls in indoor swimming pools, vibrating constructions and for ball impact resistant systems, three HERADESIGN® screws are required.
- Note: Observe the necessary corrosion protection requirements.
- Square tiles: Observe the installation direction marked on the back when installing the tiles.
- Cross joints: four tile corners meet at one point, which means increased accuracy is required when installing!
- Screws: HERADESIGN® screw heads can be covered with standard colours. Screws in special colours on request.
- The screw heads must be set flush with the tile surface. This can be made easier by using screw couplings with adjustable depth stops or a depth stop as a prefix to screws (e.g.: FESTOOL depth stop DC UNI FF).
- After installation, unpainted screw heads must be covered with a paint supplied by the manufacturer or an equivalent as in chapter Application and Handling. Corrosion protection must be determined by the prevailing room conditions.
- Acoustic overlays or films are installed step by step with the installation of the acoustic tiles. Film joints and connections must be taped.
- A PE film with a thickness of up to 30  $\mu\text{m}$  does not affect the sound absorption of the underlying absorber and is recommended as trickle protection for mineral wool overlays.
- Damaged or soiled tiles or tiles with colour deviations may not be installed. The full impression of the ceiling should continually be checked from below during installation.
- Tiles with edge configurations for T-profile installations are not suitable for screw fixing, as the tile size is smaller than the module.

## HERADESIGN® screws

Stainless steel, universal drywall screws for attaching HERADESIGN® acoustic tiles to battens or CD-profiles 60/27/06 mm. Partial thread, screw head with Torx T20.

Maximum centres: 600 or 300 mm / 625 or 312 mm

Note: Not suitable for swimming pools and external applications.

Tile format	Screw requirement approx. pcs. for every m <sup>2</sup> ceiling			
	600/600 mm	625/625 mm	600/1200 mm	625/1250 mm
Standard screw pattern - 25 and 35 mm tiles	12	11	9	8
Standard screw pattern - 15 mm tiles	23	21	14	13
Ball impact resistant version	17	16	13	12

Dimension [mm]		Screw head colour	For tile thicknesses [mm]	Packaging unit pcs./carton
Length	$\emptyset$			
35	4.5	unpainted / white/ natural special colours on request	15	200
50	4.5		25	200
60	4.5		35	200

### Corrosion protection:

For suitable corrosion protection of screws for applications in indoor swimming pools, underground car parks, covered external applications or other special applications, please contact your screw supplier or screw manufacturer. (Screw head diameter  $\geq 9$  mm).

\* Only when using CD-profiles 27/60/0.6 mm





Mark out the ceiling module from the centre of the room, for example using a chalk line. Ensure the margins at the sides of the room are identical.



Align the battens using a spirit level or laser level and fix the battens to the hangers, e.g. quick hangers, using 2 screws per side.



Install the primary and main battens. Maximum centres according to the “Maximum centres of the substructure” table for screw-fixing onto wooden battens and the primary/main batten connection detail.



Install the acoustic tiles with the aid of a support. When fixing, press the tile onto the batten using the heel of your hand. There must be no gap between the tile and the wooden batten. For large ceiling areas, begin tile installation from the centre of the room. Observe the installation direction of square tiles!



Align the rows of tiles with an installation batten. Tile joints must be positioned centrally under the battens. No free tile joints are allowed.



Close possible gaps between the tiles using a wooden block and hammer. Only handle the acoustic tiles with clean hands (clean gloves are recommended) and clean tools.



Insert HERADESIGN® acoustic overlays or other acoustic overlays, step-by-step when installing the HERADESIGN® acoustic tiles. Absorber tiles that are pushed between the wooden battens are cut to size.

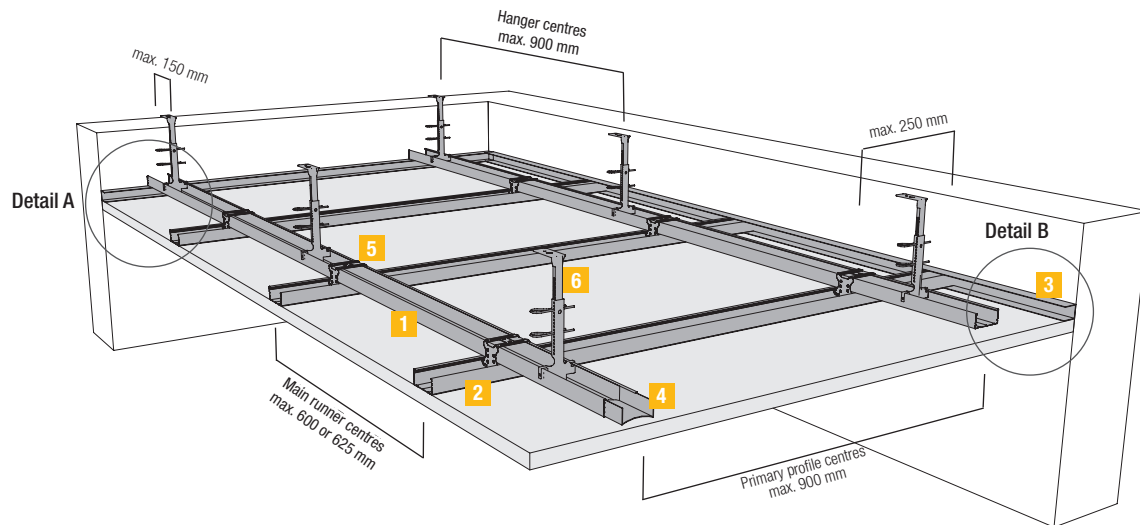


If coloured screws are not used, paint over the screw heads with the paint supplied or a suitable equivalent using a fine brush and suitable amount of paint. Screw heads must be flush with the tile surface.

## System B 2.2 - HERADESIGN® tiles fixed to CD-profiles

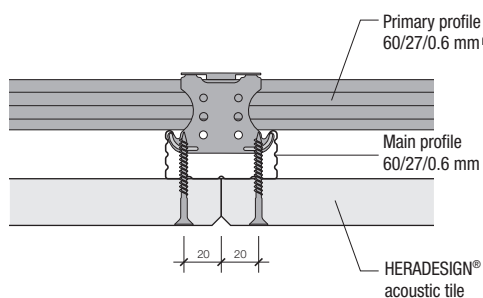
### Size and dimensions

The HERADESIGN® acoustic tiles are screw-fixed with HERADESIGN® screws onto CD-profiles with a cross-section of 60/27/0.6 mm. CD-profile centres according to the table. The hangers are fixed to the soffit in 900/900 modules.

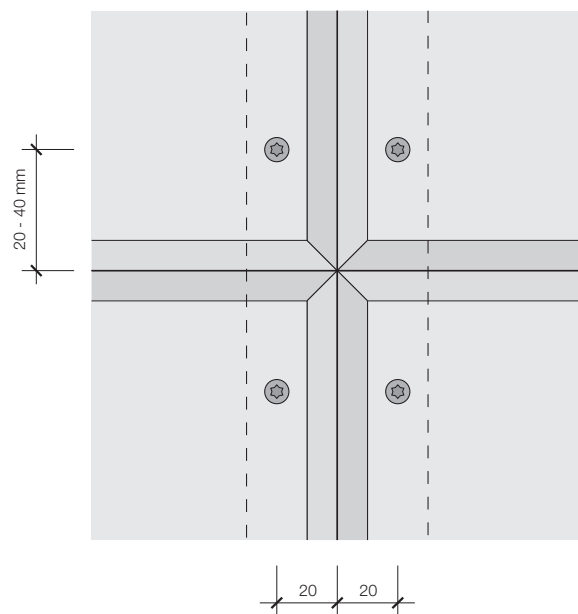


### Connecting primary / main profiles

The CD-primary profile is connected to the CD-main profile using a cross connector. The tile joints, in the main profile direction, should always be below a CD-profile.



### Screws





### Maximum centres of the substructure for deflection class 1 according to EN 13964 (max. deflection L/500)

Primary profile 60/27/0,6 mm	Main profile 60/27/0,6 mm	Maximum load (incl. own weight of the ceiling in kN/m <sup>2</sup> )		
centres	centres	Maximum hanger centres		
		750 mm	900 mm	1150 mm
600 mm	max. 625 mm	0.45 kN/m <sup>2</sup>	0.35 kN/m <sup>2</sup>	0.25 kN/m <sup>2</sup>
900 mm	max. 625 mm	0.35 kN/m <sup>2</sup>	0.25 kN/m <sup>2</sup>	

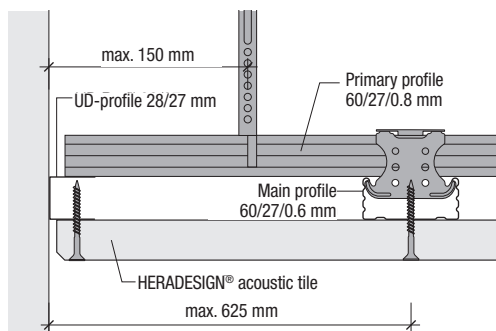
Max. hanger load: 0.40 kN. With a permissible hanger load of 0.25 kN, the additional loads must be multiplied by 0.6, i.e. reduced.  
Wood quality class S 10 as per EN 1912. For F 30, EI 30 ceilings, or ceilings that are ball impact resistant the centres and cross sections must be according to the test certificate.

### Material requirements

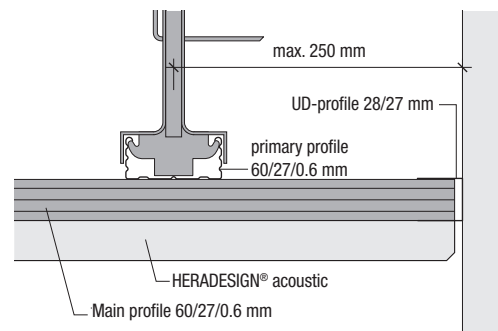
Component	Centres mm	Unit	Approx. material requirements/ m <sup>2</sup> ceiling area <sup>5)</sup>	Comments
<b>1</b> CD-primary profile 60/27/0.6 mm	C = 600	lin. m	1.7	For 3600 mm profile lengths
	C = 900		1.3	
<b>2</b> CD-main profile 60/27/0.6 mm	600 mm	lin. m	1.7	Centres the same as the tile width
	625 mm		1.6	
<b>3</b> E-wall connection profile		lin. m	0.4 - 0.8	Dependent on plan/layout
<b>4</b> CD-splice connector	C = 600	Pcs.	0.8	For 3600 mm profile lengths
	C = 900		0.7	
<b>5</b> CD-cross connector	C = 600	Pcs.	3.0	
	C = 900		2.2	
<b>6</b> CD-Nonius hanger	C = 600	Pcs.	2.4	Permitted hanger load: 0.4 kN
	C = 900		2.0	

Follow the manufacturer's guidelines! The stated figures are guideline only and do not allow for waste or project specific scenarios.

#### Perimeter connection Detail A

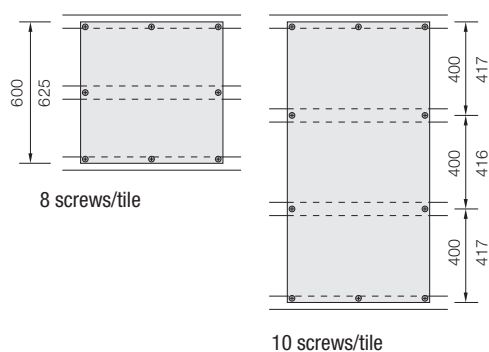


#### Perimeter connection Detail B



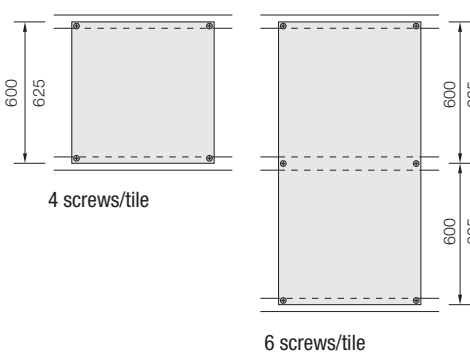
#### Screw pattern

for 15 mm tiles



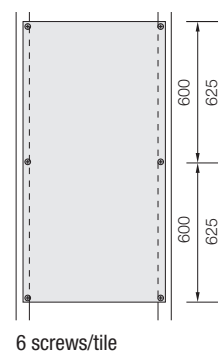
#### Screw pattern

for 25 mm and 35 mm tiles



#### Screw pattern

Product programme plus  
for 40 mm and 50 mm tiles



## Ball impact resistant fixing as per EN 13964, Annex D or DIN 18032 / part 3

Installation	Thickness [mm]	Edge configuration	Main profile centres [mm]	Primary profile centres [mm]	Nonius hanger centres <sup>6*)</sup> [mm]
Ceiling	35/25	AK-01	600; 625	900	900
Wall	35	AK-01	600; 625	900	900
Wall <sup>7*)</sup>	25	AK-01	300; 312,5	900	750

<sup>6\*)</sup> without additional loads. For additional loads, as per Table "Maximum centres of the substructure" for screw-fixing onto CD-profiles.  
<sup>7\*)</sup> For HERADESIGN® superfine A2 and HERADESIGN® fine A2

**Note:** pieces cut to size with a length of less than 500 mm must be supported on all four sides.

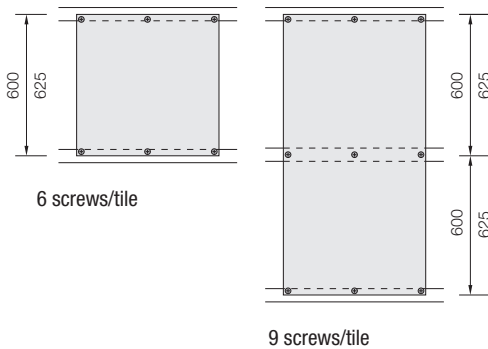
## Screw patterns

For ball impact resistant fixing of HERADESIGN® acoustic tiles, at least three screws must be used per tile width and support.

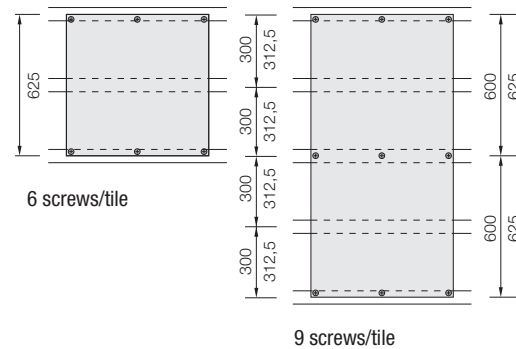
Max. screw centres  $\leq 315$  mm. This also applies to covered external applications, for EI30 suspended ceilings and vibrating constructions

### Ceiling installation: 25 mm and 35 mm tiles

#### Wall installation: 35 mm tiles



### Wall installation: 25 mm tiles\*)

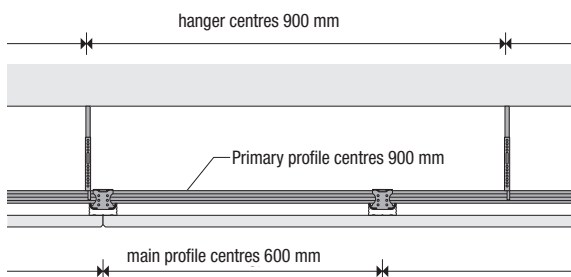


\*) For wall installation of 25 mm HERADESIGN® tiles, the main batten centres are reduced to 300 or 312.5 mm. The position and number of the screws remains the same.

## Construction diagrams

### Ceiling installation cross grid

(vertical section)



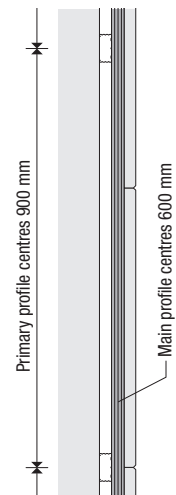
### Wall installation parallel grid

(horizontal section)



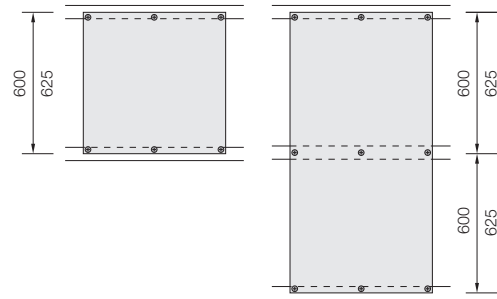
### Wall installation parallel grid

(horizontal section)



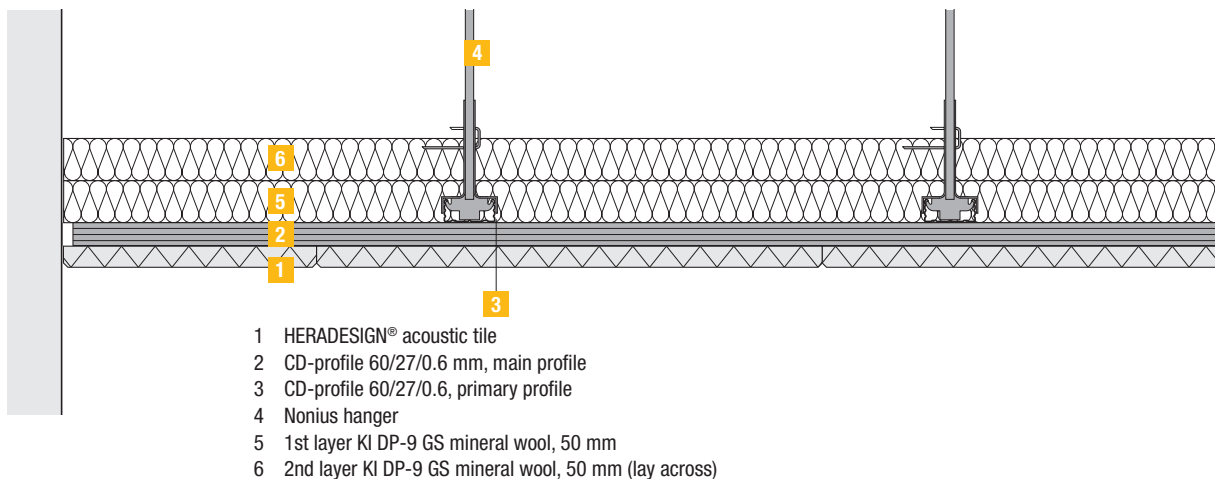
### Fire resistance as per EN 1364-2, or EN 1363-1

HERADESIGN® suspended ceilings have been tested as an independent ceiling element for fire exposure from below. The test reports describe the installation procedure, test conditions and the test results of the tested construction. Any significant deviation in terms of size, construction, loading and spanning are not covered in the test report and have to be clarified with a fire expert. The fixing of the tiles and the substructure centres are as per the test certificate. For EI-30 constructions, the two mineral wool overlays must be lay cross-wise, i.e. at 90°. The mineral wool must be installed with butted and staggered joints.

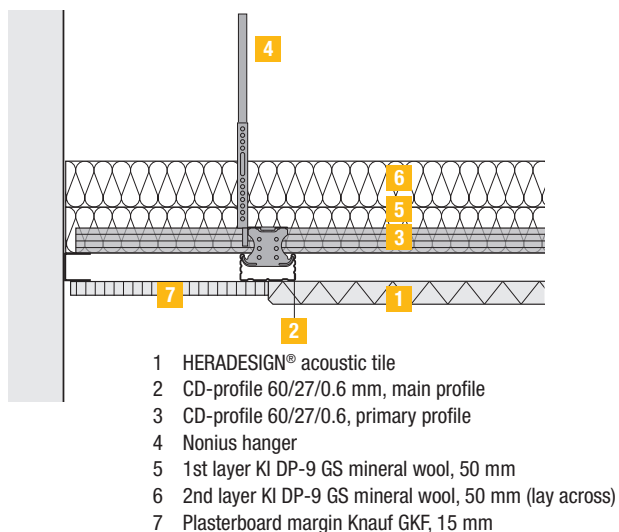


### EI 30 HERADESIGN® suspended ceiling as independent fire protection

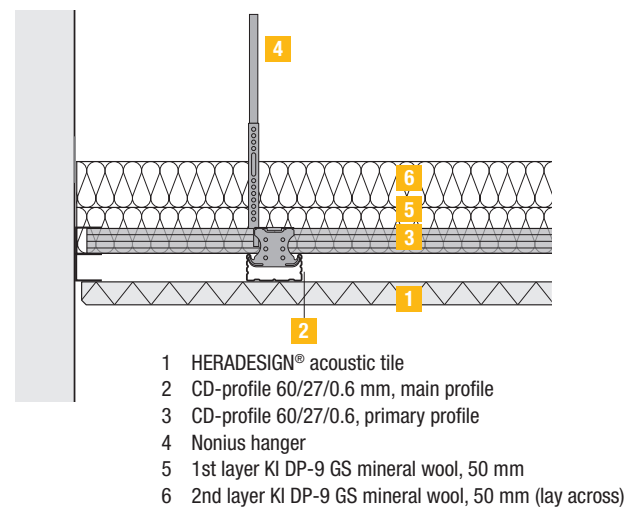
#### Wall connection without shadow gap



#### Wall connection with plasterboard margin with or without shadow gap



#### Wall connection with shadow gap



**Note:** The classifications are only valid for the tested components. Changes to the ceiling construction are not permitted. For the exact tested construction please refer to the test certificate and data sheet for this construction.

## Installation guidelines and advice

For the installation requirements see DIN 18168 “Lightweight ceiling linings and suspended ceilings”, as well as EN 13964 “Suspended ceilings – requirements and test methods”.

- Before starting installation, check the underlying structure for sufficient load-bearing capacity.
- Install perimeter trims all around (with plugs at approx. 500 mm centres).
- Push the CD-profiles into the wall connection profiles and fix them to the preassembled hangers. Stagger the joints and place an additional hanger at each joint.
- Suspension wire: 4 mm minimum diameter. Pinch hooks with pliers after installation
- Begin installation from the centre of the room.
- Distribute the cross profiles symmetrically (equal edge fields).
- Acoustic tiles are pushed together, aligned and fixed cross-wise to the profiles with HERADESIGN® screws. For each tile width and centre distance, two screws are required. For covered external areas, ceilings and walls in indoor swimming pools, vibrating constructions and for ball impact resistant systems, three HERADESIGN® screws are required.
- Note: Observe the necessary corrosion protection requirements.
- Square tiles: Observe the installation direction marked on the back when installing the tiles.
- Cross joints: four tile corners meet at one point, which means increased accuracy is required when installing!
- Screws: HERADESIGN® screw heads can be covered with standard colours. Screws in special colours on request.
- The screw heads must be set flush with the tile surface. This can be made easier by using screw couplings with adjustable depth stops or a depth stop as a prefix to screws (e.g.: FESTOOL depth stop DC UNI FF).
- After installation, unpainted screw heads must be covered with a paint supplied by the manufacturer or an equivalent as in chapter Application and Handling. Corrosion protection must be determined by the prevailing room conditions.
- Acoustic overlays or films are installed step by step with the installation of the acoustic tiles. Film joints and connections must be taped.
- A PE film with a thickness of up to 30 µm does not affect the sound absorption of the underlying absorber and is recommended as trickle protection for mineral wool overlays.
- Damaged or soiled tiles or tiles with colour deviations may not be installed. The full impression of the ceiling should continually be checked from below during installation.
- Tiles with edge configurations for T-profile installations are not suitable for screw fixing, as the tile size is smaller than the module.

## HERADESIGN® screws

Stainless steel, universal drywall screws for attaching HERADESIGN® acoustic tiles to battens or CD-profiles 60/27/06 mm. Partial thread, screw head with Torx T20.

Maximum centres: 600 or 300 mm / 625 or 312 mm

Note: Not suitable for swimming pools and external applications.

Tile format	Screw requirement approx. pcs for every m² ceiling			
	600/600 mm	625/625 mm	600/1200 mm	625/1250 mm
Standard screw pattern - 25 and 35 mm tiles	12	11	9	8
Standard screw pattern - 15 mm tiles	23	21	14	13
Ball impact resistant version	17	16	13	12

Dimension [mm]		Screw head colour	For tile thickness [mm]	Packaging unit pcs./carton
Length	Ø			
35	4.5	unpainted / white / natural special colours on request	15	200
50	4.5		25	200
50	4.5		35 *	200
60	4.5		35	200

\* Only when using CD-profiles 27/60/0.6 mm

### Corrosion protection:

For suitable corrosion protection of screws for applications in indoor swimming pools, underground car parks, covered external applications or other special applications, please contact your screw supplier or screw manufacturer (screw head diameter ≥ 9 mm).



Mark out the ceiling module from the centre of the room, for example using a chalk line. Ensure the margins at the sides of the room are identical.



The CD-profile joints should be staggered. An additional hanger at every profile joint.



Align the CD-profiles using a spirit level or laser level.



Finished ceiling grid.



Install the acoustic tiles with the aid of a support. When fixing, press the tile onto the profile using the heel of your hand. There must be no gap between the tile and the profile. Begin tile installation from the centre of the room. Only handle the acoustic tiles with clean hands (clean gloves are recommended) and clean tools.



Align the rows of tiles with an installation batten. Tile joints must be positioned centrally under the profiles. No free tile joints are allowed! When installing square tiles, observe the installation direction marked on the back of the tiles.



Insert HERADESIGN® acoustic overlays or other acoustic overlays, step-by-step when installing the HERADESIGN® acoustic tiles. Absorber tiles that are pushed between the CD-profiles are cut to size.



If coloured screws are not used, paint over the screw heads with the paint supplied or a suitable equivalent using a fine brush and suitable amount of paint. Screw heads must be flush with the tile surface.