

alca

Alcasystem
technical catalogue

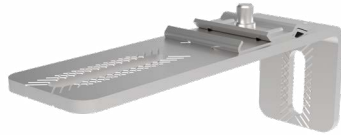





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1. Alca System parts list






1.1 Basic construction parts

PART TITLE	PRODUCT CODE	DESCRIPTION
 <p>System profile 4.5 m</p>	AS-4500	Construction system profile in 4,5 m length
 <p>Corner connector</p>	AS-P001	System profile corner connector
 <p>Profile connector</p>	AS-P002	Connector for 2 system profiles
 <p>Handle washer</p>	AS-P003	Sound insulation washer for floor, ceiling and wall mounting
 <p>Profile holder, simple 85</p>	AS-P012	Holder for anchoring profiles to the floor, ceiling and perimeter walls

 <p>Profile holder, simple</p>	AS-P011	Holder for anchoring profiles to the floor, ceiling or perimeter wall – extended version
 <p>Profile holder, double 186</p>	AS-P013	Double holder for anchoring two parallel profiles and also for anchoring to the wall
 <p>Profile holder, double 241</p>	AS-P014	Double holder for anchoring two parallel profiles and also for anchoring to the wall – extended version
 <p>Profile lock</p>	AS-P015	Coupling for parallel connection of two profiles or also for connection to the angle (attics)
 <p>Profile lock, extended 186</p>	AS-P018	Coupling for parallel connection of two profiles - extended version
 <p>L-Profile for fillings 200 mm</p>	AS-P031	Console for fixing wooden panels

Anchoring flap	AS-P041	Stabilizing flap for partition construction
		
Waste holder DN110	AS-P004	System profile holder for waste pipes DN110
		
Tube holder DN25-30	AS-P005	System profile holder for water pipes DN25-30
		
Waste holder DN48-53	AS-P006	System profile holder for waste pipes DN50
		
Threaded rod M8 x 1000	AS-P051	Threaded rod M8, 1 m length, galvanized, for holders of water and waste pipes
		
Dowel 10x80 with screw	AS-P052	Set of plastic frame dowels 10x80 with screw (HILTI HRD-K 10x80)
		

1.2 List of Alca System accessories

WC module for Alca System	AS101	WC module to build into the Alca System
		
Mounting frame for wash-basin Alca System	AS104/1120	Mounting frame for wash-basin to build into the Alca System
		
Mounting frame for wash-basin Alca System	AS104/850	Low mounting frame for washbasin to build into the Alca System
		
Mounting frame for urinal Alca System	AS107/1120	Mounting frame for urinal to build into the Alca System
		
Mounting frame for urinal and sensor to build into the Alca System	AS107S/1120	Mounting frame for urinal and sensor to build into the Alca System
		

Installation frame for bidet Alca System

AS105/850

Lowered mounting frame for bidet to build into the Alca System



Installation frame for waste and trap connected into 2 appliances

AS-P124

Installation frame for a trap with connection of 2 appliances into the Alca System



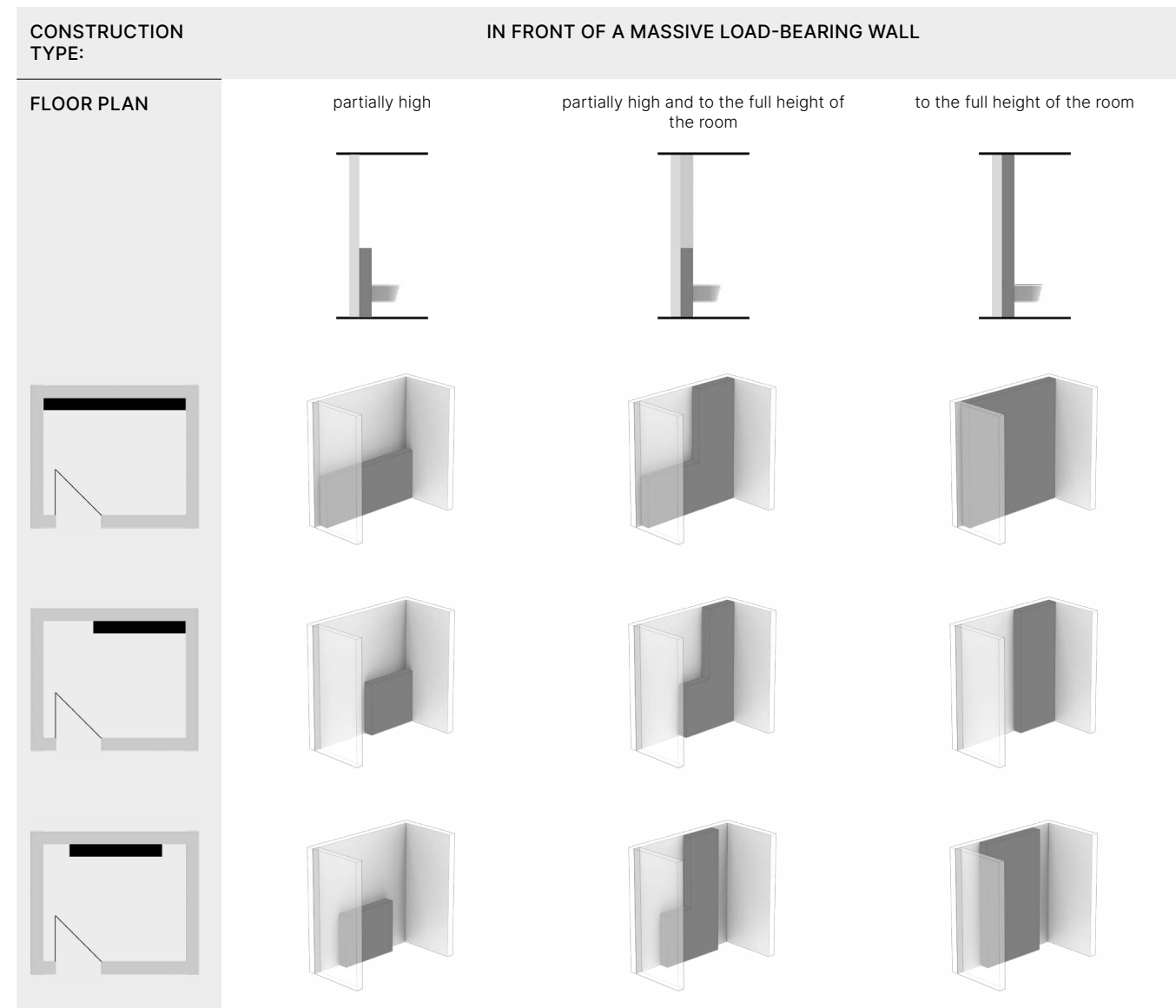
2. Possible solutions for Alca System construction

CONSTRUCTION TYPE:	IN FRONT OF THE LOAD-BEARING WALL (PRE-WALL)	PARTITION
ALCASYSTEM		
	✔	✔

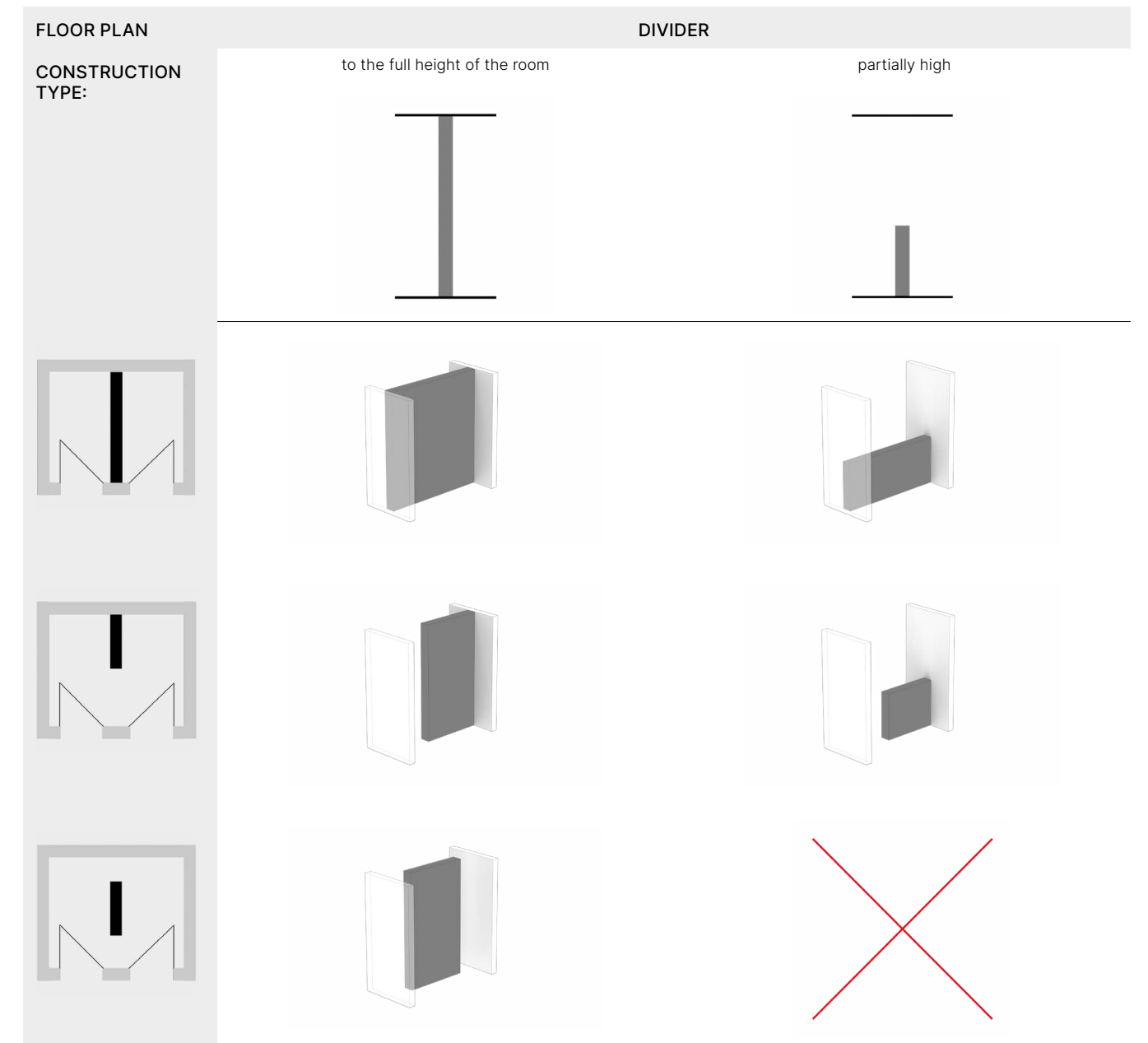
ALCASYSTEM constructions cannot be considered as load-bearing structures of buildings. The structure can be loaded with a payload from fixtures, but only under the conditions of compliance with the rules in this manual.

2.1 Alca System - in front of the load-bearing wall

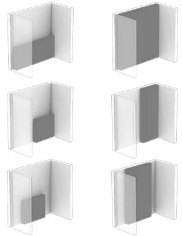
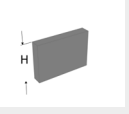
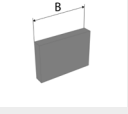
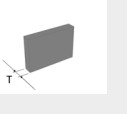
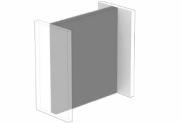
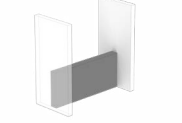


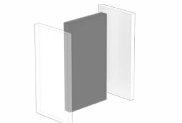
The condition of the construction is that the Alca System construction wall will be anchored to load-bearing walls, which meet the construction requirements of the load-bearing wall for the type of material used!



2.2 Alca system - partition



3. Dimensional restrictions for Alca System wall constructions

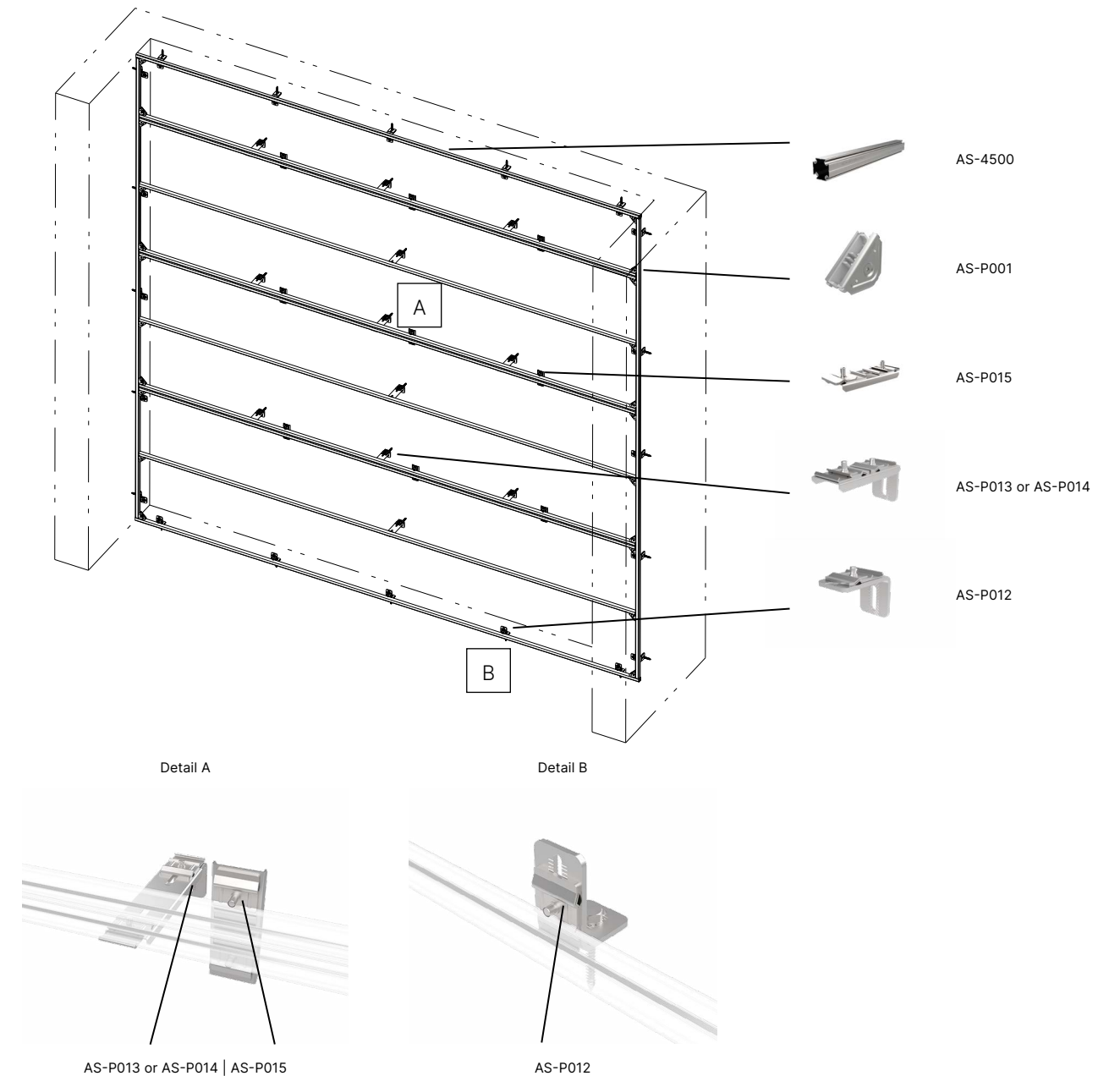
CONSTRUCTION TYPE:	HEIGHT	WIDTH	THICKNESS
In front of the load-bearing wall (pre-wall) partially high or to the ceiling 	 H=max.4500 mm	 Maximum width of one block of the pre-wall structure is B= max.4500 mm. The individual blocks of the Alca System can be stacked side by side into larger final lengths according to the specification, see. Chapter 4.4	 Depending on the building element used: AS-P013: T= 131 to 186 mm AS-P014: T= 186 to 241 mm
Partition fixed to both side walls, floor and ceiling 	For loaded structures (from the installation of fixtures): H= max.2600 mm. Anchoring to the ceiling is required. For unloaded structures: Hmax= 4500 mm. Anchoring to the ceiling is required.	B=max.4500 mm The condition is that every 2250 mm a special stabilizing strut AS-P041 must be used.	T=min.210 mm
Unloaded partition anchored to the floor and to one side wall – partially high (can not be load-bearing for plumbing fixtures) 	H=max.2100 mm	B=max.4500 mm	T=min.210 mm
Partition fixed to one side wall, floor and ceiling 	For loaded structures from fixtures: H=max. 2600 mm. Anchoring to the ceiling is required. For unloaded structures from fixtures: Hmax= 4500 mm. Anchoring to the ceiling is required.	B=max.2400 mm	T=min.210 mm
Unloaded partition anchored to the floor and to one side wall – partially high (can not be load-bearing for plumbing fixtures) 	H=max.2100 mm	B=max.2400 mm	T=min.180 mm - applies to wall widths up to 1200 mm T=min.210 mm - applies to wall widths up to 2400 mm
Unloaded free-standing wall anchored to the floor and ceiling (can not be load-bearing for plumbing fixtures) 	H=max.2600 mm. Anchoring to the ceiling is required.	B=max.2400 mm	T=min.210 mm

4. The principle of construction of structures in front of the load-bearing wall

The condition of the construction is that the Alca System construction wall will be anchored to load-bearing walls, which meet the construction requirements of the load-bearing wall for the type of material used!

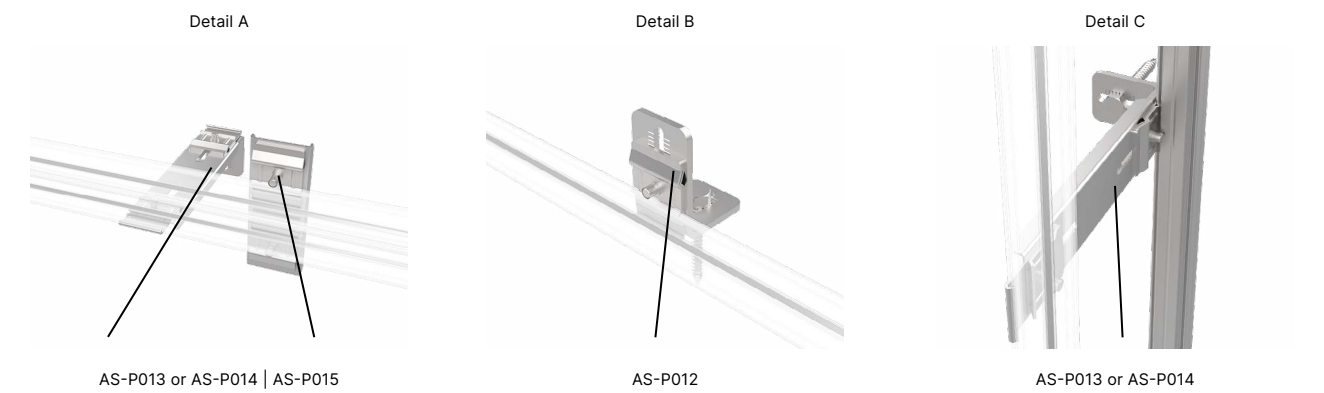
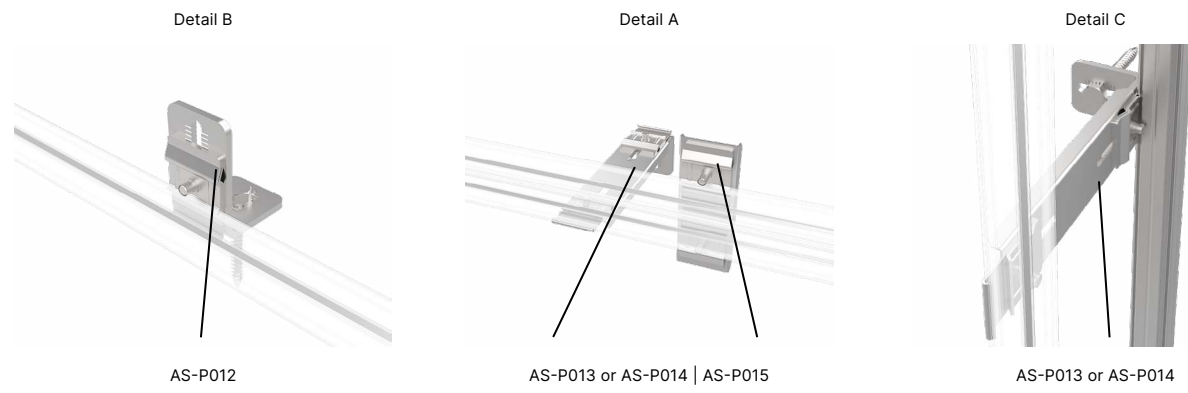
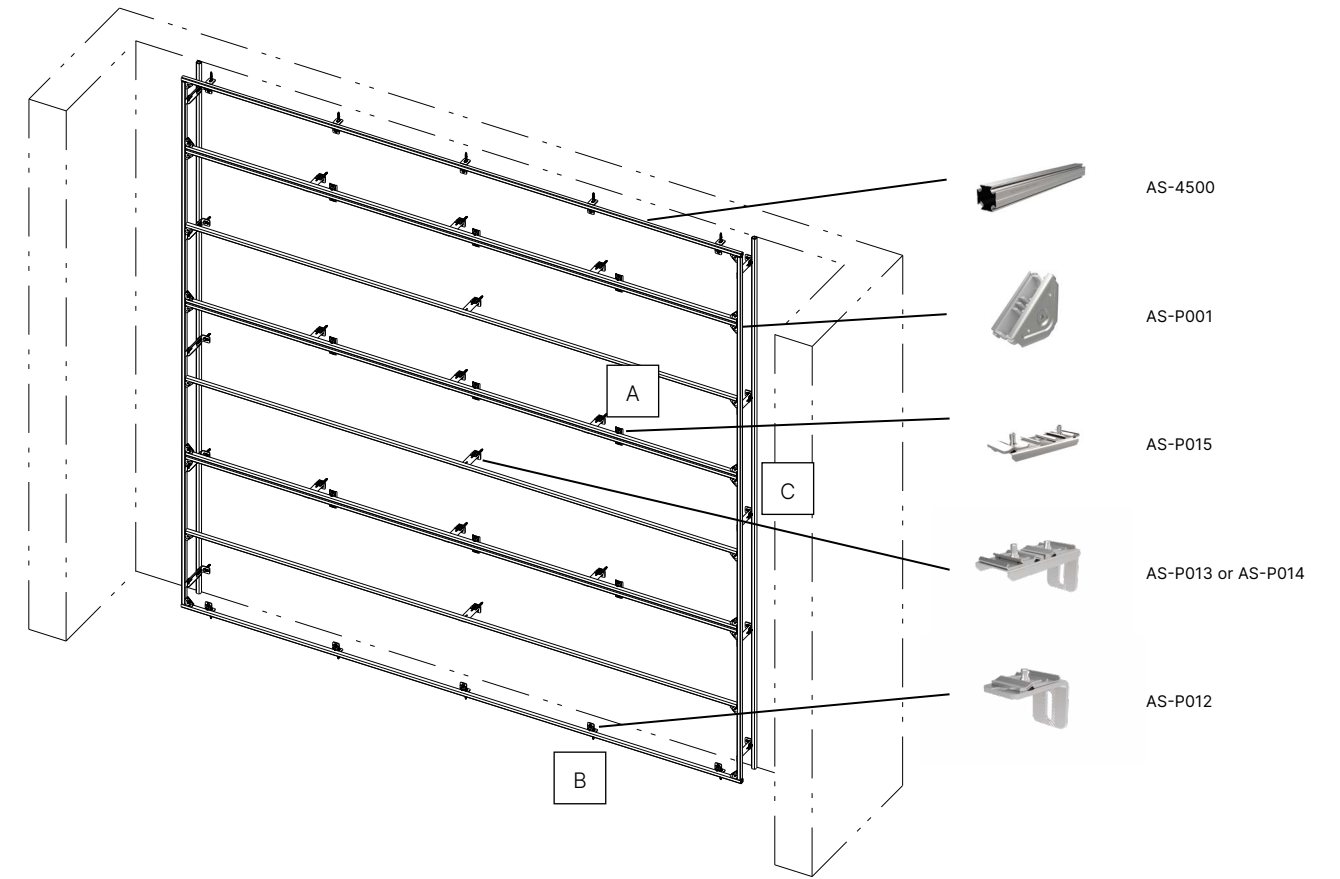
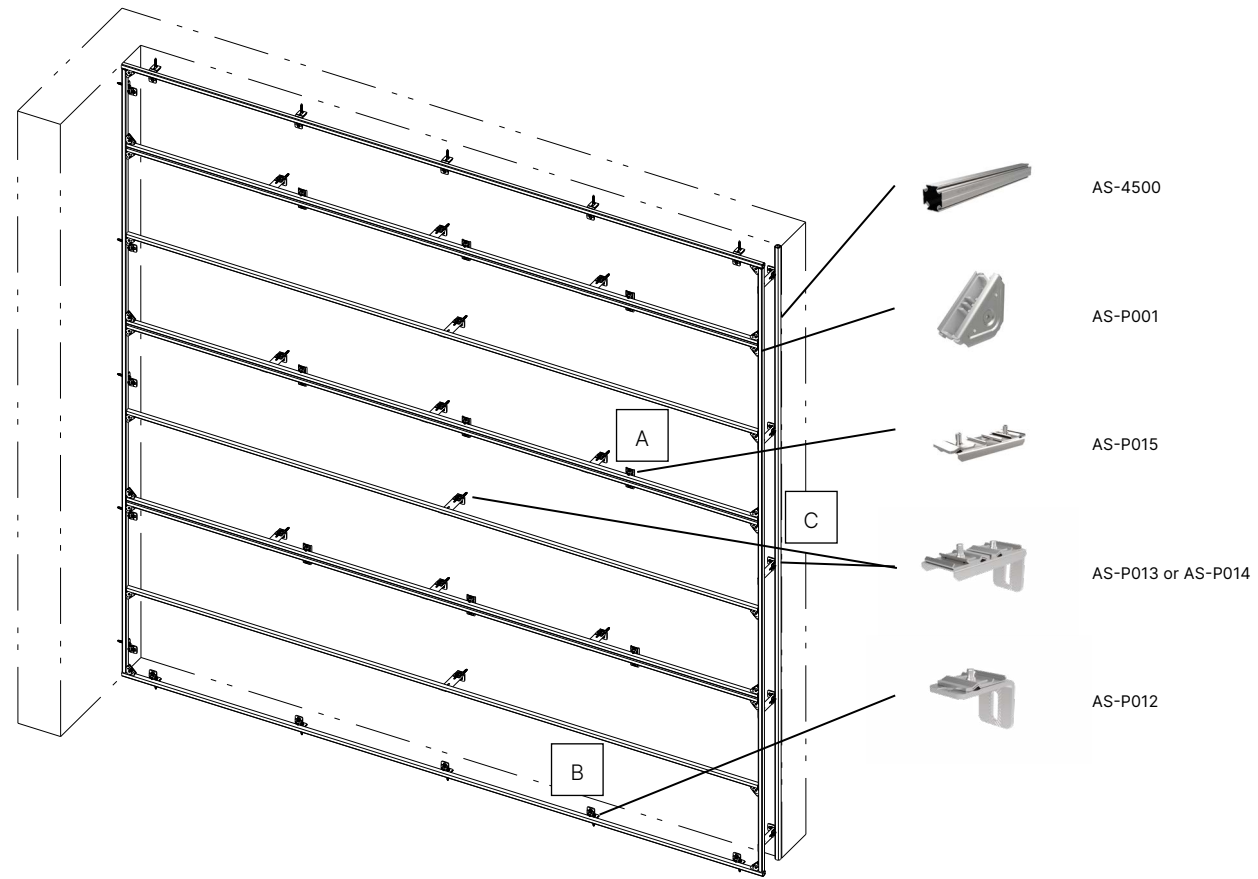
4.1 Construction in front of the load-bearing wall to the entire height of the room

Picture no.1 Construction for the entire height of the room in front of the rear and two side load-bearing walls



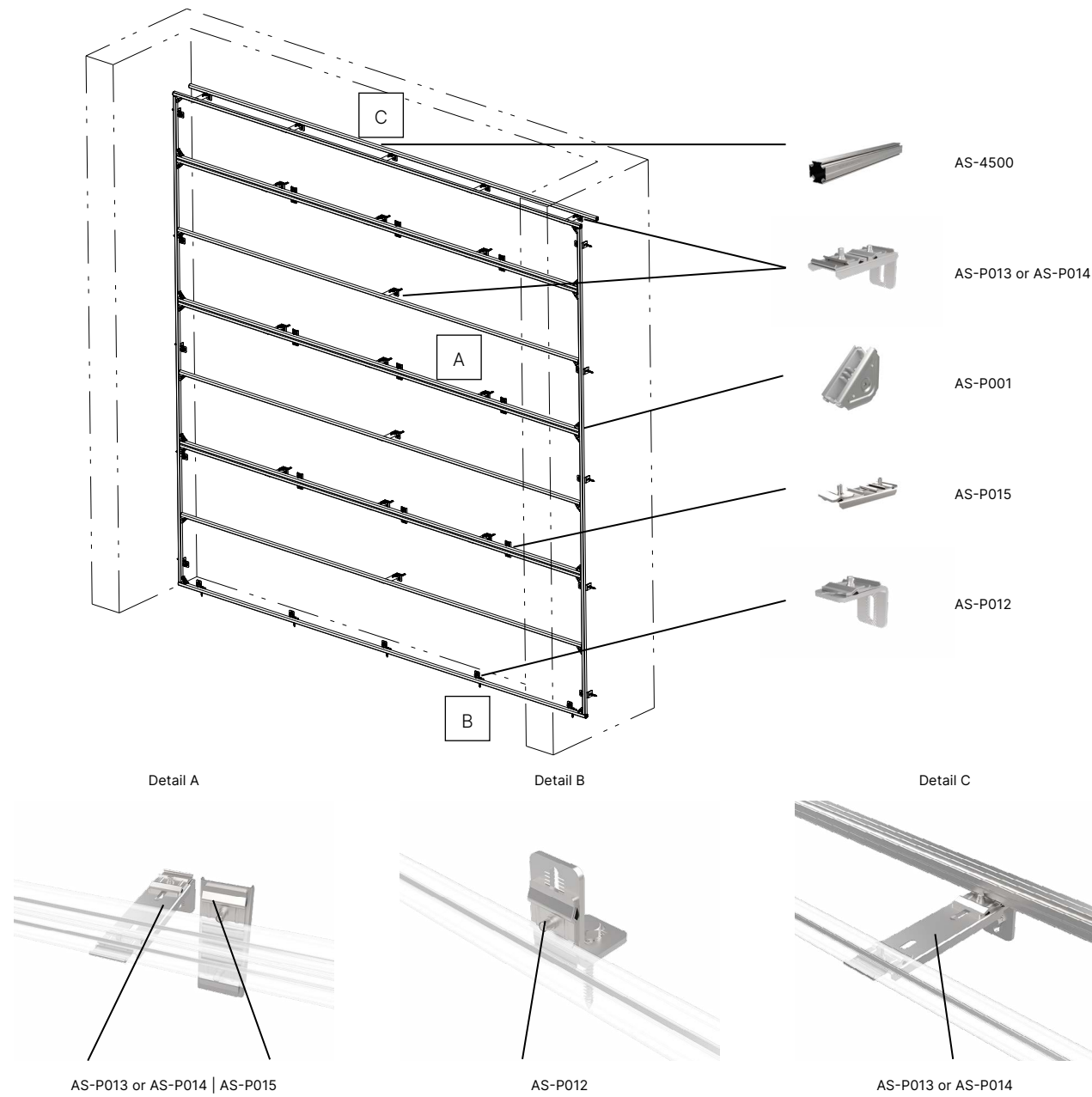
Construction for the entire height of the room in front of the rear and one side load-bearing wall

Picture no.3 Construction for the entire height of the room in front of the load-bearing wall

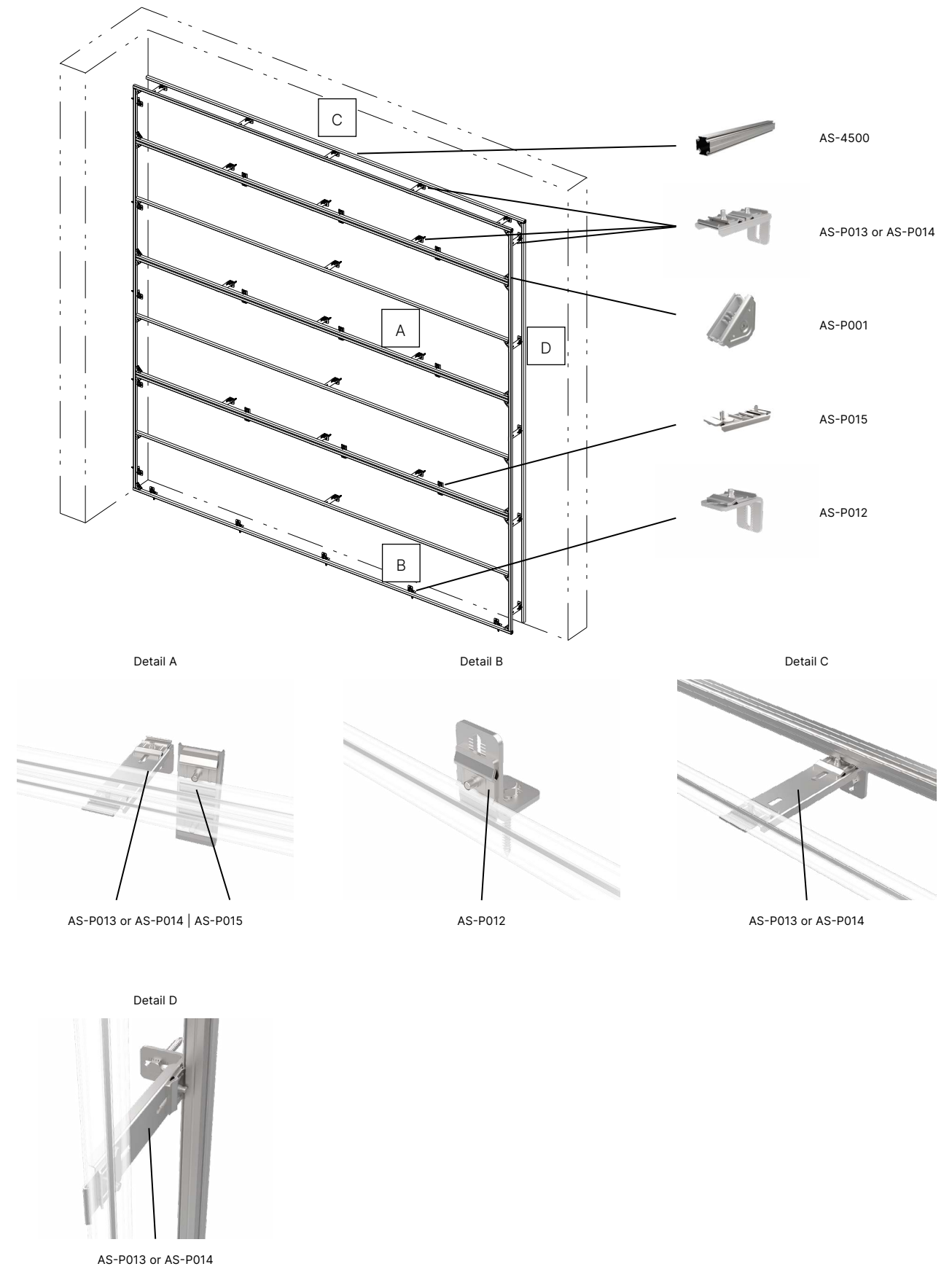


4.2 Construction in front of the load-bearing wall – partially high

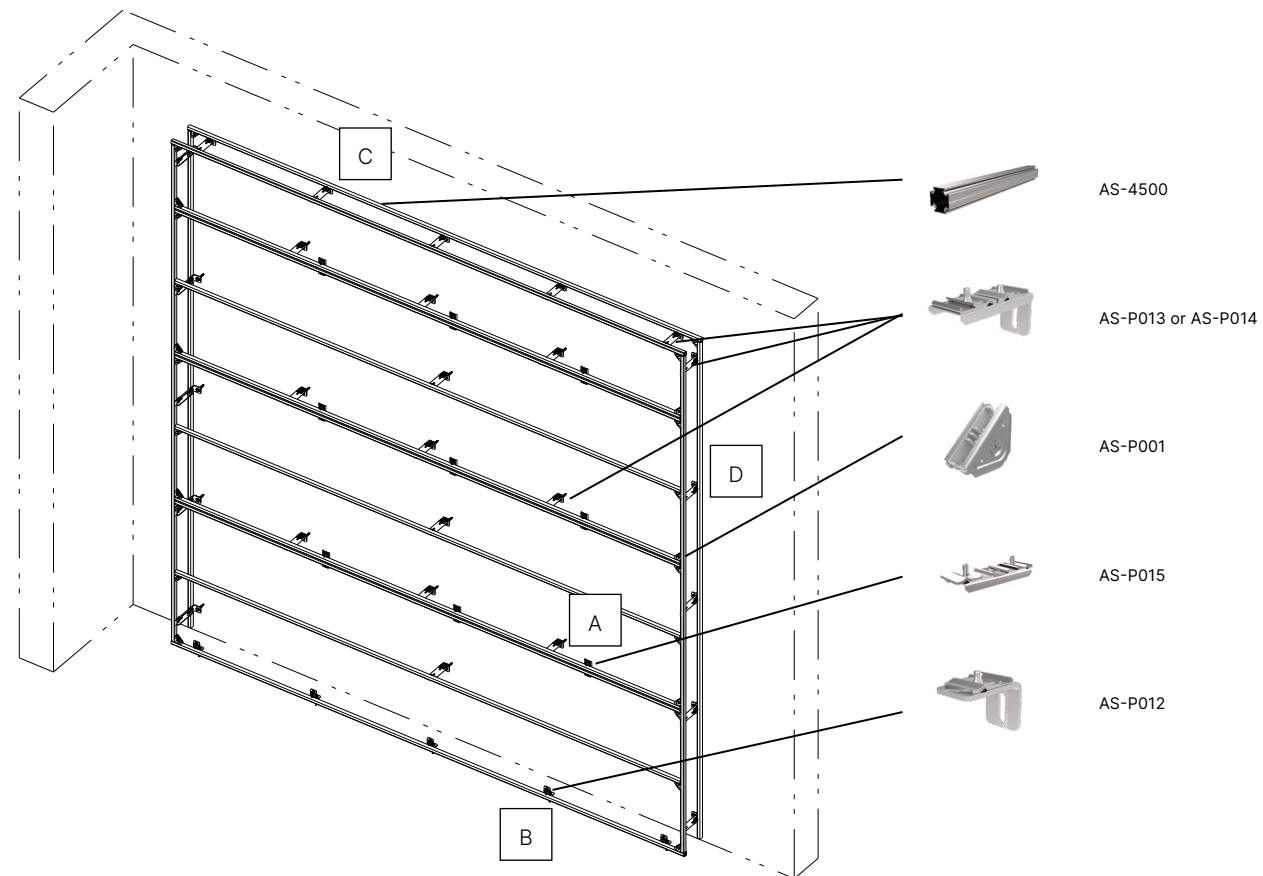
Picture no.4 Partially high construction in front of the rear and two side load-bearing walls



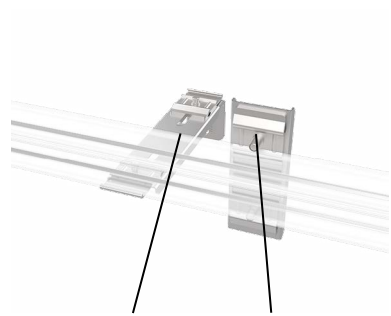
Picture no.5 Partially high construction in front of the wall and one side load-bearing wall



Picture no.6 Partially high construction in front of the load-bearing wall

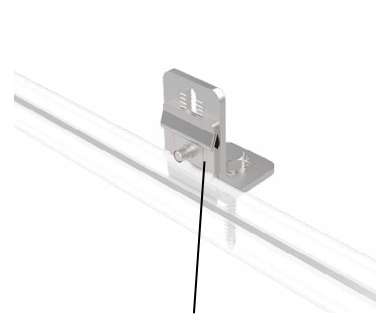


Detail A



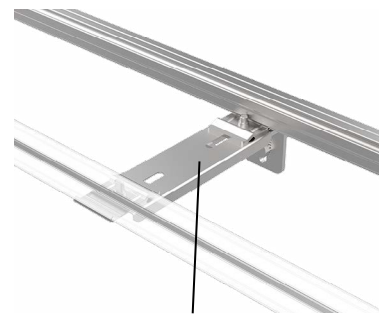
AS-P013 or AS-P014 | AS-P015

Detail B



AS-P012

Detail C



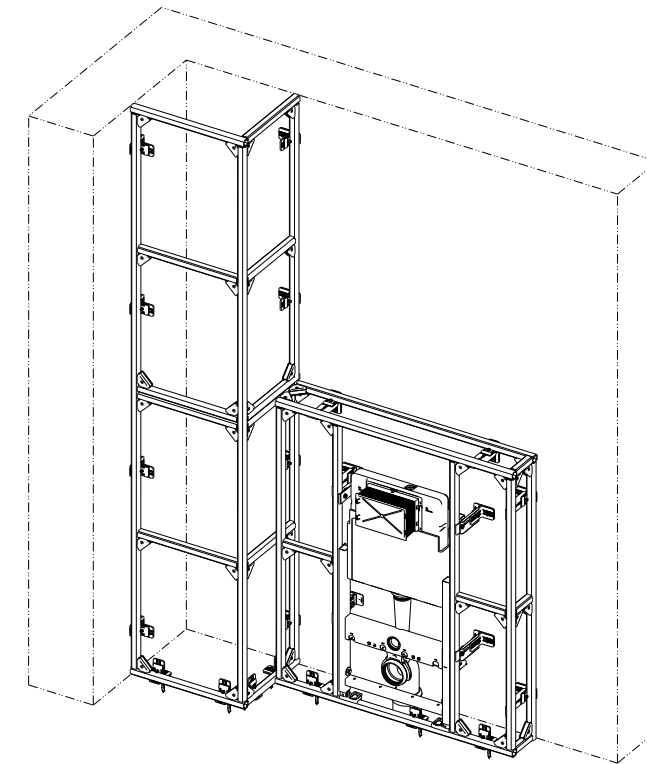
AS-P013 or AS-P014

Detail D

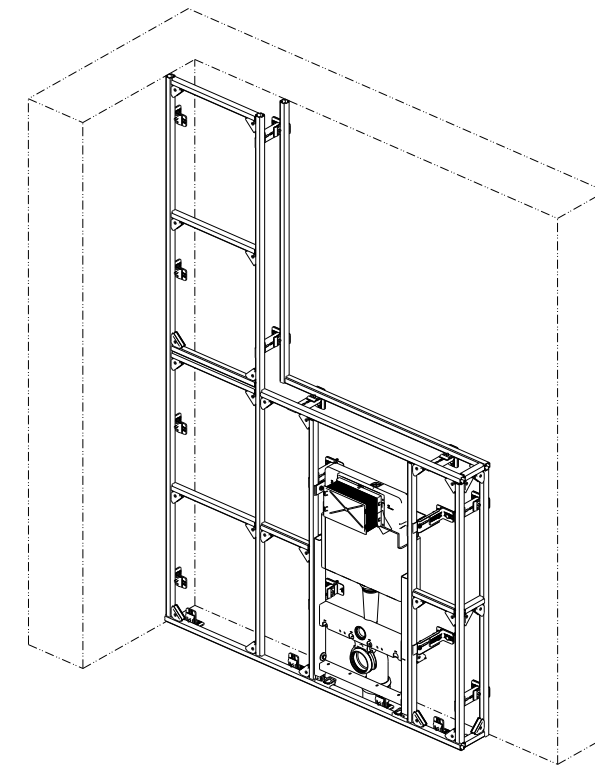


AS-P013 or AS-P014

4.3 Construction in front of the load-bearing wall partially high with a shaft



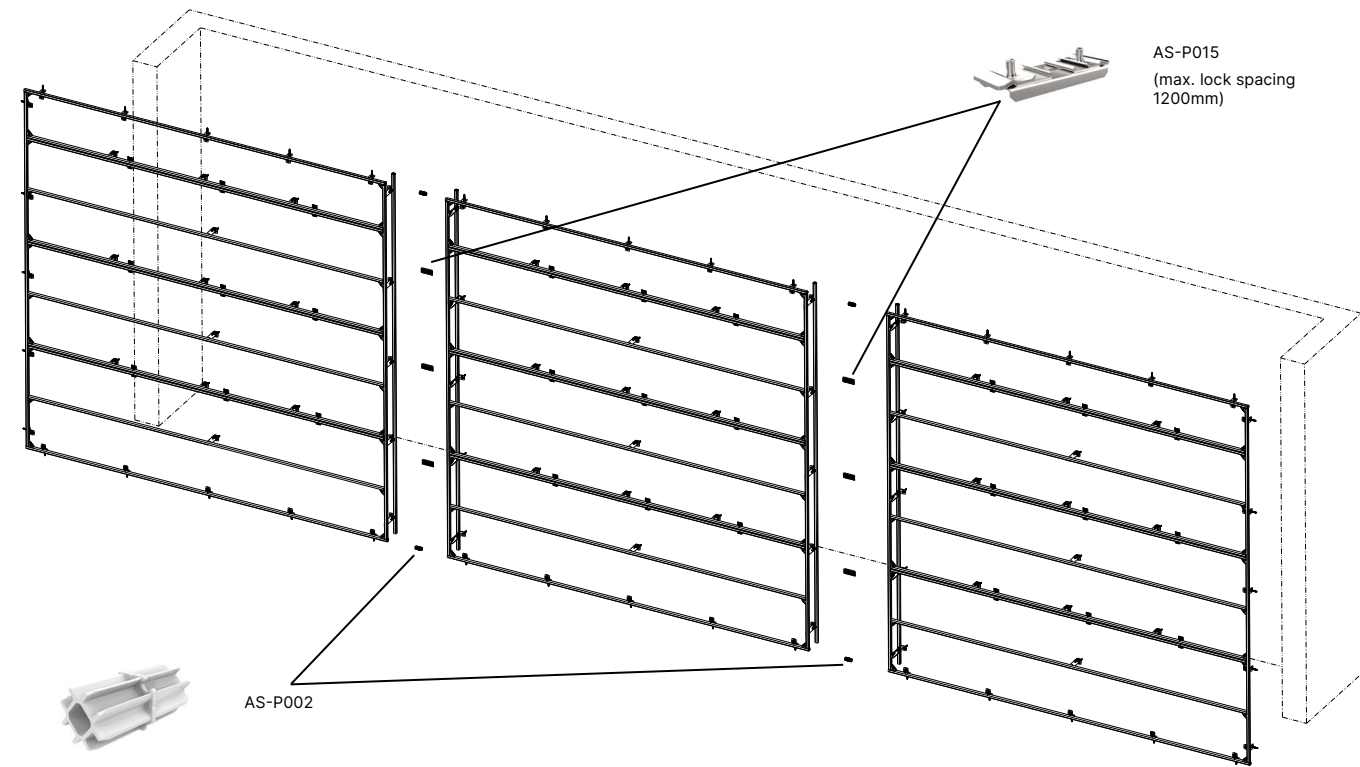
Picture no.7 Construction in front of the load-bearing wall with a shaft – different thickness of the construction of the shaft and the pre-wall.



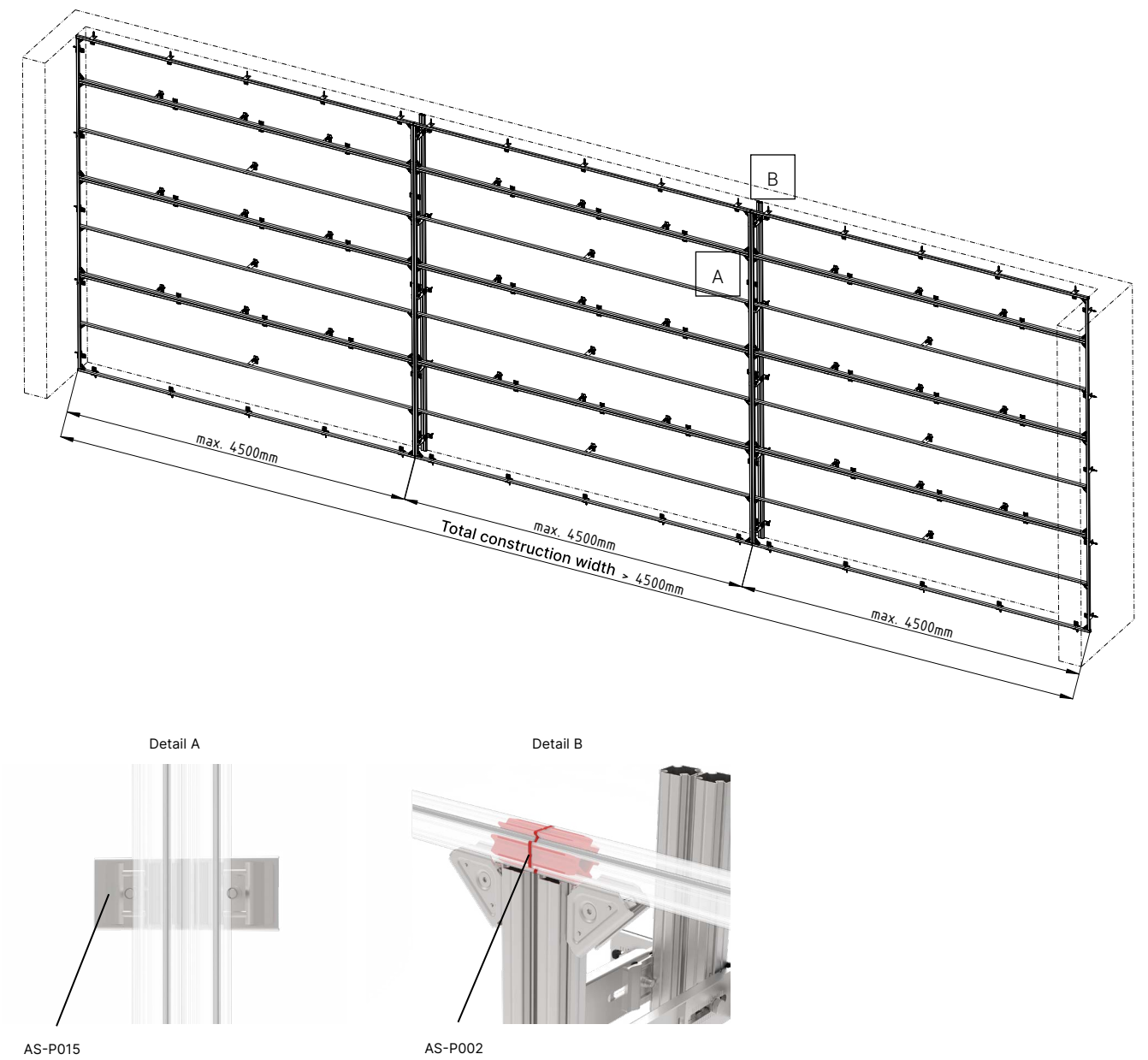
Picture no.8 Construction in front of the load-bearing wall with a shaft – same thickness of the construction of the shaft and the pre-wall.

4.4 Alca System – construction in front of the load-bearing wall with a width greater than 4,5 m

In the case of a requirement for the final width of the construction in front of the load-bearing wall greater than 4500 mm, it is possible to stack the individual basic blocks of the construction described in this chapter with a width of 4500 mm side by side into the resulting larger width. The principle of stacking the blocks is shown in pictures no.9 and no.10. **The condition for such construction is that the structure of such a wall of the Alca System is anchored to a bricked wall that meets the construction requirements of the load-bearing wall for the type of material used!**

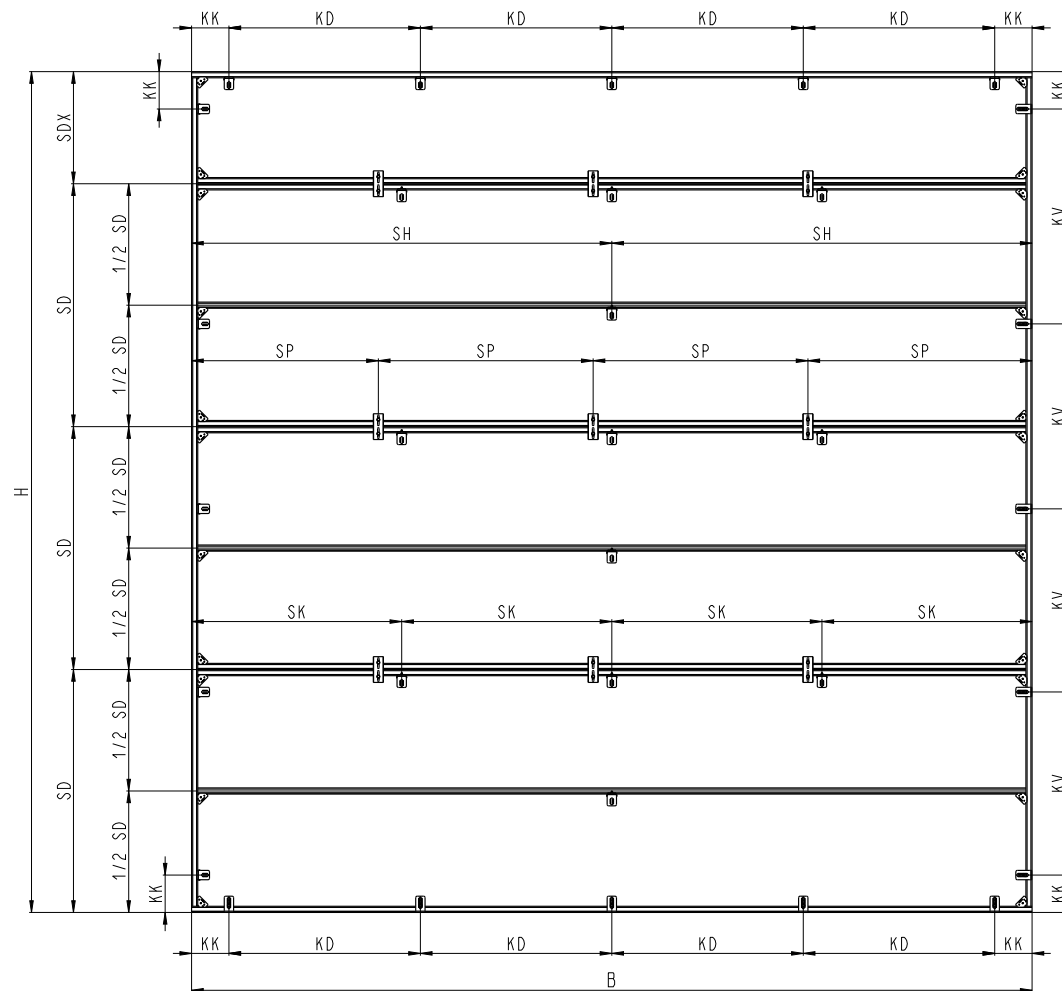


Picture no.9 The principle of assembling the basic blocks of walls into the resulting structure wider than 4,5 m



Picture no.10 By assembling the basic blocks of walls, it is possible to obtain the final pre-wall structure with a total width greater than 4,5 m

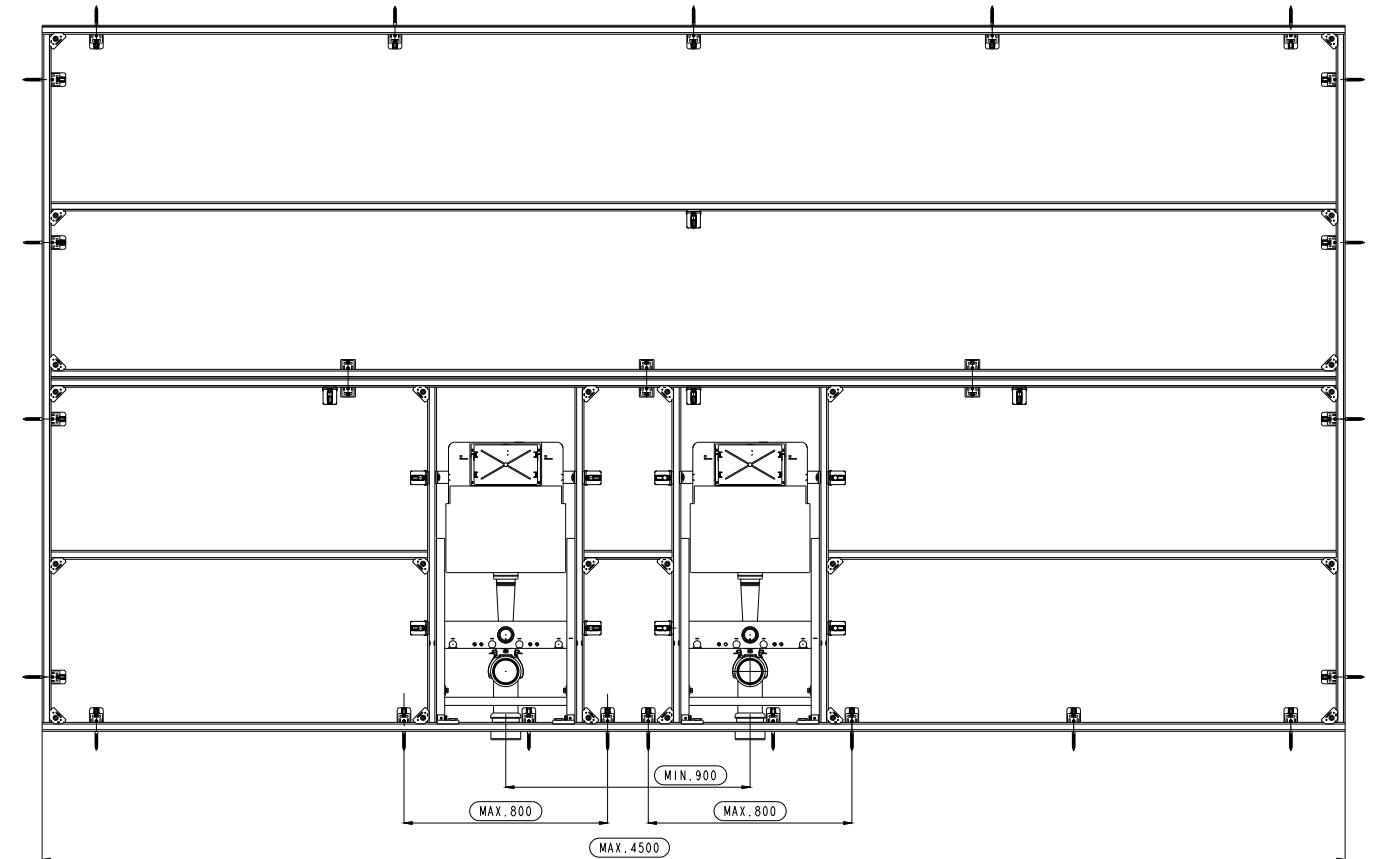
4.5 Dimensional and construction conditions for the construction of Alca System structures in front of the load-bearing wall.



H = max. 4500 mm
B = max. 4500 mm
SD = 1250 mm or 1300 mm
 $SDX \leq 1/2 \times SD$
KK = max. 200 mm
KD = max. 1200 mm
 $KD = (B - (2 \times KK)) / KD_b$
 $KD_b = (B - (2 \times KK)) / 1200$
KV = max. 1200 mm
 $KV = (H - (2 \times KK)) / KV_h$
 $KV_h = (H - (2 \times KK)) / 1200$
 construction
SP = max. 1200 mm
 $SP = B / SP_b$
 $SP_b = B / 1200$
SK = max. 1200 mm
 $SK = B / SK_b$
 $SK_b = B / 1200$
SH = max. 2400 mm
 $SH = B / SH_b$
 $SH_b = B / 2400$

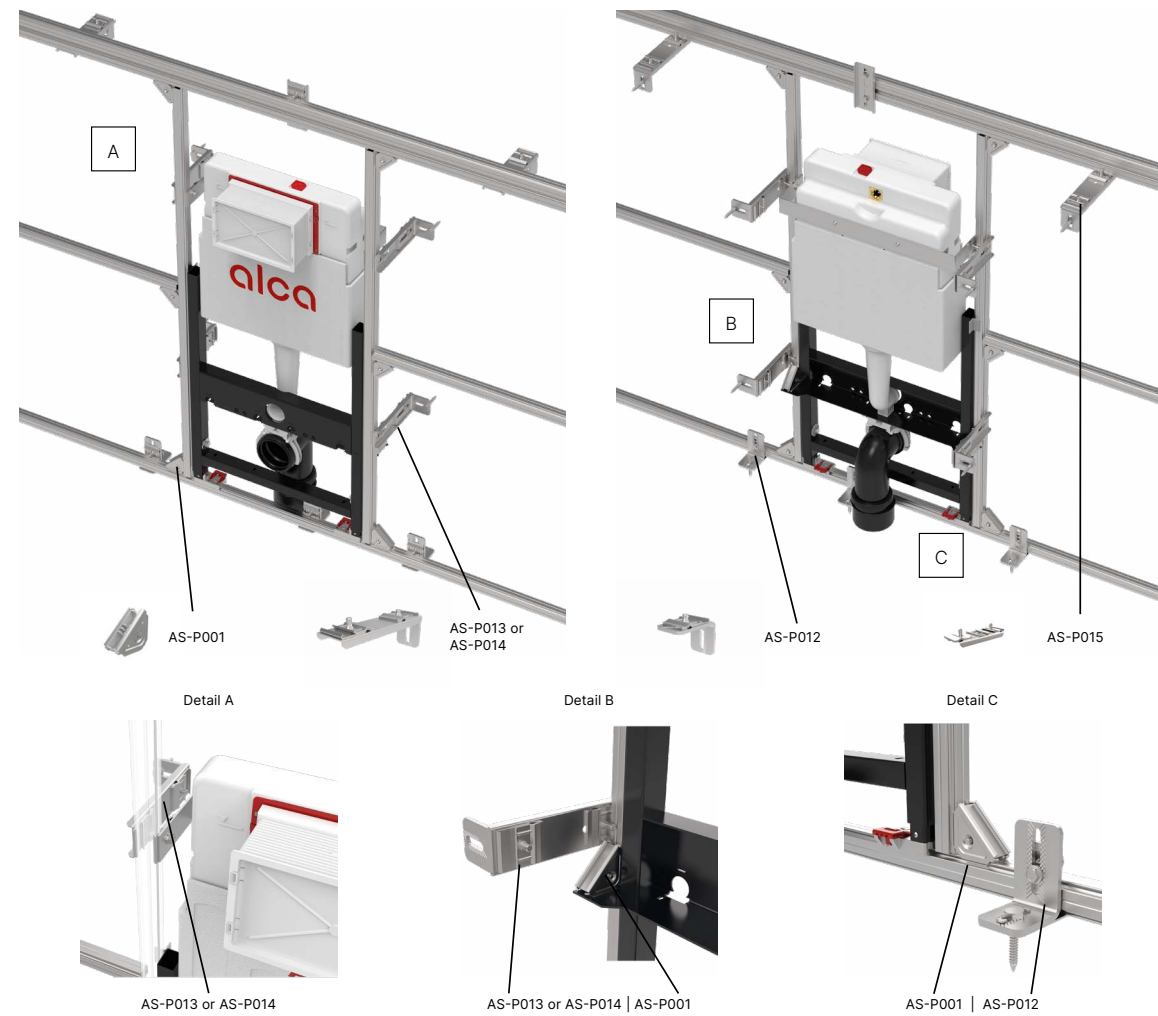
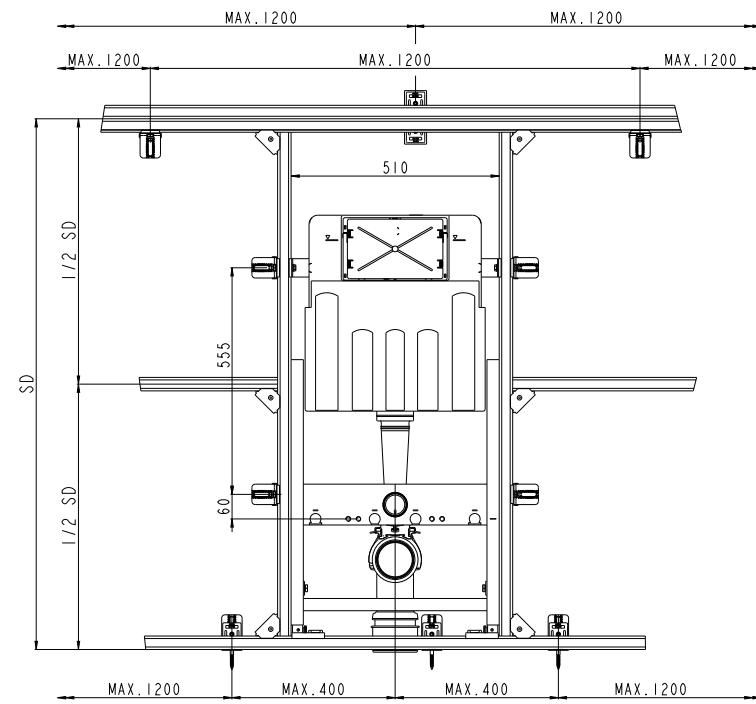
- **maximum height of the construction**
- **maximum width of the construction**
- **depending on plasterboard used**
- **must be adhered to**
 - distance of the holders from the edges of the construction
 - max. spacing of holders in the floor or ceiling
 - calculates spacing of holders in the floor or ceiling
 - round the result up to an integer, determines the number of gaps between the holders in the floor or ceiling
- **max. spacing of the holders on the sides of the construction**
- **calculates spacing of holders on the sides of the construction**
 - round the result up to an integer, determines the number of gaps between the holders on sides of the construction
- maximum spacing of profile locks
- calculates spacing of profile locks
- round the result up to an integer, determines number of gaps between profile locks
- maximum spacing of transverse reinforcement profiles in the height of the plasterboard division
- calculates spacing of profile holders
- round the result up to an integer, determines the number of gaps between profile holders
- maximum distance for profile holders in 1/2 of plasterboard height
- calculates distance of profile holders
- round the result up to an integer, determines number of gaps between profile holders

4.6 Conditions for mounting accessories to construction in front of the load-bearing wall

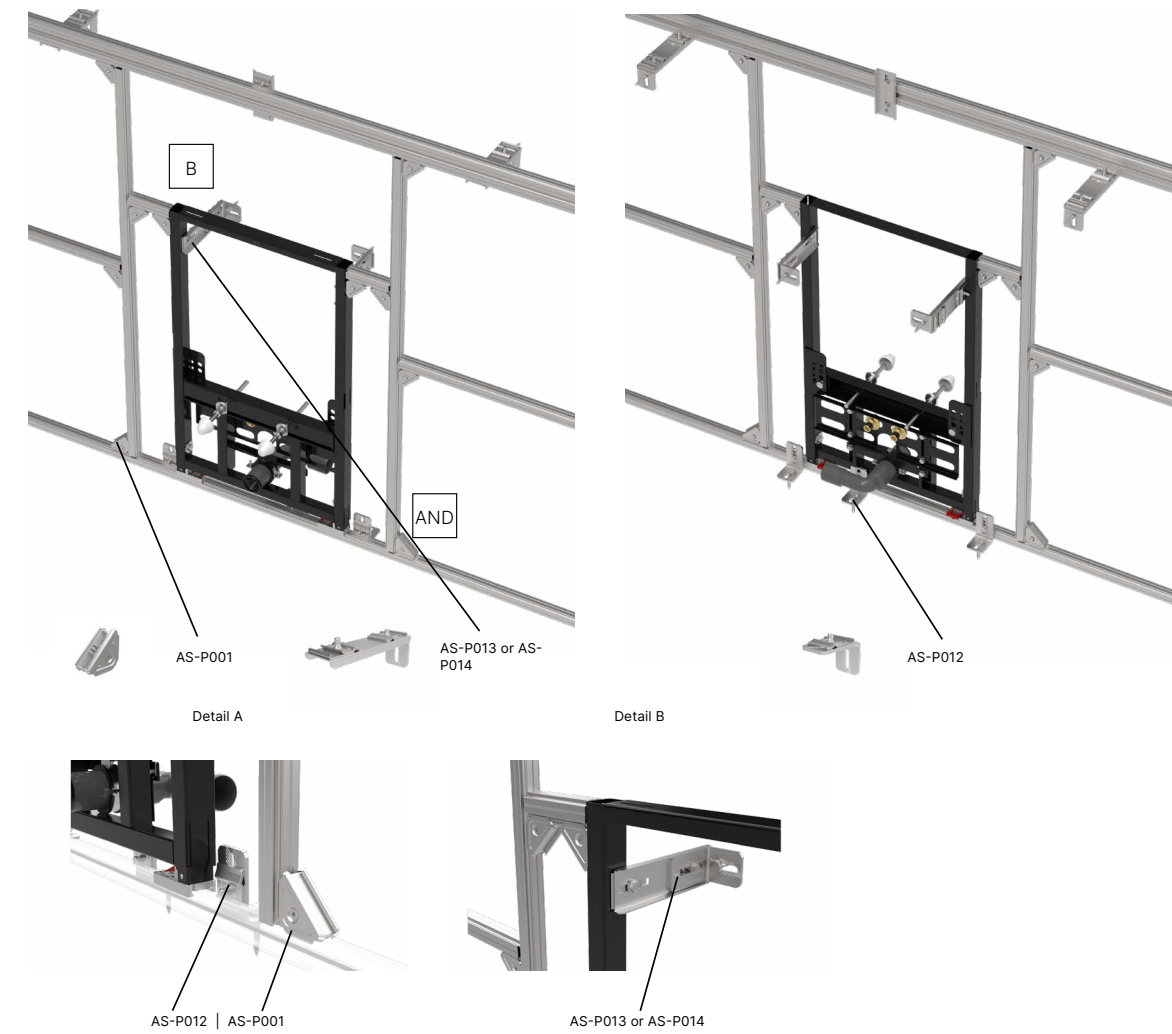
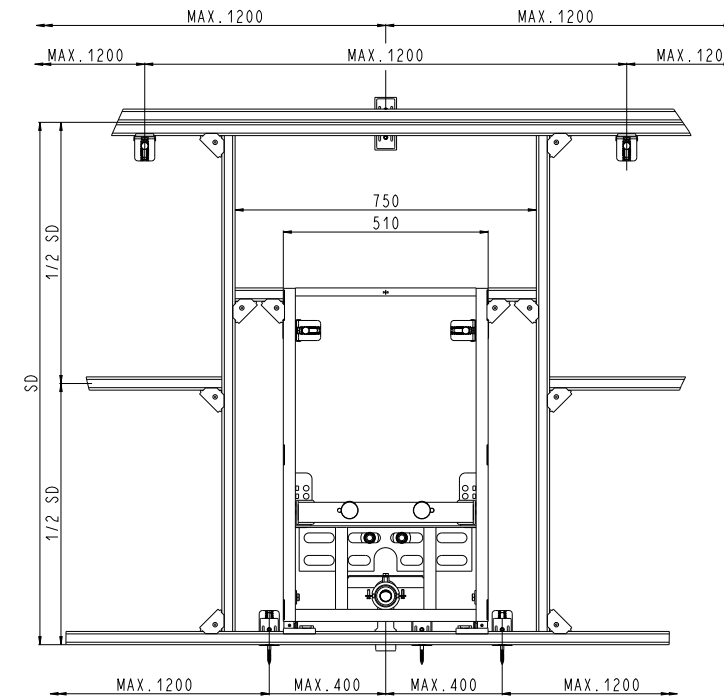


The minimum axial distance of the pre-wall installation systems or mounting frames is 900 mm.

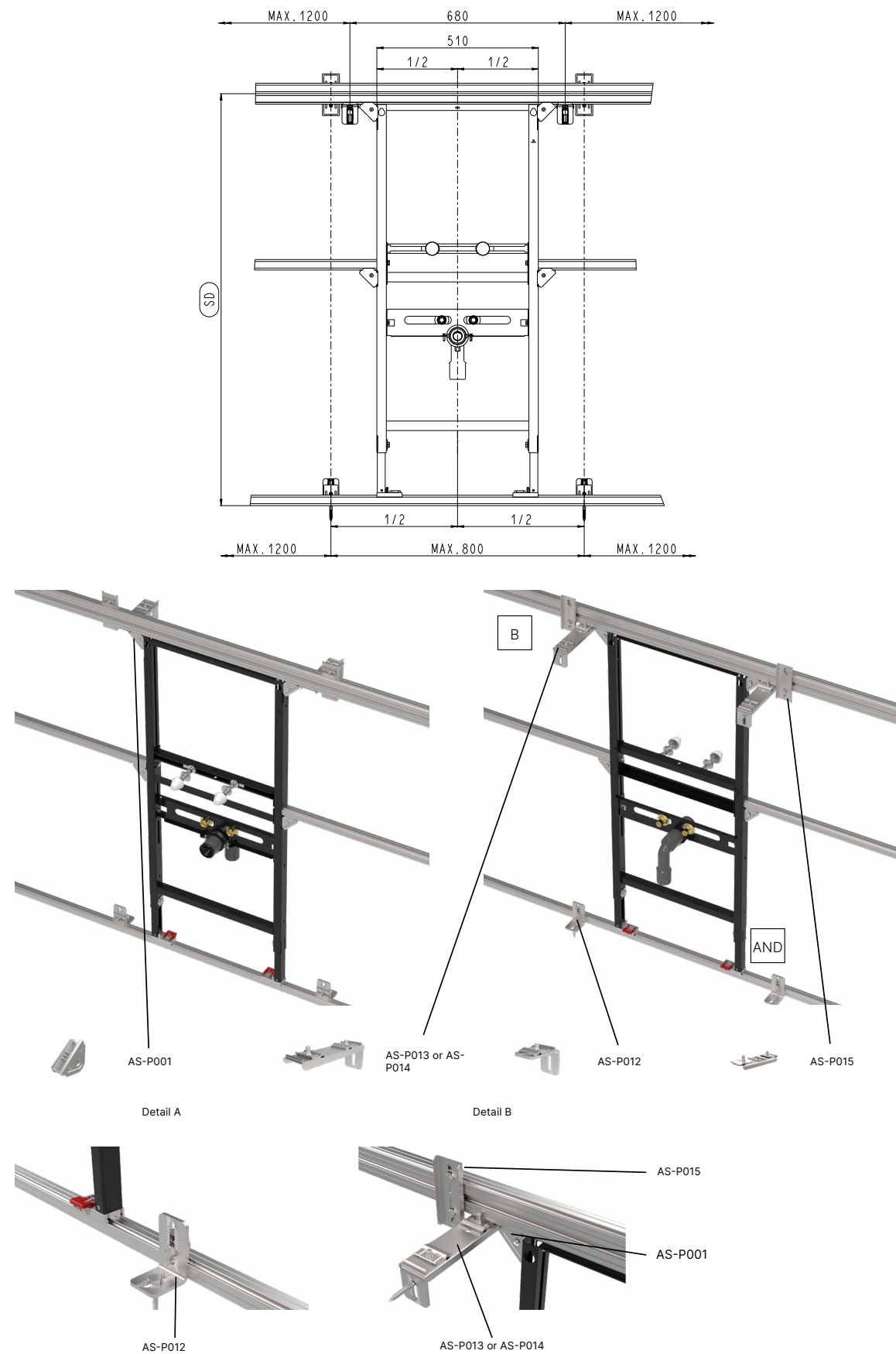
4.6.1 Installation of the pre-wall installation system AS101 into the construction of the pre-wall



4.6.2 Installation of the bidet mounting frame AS105 into the construction of the pre-wall

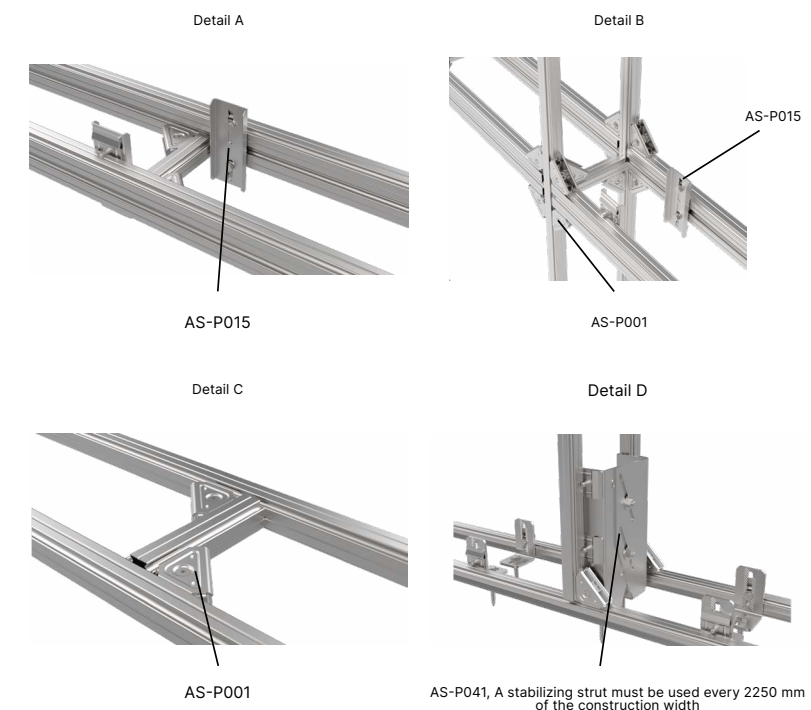
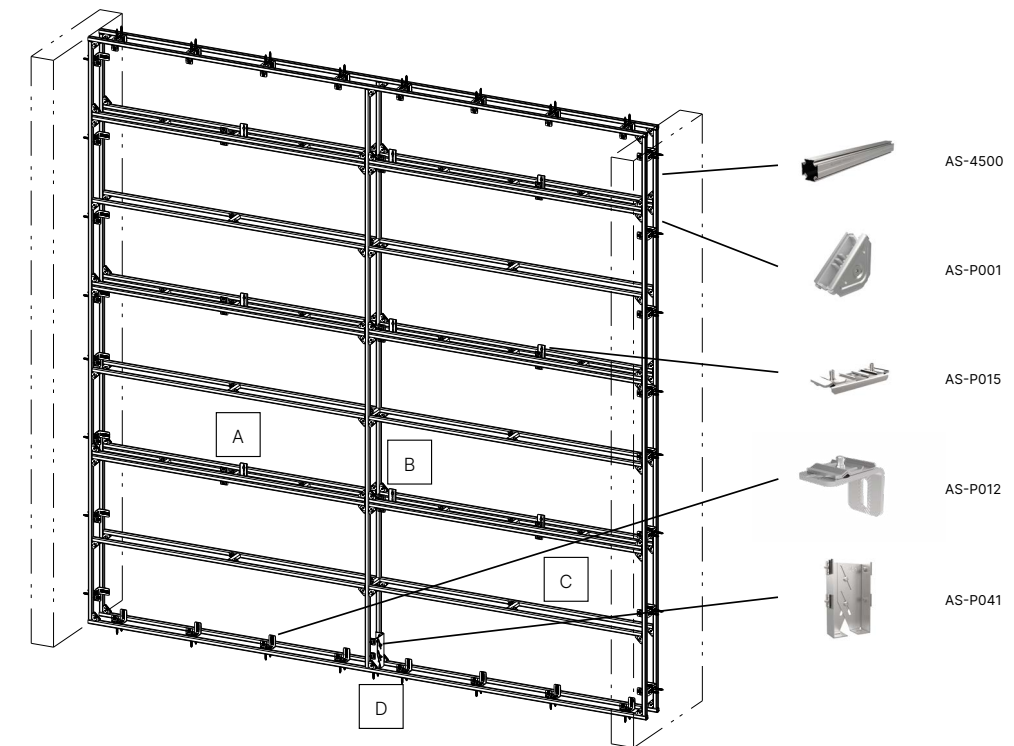


4.6.3 Installation of the washbasin mounting frame AS104 into the construction of the pre-wall

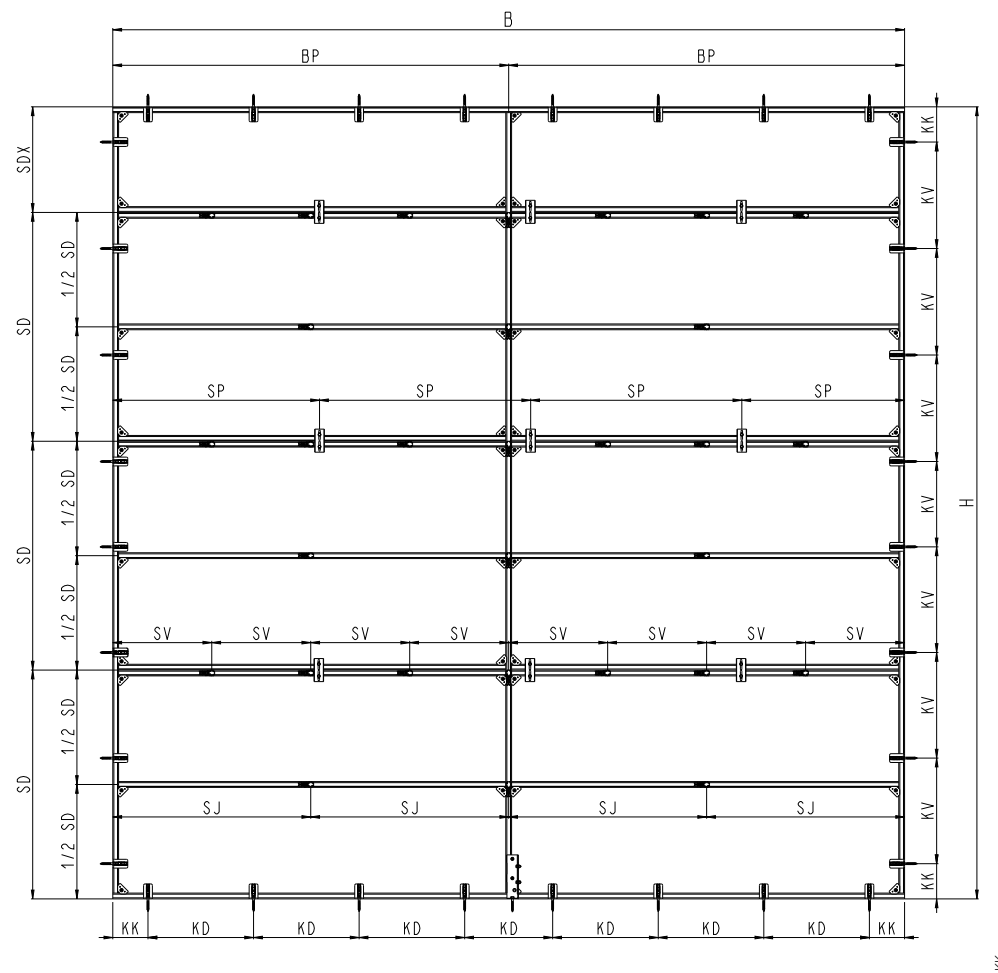


5. Partition upto the ceiling – fixed to both side walls, floor and ceiling

5.1 Partition for the entire height of the room fixed between two side walls, the floor and the ceiling



5.2 Dimensional and construction conditions for the construction of structures fixed to both side walls, the floor and the ceiling



H = max 4500 mm

H = max. 2600 mm

B = max. 4500 mm

SD = 1250 mm or 1300 mm

SDX ≤ 1/2 x SD

BP = max. 2250 mm

KK = max. 200 mm

KD = max. 600 mm

$KD = (B - (2 \times KK)) / KD_b$

$KD_b = (B - (2 \times KK)) / 600$

KV = max. 600 mm

$KV = (H - (2 \times KK)) / KD_h$

$KD_h = (H - (2 \times KK)) / 600$

SP = max. 1200 mm

$SP = B / SP_b$

$SP_b = B / 1200$

SV = max. 600 mm

$SV = B / SV_b$

$SV_b = B / 600$

SJ = max. 1200 mm

$SJ = B / SJ_b$

$SJ_b = B / 1200$

- maximum height for unloaded structures (only loads from the own weight of the cladding of the wall structures by SDK boards or possibly from ceramic tiles are allowed)

- maximum height for structures loaded from accessories (fixtures)

- maximum width of the construction

- depends on plasterboard used

- must be adhered to

- max. distance of the vertical profile from the edge of the construction

- distance of the holders from the edges of the construction

- max. spacing of holders in the floor or ceiling

- calculates spacing of holders in the floor or ceiling

- round the result up to an integer, determines the number of gaps between the holders in the floor or ceiling

- max. spacing of holders on the side of the construction

- calculates spacing of holders on the side of the construction

- round the result up to an integer, determines the number of gaps between the holders on the side of the construction

- maximum spacing of profile locks

- calculates spacing of profile locks

- round the result up to an integer, determines number of gaps between profile locks

- maximum spacing of transverse reinforcement profiles in the height of the plasterboard division

- calculates spacing of transverse reinforcement profiles

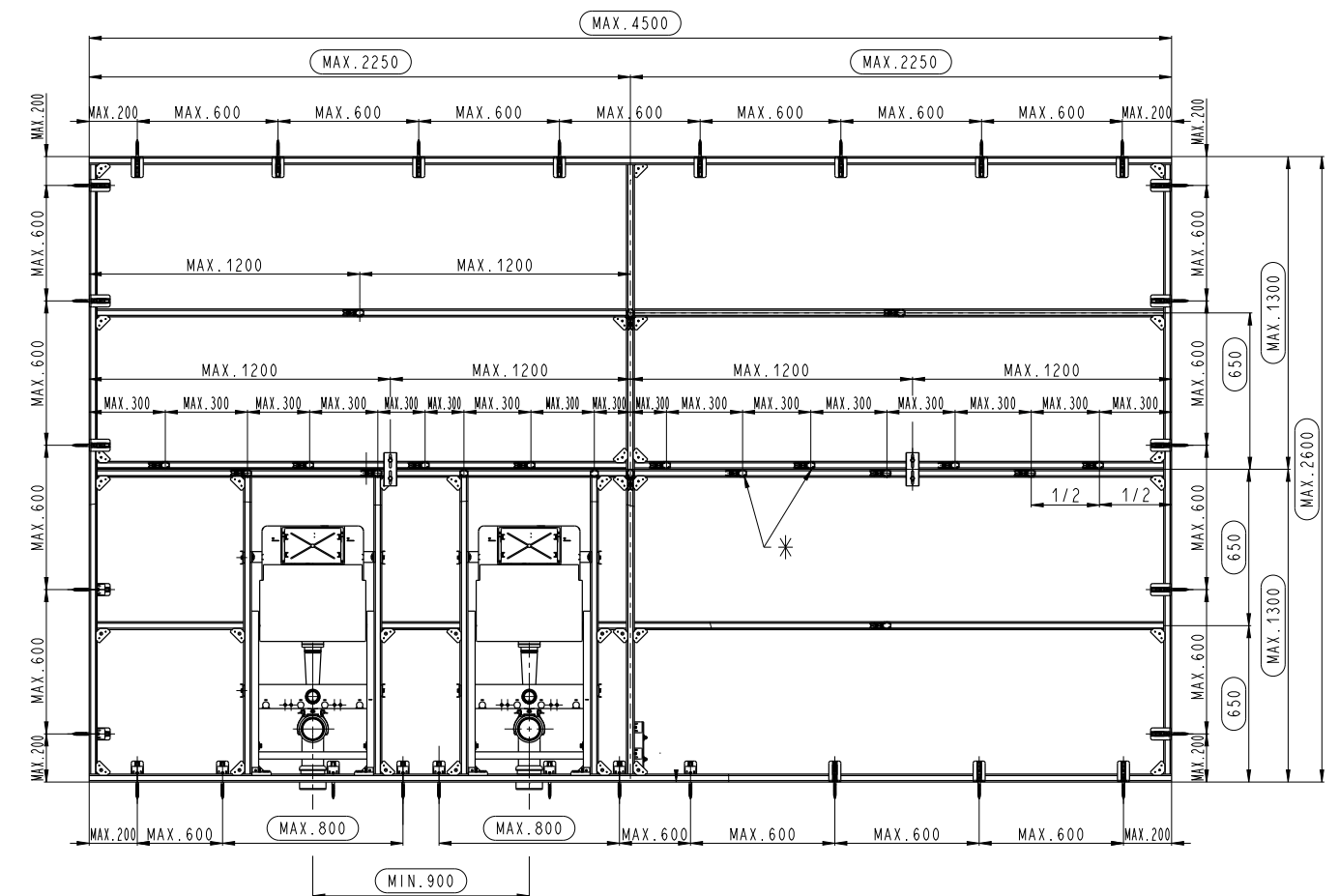
- round the result up to an integer, determines the number of gaps between transverse reinforcement profiles

- maximum spacing of transverse reinforcement profiles at 1/2" height of plasterboards

- calculates distance of reinforcement profiles

- round the result up to an integer, determines the number of gaps between transverse reinforcement profiles

5.3 Conditions for mounting accessories in partitions fixed on both sides between two walls, the floor and the ceiling

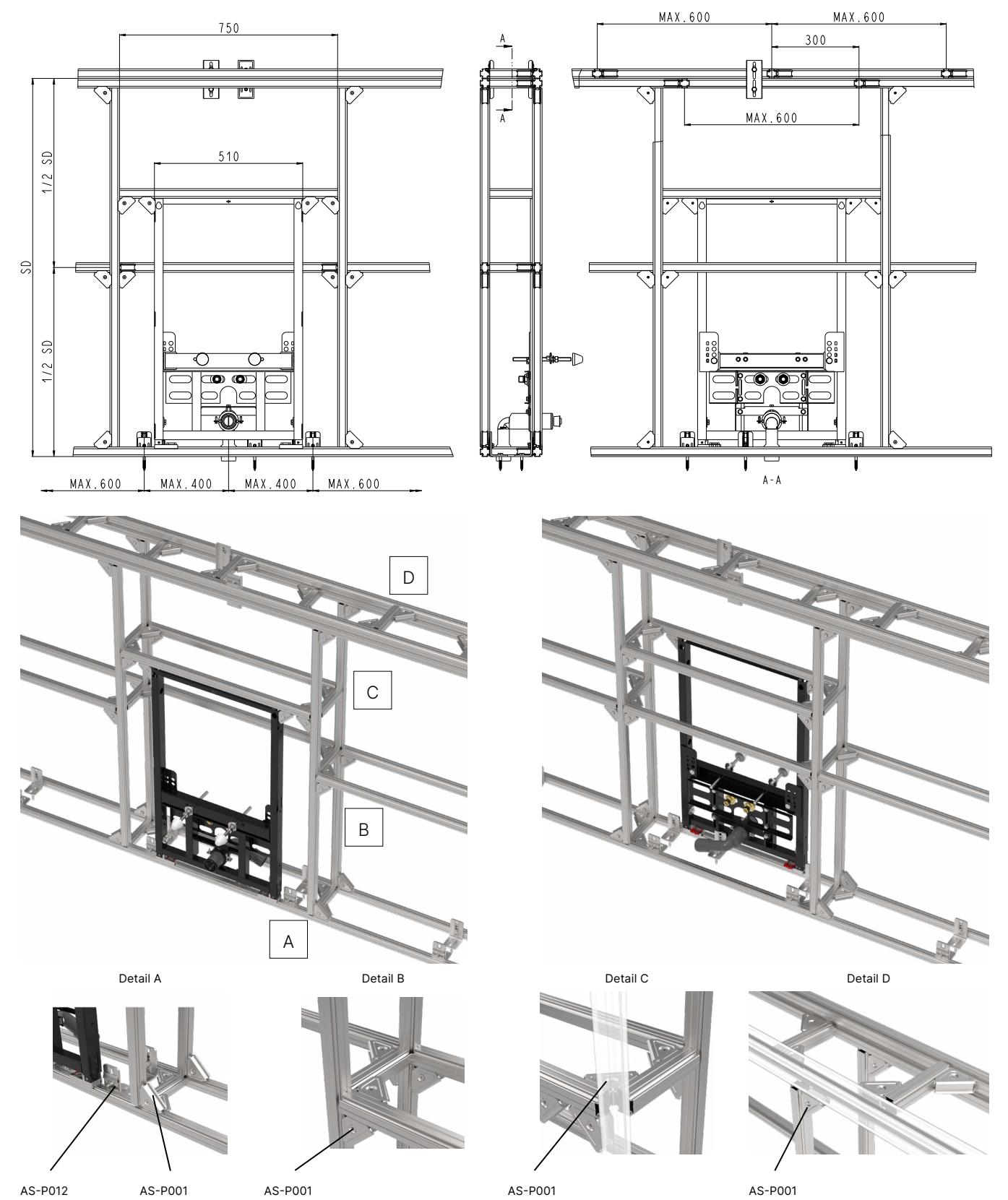
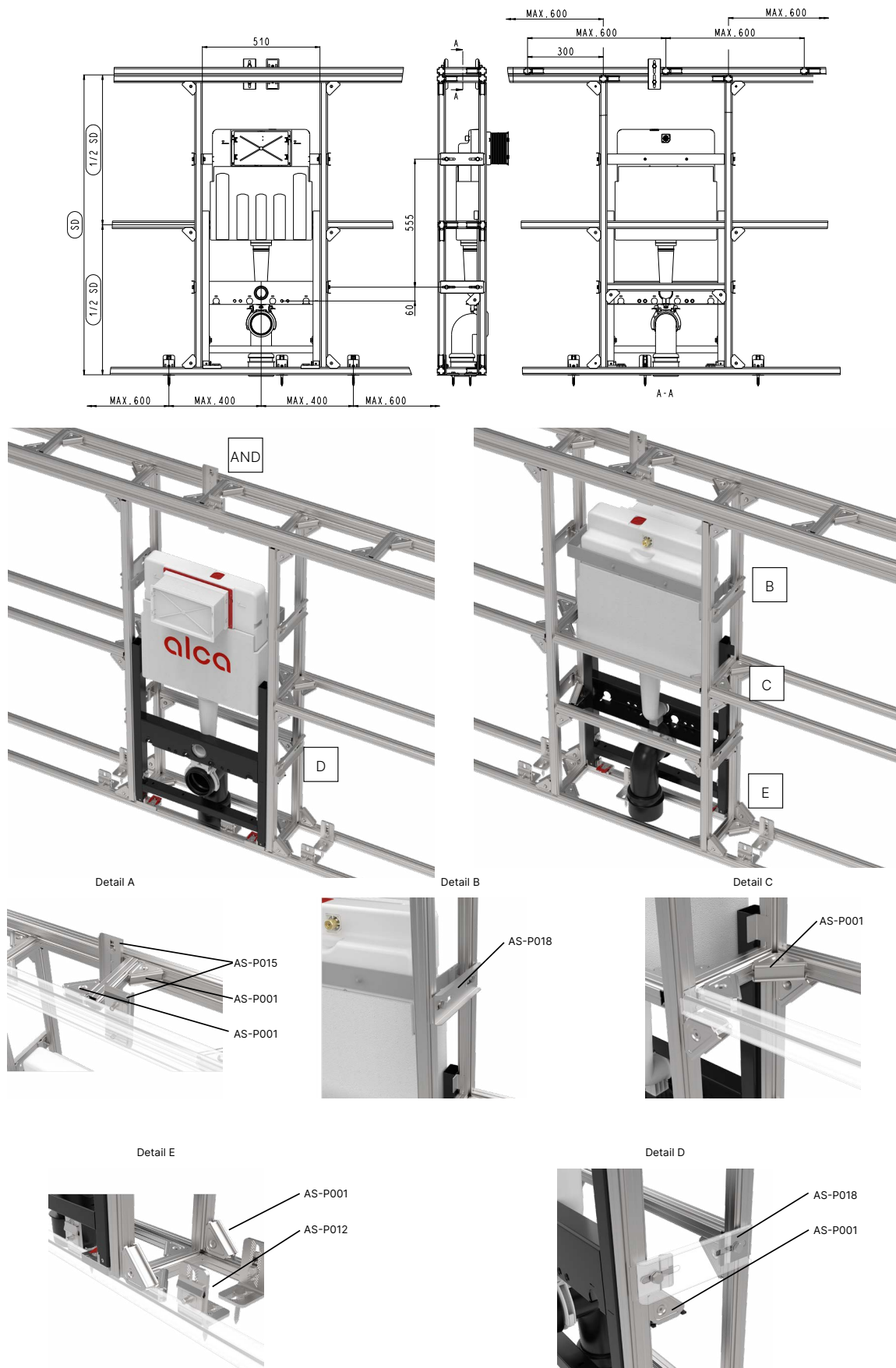


* - in the case of installation of sanitary mounting frames into the partition structure, it is necessary to reinforce the horizontal profiles of the construction with alternating cross sections (alternating along the 1/2 distance of the profiles). Max. allowed distance of alternating transverse profiles is 300mm. Can be seen on the picture upwards.

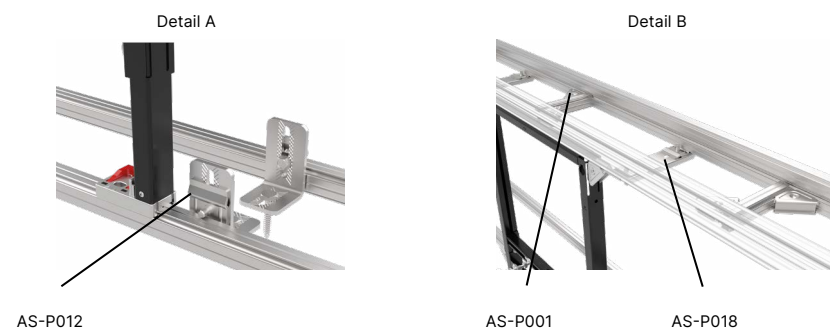
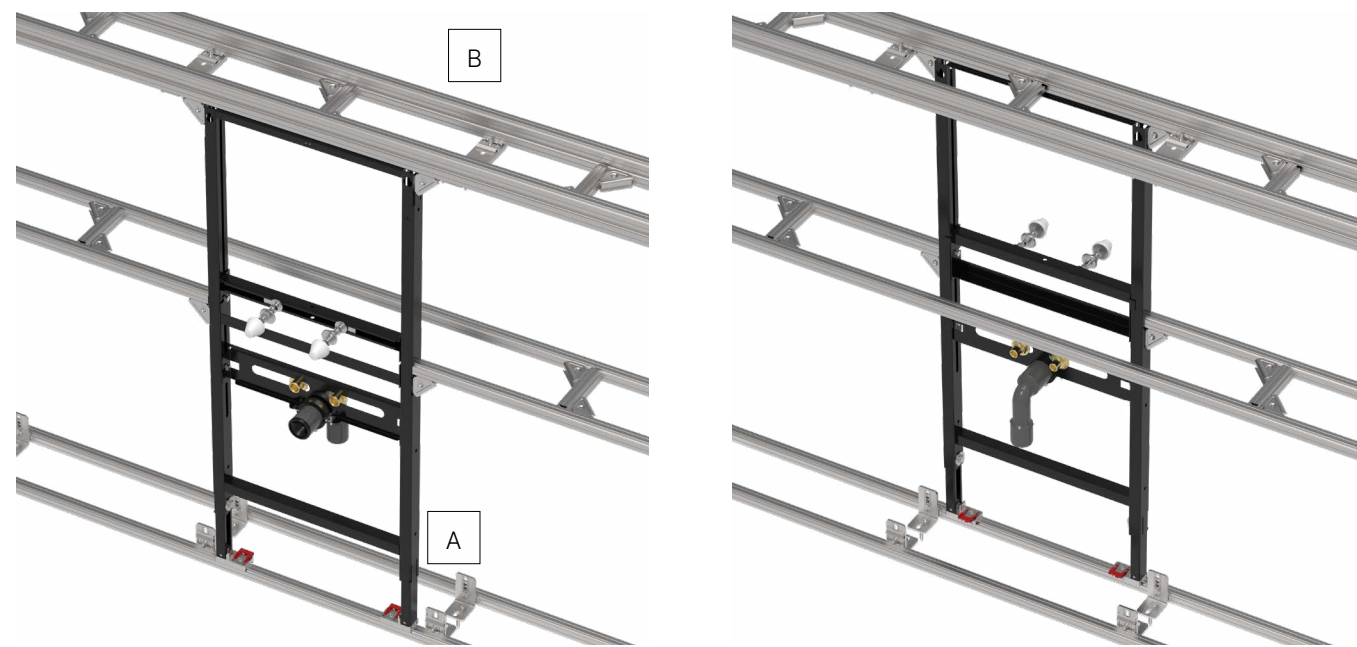
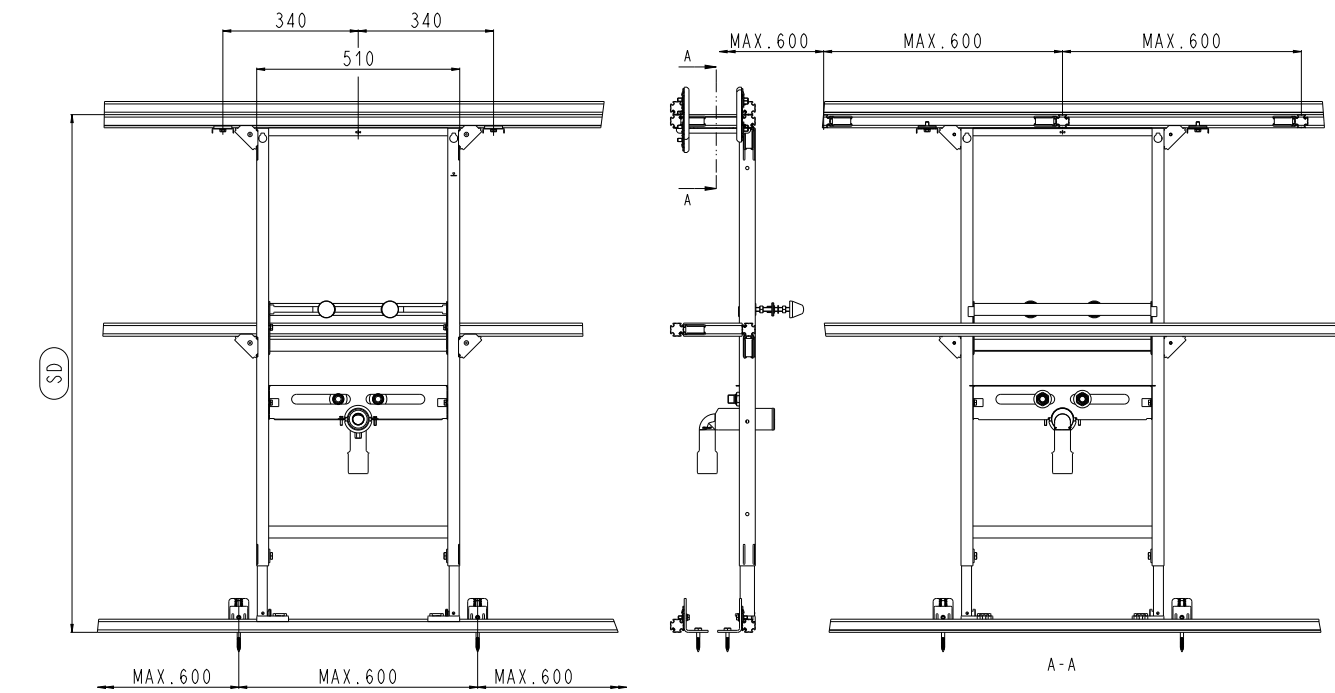
The minimum installation axial distance of the built-in accessories (toilet modules or mounting frames) is 900 mm. The maximum number of fixtures (WC, bidet, washbasin or urinal) built-in to the partition construction between two side walls in a max. 4,5 m width is 3 pcs. The condition for the installation of accessories is the fixation of the construction to the floor, ceiling and both side walls.

5.3.1 Built-in toilet module AS101 in the partition

5.3.2 Installation of the AS105 mounting frame for the bidet in the partition

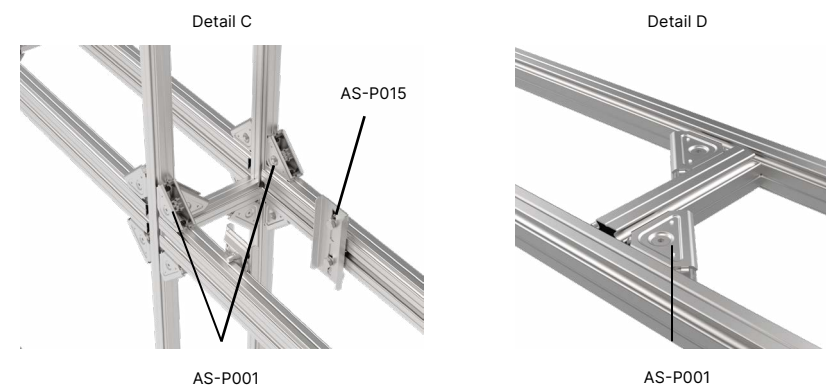
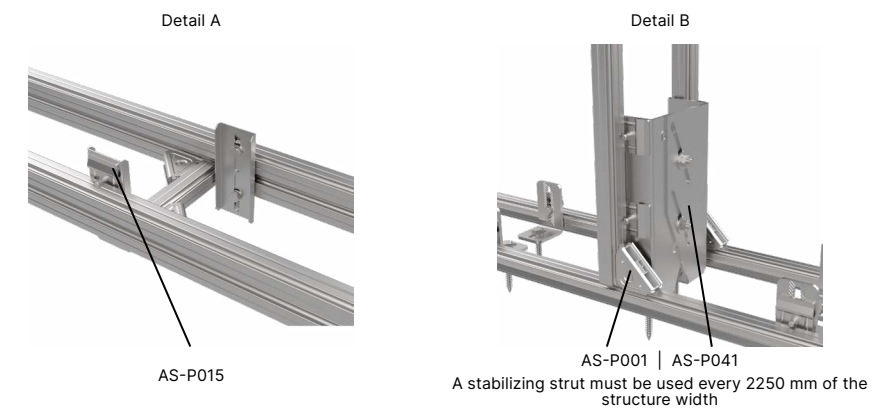
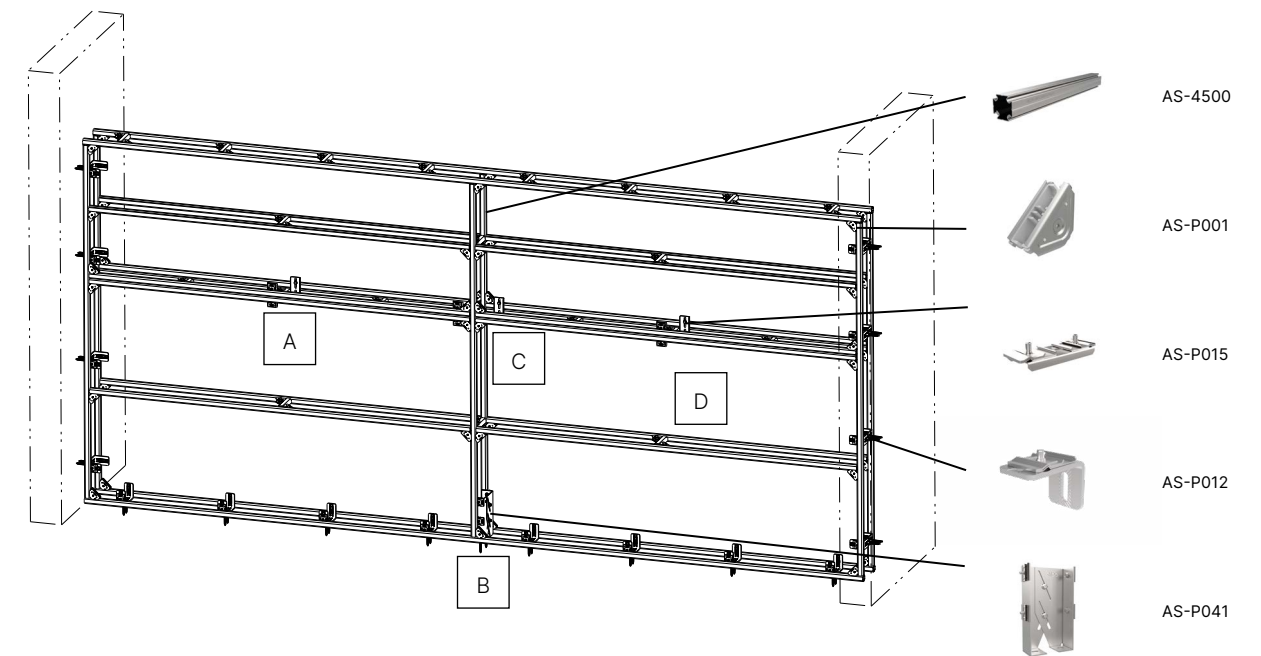


5.3.3 Installation of the AS104 washbasin mounting frame in the partition

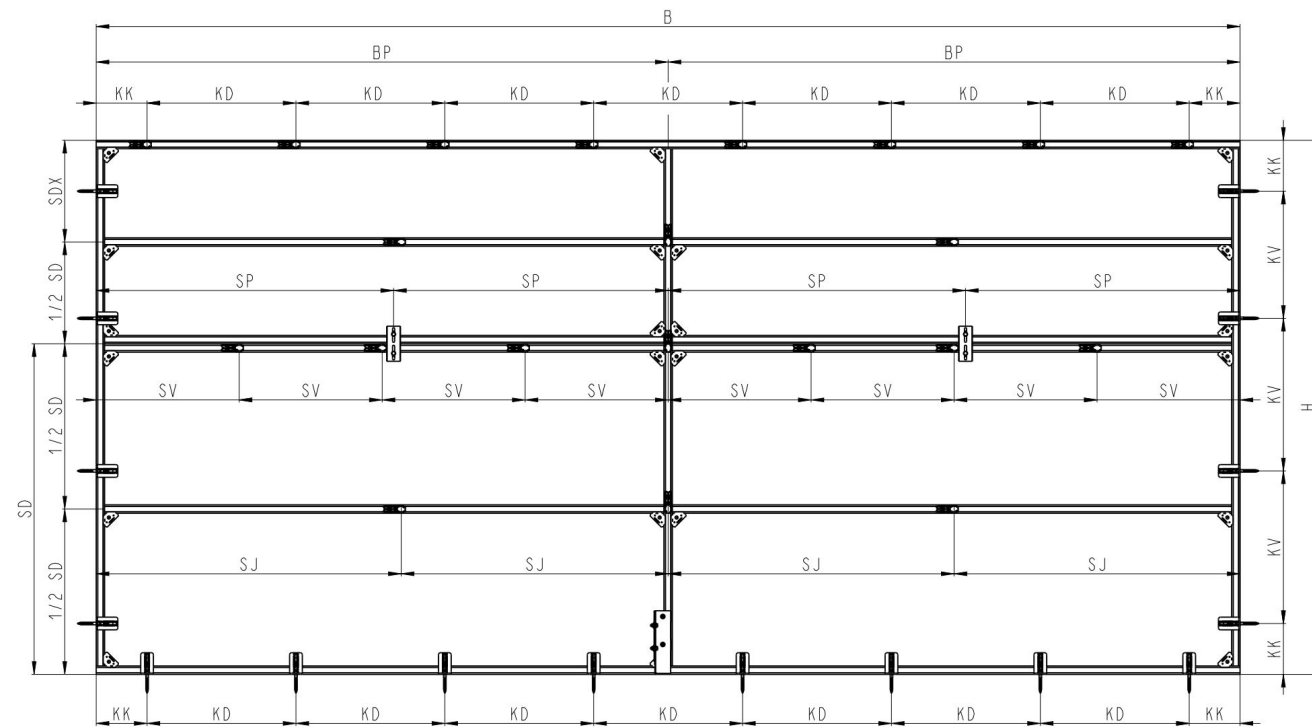


6. Partially high partition - fixed to both side walls and floor

6.1 Alcasystem - partially high partition fixed between two side walls and the floor



6.2 Dimensional and construction conditions for the construction of a partially high partition fixed between two side walls and the floor



H = max. 2100 mm

– maximum height for unloaded construction (only load from the own weight of the wall cladding of the wall with SDK boards or possibly from ceramic tiles is allowed)

B = max. 4500 mm

– maximum width of the construction

SD = 1250 mm or 1300 mm

– depends on plasterboard used

SDX ≤ 1/2 x SD

– must be adhered to

BP = max. 2250 mm

– max. distance of the vertical profile from the edge of the structure

KK = max. 200 mm

– distance of the holders from the edges of the construction

T = min. 210 mm

– min. construction thickness

KD = max. 600 mm

$KD = (B - (2 \times KK)) / KD_b$

$KD_b = (B - (2 \times KK)) / 600$

– max. spacing of holders in the floor

– calculates spacing of holders in the floor

– round the result up to an integer, determines the number of gaps between the holders in the floor

KV = max. 600 mm

$KV = (H - (2 \times KK)) / KD_h$

$KD_h = (H - (2 \times KK)) / 600$

– max. spacing of holders on the side of the construction

– calculates spacing of holders on the side of the construction

– round the result up to an integer, determines the number of gaps between the holders on the side of the construction

SP = max. 1200 mm

$SP = B / SP_b$

$SP_b = B / 1200$

– maximum spacing of profile locks

– calculates spacing of profile locks

– round the result up to an integer, determines the number of gaps between profile locks

SV = max. 600 mm

$SV = B / SV_b$

$SV_b = B / 600$

– maximum spacing of transverse reinforcement profiles in the height of the plasterboard division

– calculates spacing of transverse reinforcement profiles

– round the result up to an integer, determines the number of gaps between transverse reinforcement profiles

SJ = max. 1200 mm

$SJ = B / SJ_b$

$SJ_b = B / 1200$

– maximum spacing of transverse reinforcement profiles at 1/2" height of plasterboards

– calculates distance of reinforcement profiles

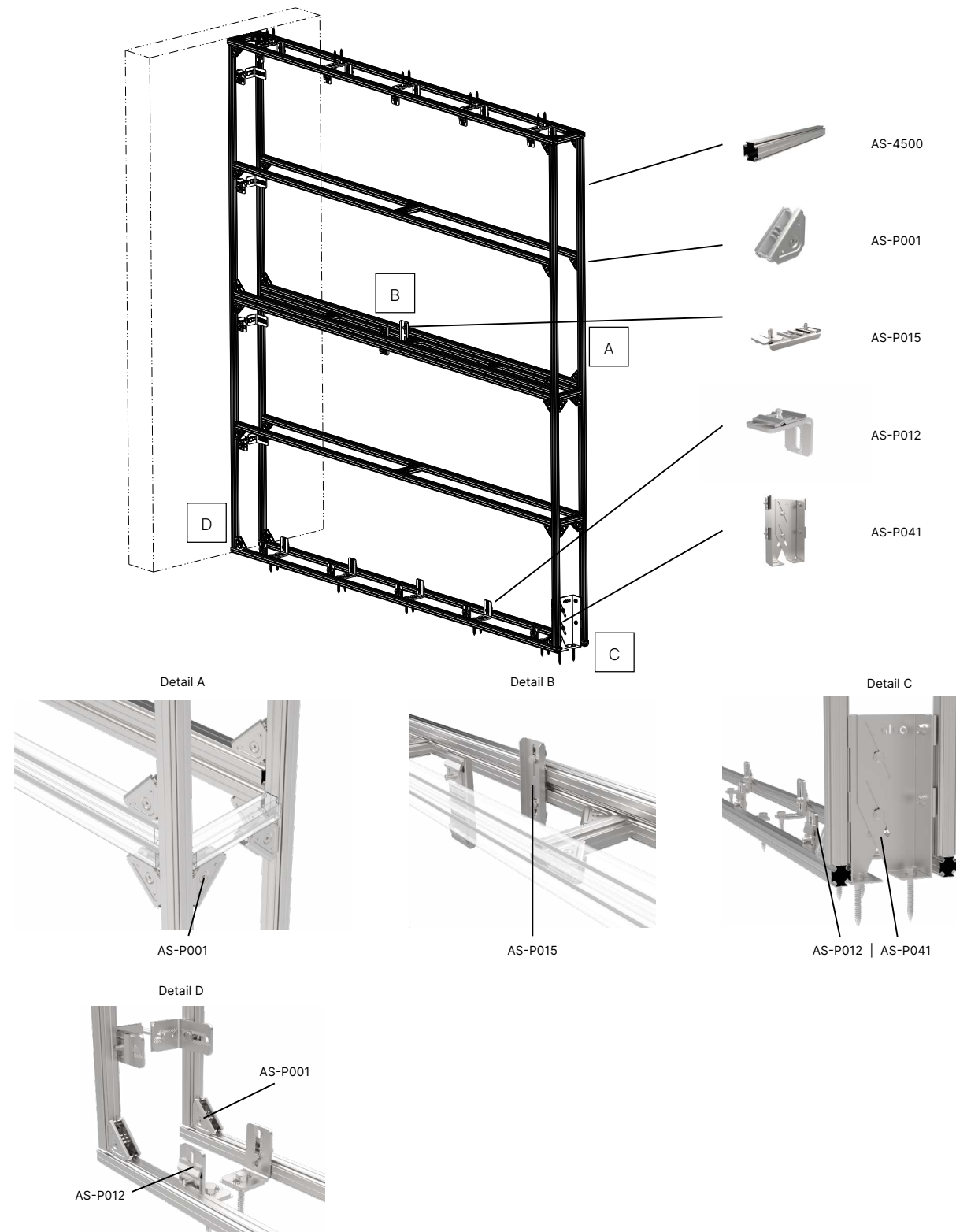
– round the result up to an integer

6.3 Conditions for mounting accessories in partitions fixed on both sides between two walls, the floor and the ceiling

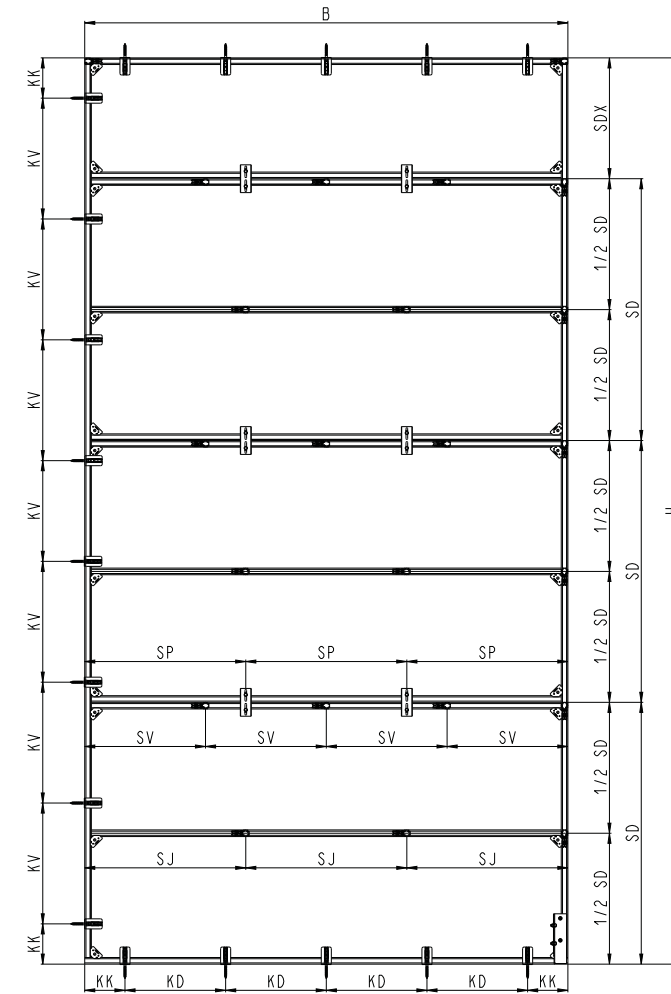
This type of construction can not be loaded with any payload. It is therefore not possible to install accessories for the installation of toilets, washbasins, urinals or bidets, as well as furniture, etc. The structure can be loaded only by a constant load from the wall cladding, ie plasterboard and ceramic tiles.

7. Partition upto the ceiling – fixed to one side wall, floor and ceiling

7.1 Conditions for the construction of partitions fixed to one side wall, floor and ceiling



7.2 Dimensional conditions for construction of partitions fixed to one side wall, floor and ceiling



H = max. 2600 mm
H = max. 4500 mm
B = max. 2400 mm
T = min. 210 mm
SD=1250 mm nebo 1300 mm
SDX ≤ 1/2 × SD
KK = max. 200 mm
KD = max. 600 mm
 $KD = (B - (2 \times KK)) / KD_b$
 $KD_b = (B - (2 \times KK)) / 600$
KV = max. 600 mm
 $KV = (H - (2 \times KK)) / KV_h$
 $KV_h = (H - (2 \times KK)) / 600$

SP = max. 1200 mm
 $SP = B / SP_b$
 $SP_b = B / 1200$
SV = max. 600 mm
 $SV = B / SV_b$
 $SV_b = B / 600$
SJ = max. 1200 mm
 $SJ = B / SJ_b$
 $SJ_b = B / 1200$

- **maximum height for loaded structures by payload (loads from toilets, bidets, washbasins, furniture ..)!**
- maximum height for unloaded constructions (without the load from toilet, bidet and furniture)
- maximum width of the construction
- minimum depth of the partition construction
- depends on plasterboard used
- must be adhered to
- distance of the holders from the edges of the construction
- max. spacing of holders in the floor or ceiling
- calculates spacing of holders in the floor or ceiling
- round the result up to an integer, determines the number of gaps between the holders in the floor or ceiling
- max.spacing of holders on the side of the construction
- calculates spacing of holders on the side of the construction
- round the result up to an integer, determines the number of gaps between the holders on the side of the construction
- maximum spacing of profile locks
- calculates spacing of profile locks
- round the result up to an integer, determines the number of gaps between profile locks
- maximum spacing of transverse reinforcement profiles in the height of the plasterboard division
- calculates spacing of transverse reinforcement profiles
- round the result up to an integer, determines the number of gaps between transverse reinforcement profiles
- maximum spacing of transverse reinforcement profiles at 1/2" height of plasterboards
- calculates distance of reinforcement profiles
- round the result up to an integer, determines the number of gaps between transverse reinforcement profiles

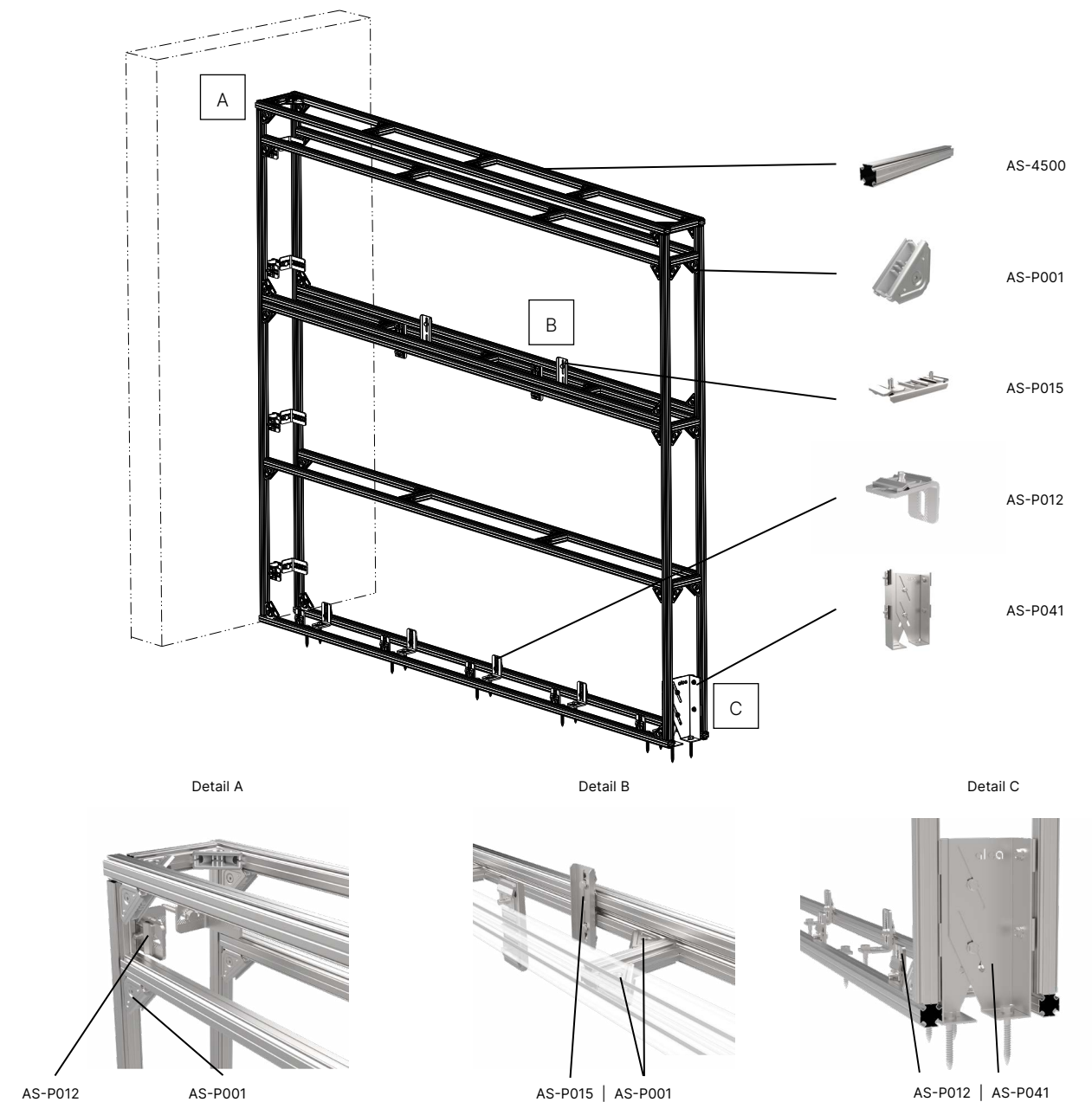
7.3 Conditions for mounting accessories in partitions fixed to one side wall, floor and ceiling

The partition fixed to one side wall, floor and ceiling can be loaded with a maximum of 1 piece of heavy sanitary equipment such as a toilet module or bidet and other lighter sanitary equipment such as sink or urinal, which must be installed in the construction using a mounting frame. Max. height of the construction is **2600 mm** and the length of the wall from the side wall is 2400 mm. The construction must be anchored to the ceiling.

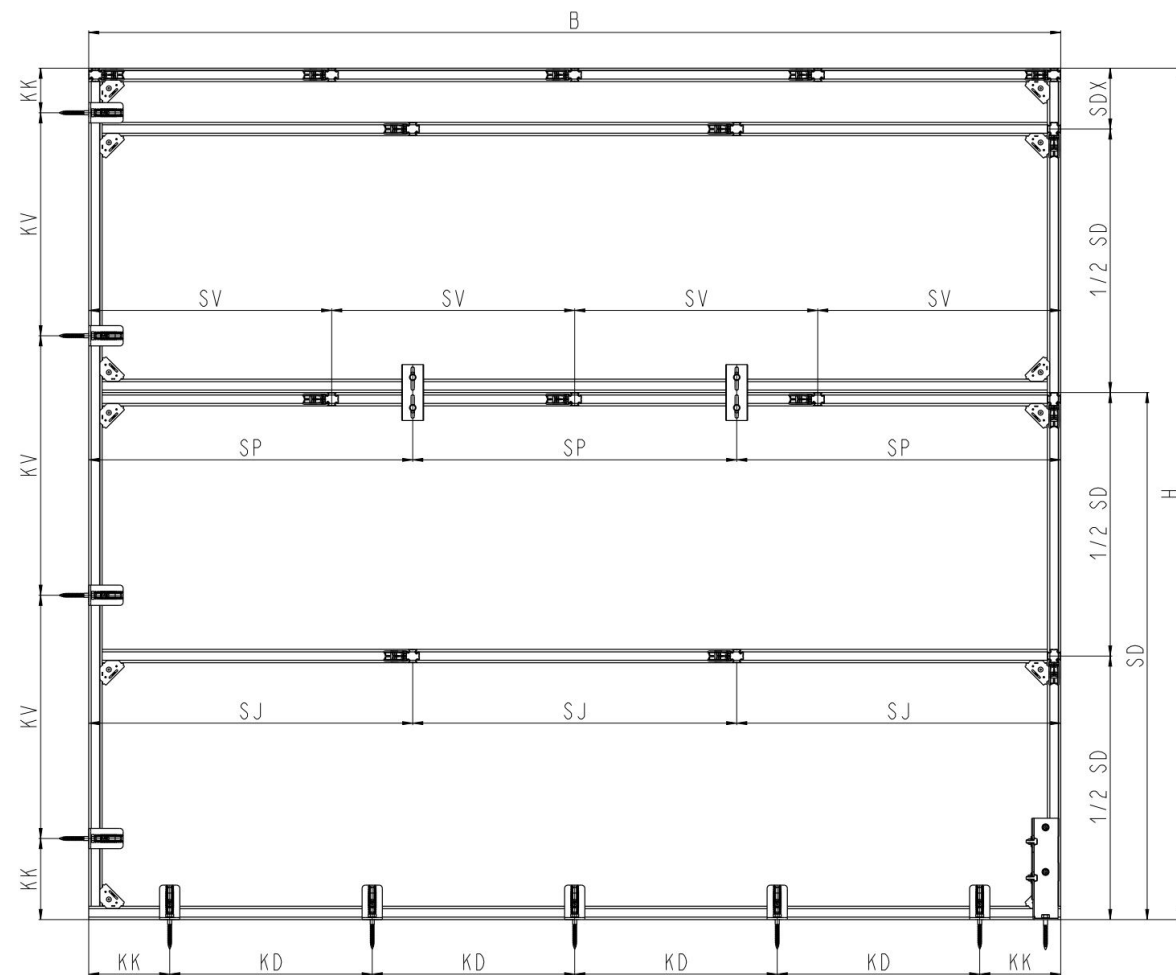
The construction assembly of accessories (pre-wall installation systems, mounting frames for washbasins and urinals) is the same as for the partition. Can be seen in the Chapter 5.3.1 to 5.3.3.

8. Partition anchored to the floor and one side wall

8.1 Construction conditions of partitions anchored to the floor and to one side wall (partially high partition)



8.2 Dimensional conditions for the construction of a partition fixed to one side wall and floor



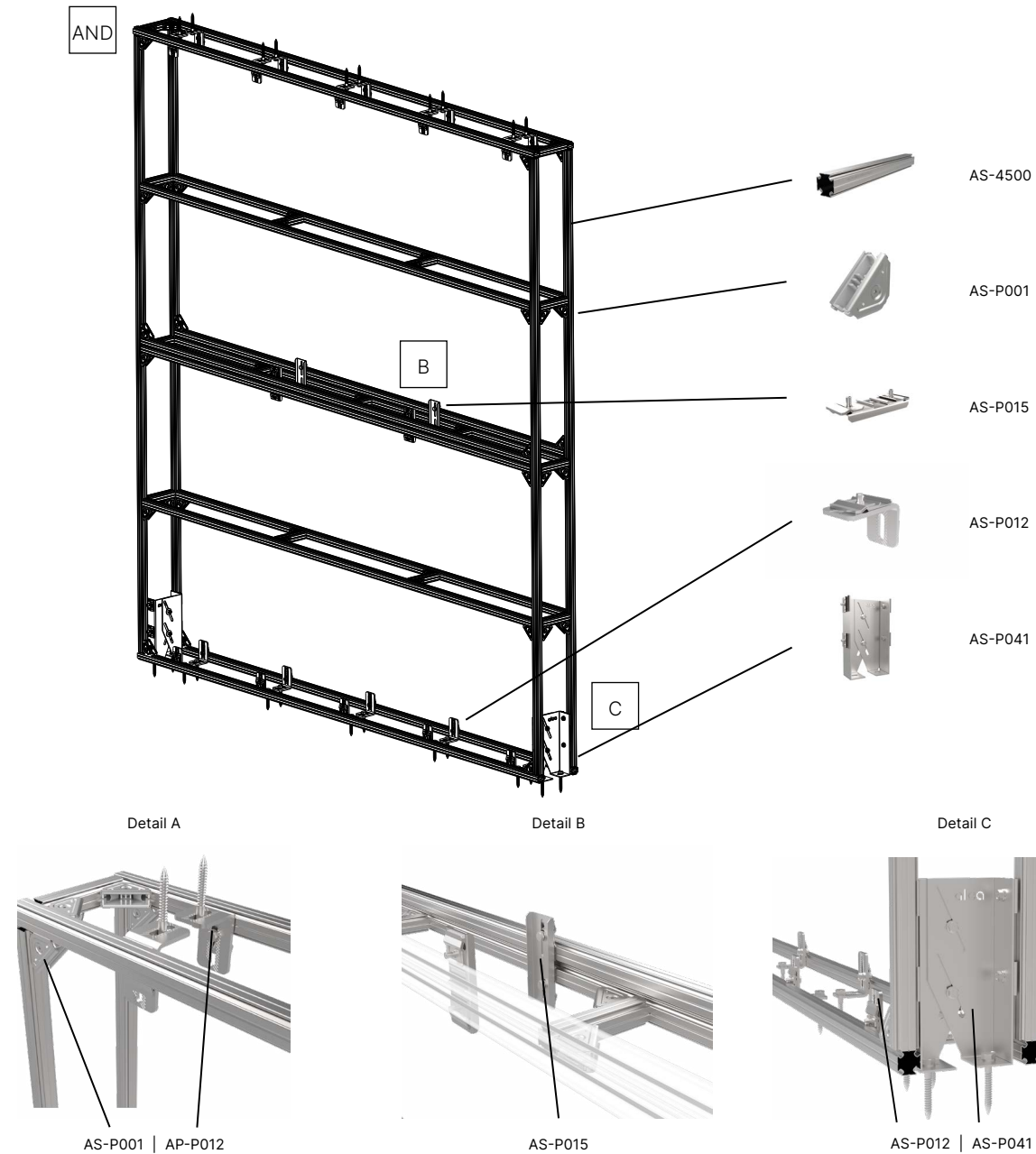
- H = max. 2100 mm** – maximum construction height
- B = max. 2400 mm** – maximum width of the construction
- T = min. 180 mm** – minimum construction thickness for partitions of width B=max.1200 mm
- T = min. 210 mm** – minimum construction thickness for partitions of width B=max.2400 mm
- SD = 1250 mm or 1300 mm** – depends on plasterboard used
- SDX ≤ 1/2 x SD** – must be adhered to
- KK = max. 200 mm** – distance of the holders from the edges of the construction
- KD = max. 600 mm** – max. spacing of holders in the floor
- $KD = (B - (2 \times KK)) / KD_b$ – calculates spacing of holders in the floor
- $KD_b = (B - (2 \times KK)) / 600$ – round the result up to an integer, determines the number of gaps between the holders in the floor
- KV = max. 600 mm** – max. spacing of holders on the side of the construction
- $KV = (H - (2 \times KK)) / KD_h$ – calculates spacing of holders on the side of the construction
- $KD_h = (H - (2 \times KK)) / 600$ – round the result up to an integer, determines the number of gaps between the holders on the side of the construction
- SP = max. 1200 mm** – maximum spacing of profile locks
- $SP = B / SP_b$ – calculates spacing of profile locks
- $SP_b = B / 1200$ – round the result up to an integer, determines number of gaps between profile locks
- SV = max. 600 mm** – maximum spacing of transverse reinforcement profiles in the height of the plasterboard division
- $SV = B / SV_b$ – calculates spacing of transverse reinforcement profiles
- $SV_b = B / 600$ – round the result up to an integer, determines the number of gaps between transverse reinforcement profiles
- SJ = max. 1200 mm** – maximum spacing of transverse reinforcement profiles at 1/2" height of plasterboards
- $SJ = B / SJ_b$ – calculates distance of reinforcement profiles
- $SJ_b = B / 1200$ – round the result up to an integer, determines the number of gaps between transverse reinforcement profiles

8.3 Conditions for mounting accessories for partitions fixed to one side wall and floor

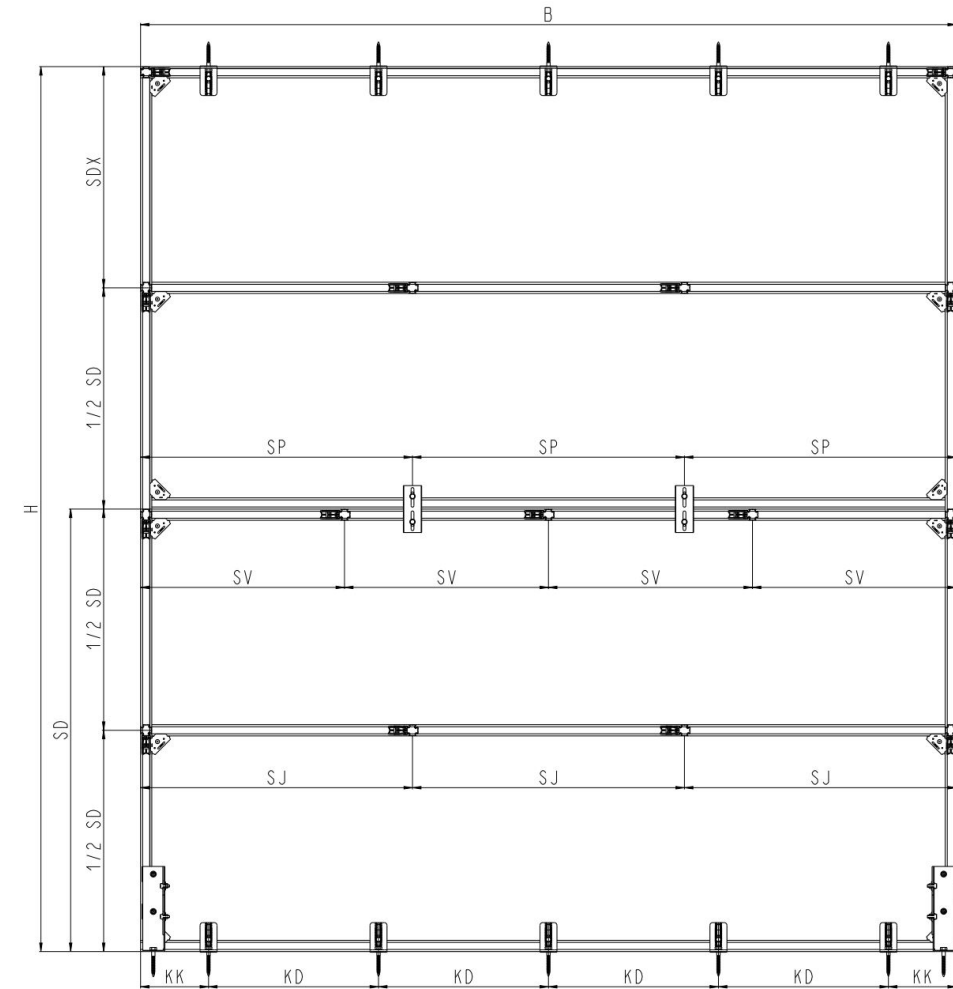
This type of construction can not be loaded with any payload. It is therefore not possible to install accessories for the installation of toilets, washbasins, urinals or bidets, as well as furniture, etc. The structure can be loaded only by a constant load from the wall cladding, ie plasterboard and ceramic tiles.

9. Free-standing wall anchored to the floor and ceiling

9.1 Assembly conditions for construction of free-standing walls anchored to the floor and ceiling



9.2 Dimensional conditions for the construction of free-standing walls anchored to the floor and ceiling



- H = max. 2600 mm**
 - B = max. 2400 mm**
 - T = min. 210 mm**
 - SD = 1250 mm or 1300 mm**
 - SDX ≤ 1/2 × SD**
 - KK = max. 200 mm**
 - KD = max. 600 mm**
 - $KD = (B - (2 \times KK)) / KD_b$
 - $KD_b = (B - (2 \times KK)) / 600$
 - SP = max. 1200 mm**
 - $SP = B / SP_b$
 - $SP_b = B / 1200$
 - SV = max. 600 mm**
 - $SV = B / SV_b$
 - $SV_b = B / 600$
 - SJ = max. 1200 mm**
 - $SJ = B / SJ_b$
 - $SJ_b = B / 1200$
- maximum construction height
 - maximum width of the construction
 - minimal construction depth
 - depends on plasterboard used
 - must be adhered to
 - distance of the holders from the edges of the construction
 - max. spacing of holders in the floor or ceiling
 - calculates spacing of holders in the floor or ceiling
 - round the result up to an integer, determines the number of gaps between the holders in the floor or ceiling
 - maximum spacing of profile locks
 - calculates spacing of profile locks
 - round the result up to an integer, determines number of gaps between profile locks
 - maximum spacing of transverse reinforcement profiles in the height of the plasterboard division
 - calculates spacing of transverse reinforcement profiles
 - round the result up to an integer, determines the number of gaps between transverse reinforcement profiles
 - maximum spacing of transverse reinforcement profiles at 1/2" height of plasterboards
 - calculates distance of reinforcement profiles
 - round the result up to an integer, determines the number of gaps between transverse reinforcement profiles

9.3 Conditions for loading free-standing walls anchored to the floor and ceiling

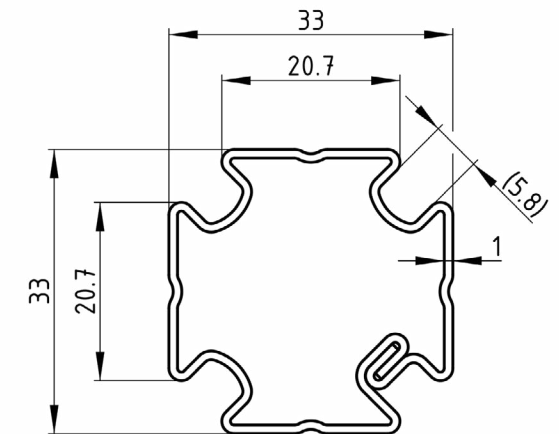
This type of construction can not be loaded with any payload. It is therefore not possible to install accessories for the installation of toilets, washbasins, urinals or bidets, as well as furniture, etc. The structure can be loaded only by a constant load from the wall cladding, ie plasterboard and ceramic tiles.

10. Technical parameters of the basic building elements

10.1 AS-4500 Profile system 4,5 m

Profile dimensions:

- Wall thickness: 1 mm
- Max. profile size in the axis Z: 33 mm
- Max. profile size in the axis Y: 33 mm



Cross-sectional characteristics:

Cross section specified by geometry

Cross-sectional area: $A = 1.637E02 \text{ mm}^2$

Location of the center of gravity:

$y_T = 17.5 \text{ mm}$ $z_T = 15.5 \text{ mm}$

Moments of inertia:

$I_y = 1.985E04 \text{ mm}^4$ $I_z = 1.981E04 \text{ mm}^4$

Deviation moment of inertia: $D_{yz} = -1.094E03 \text{ mm}^4$

Inclination of the main central axes: $\varphi = 44.5^\circ$

Cross-sectional modules:

$W_{y,1} = -1.136E03 \text{ mm}^3$ $W_{z,1} = 1.275E03 \text{ mm}^3$

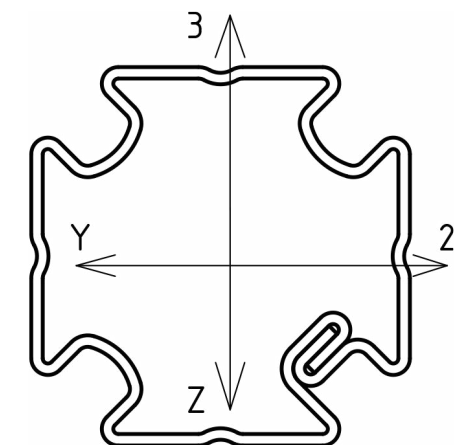
$W_{y,2} = 1.278E03 \text{ mm}^3$ $W_{z,2} = -1.134E03 \text{ mm}^3$

Moment of stiffness in simple torsion:

$I_k = 4,526E02 \text{ mm}^4$

Plastic cross-sectional modules:

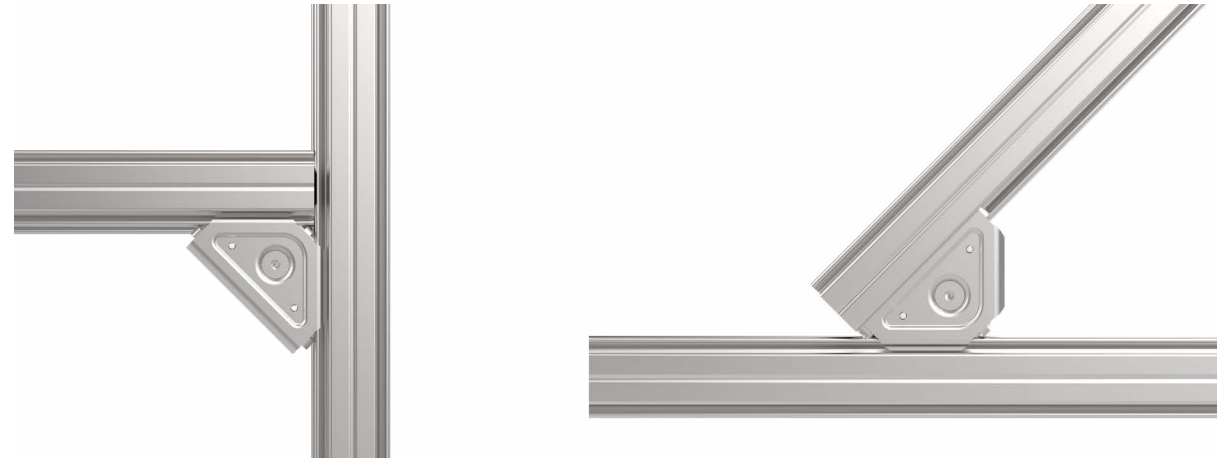
$W_{pl,y} = 1.608E03 \text{ mm}^3$ $W_{pl,z} = 1.607E03 \text{ mm}^3$



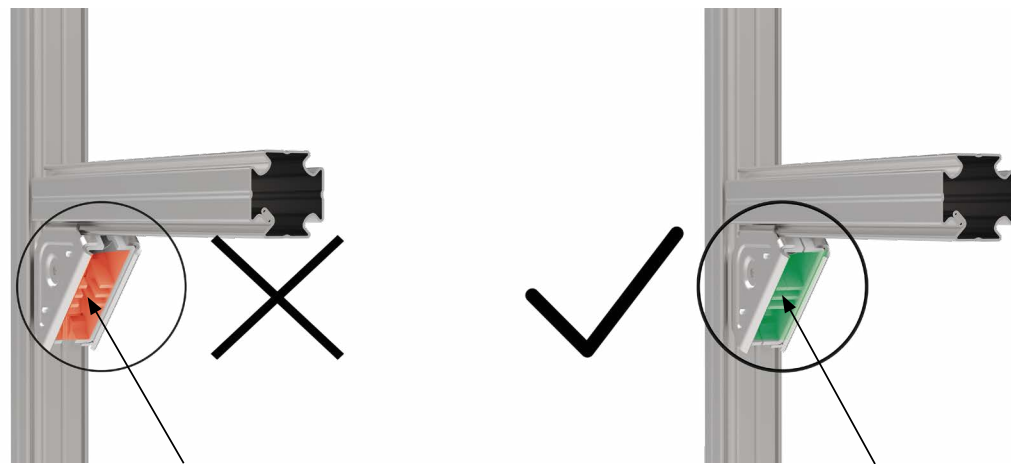
Material EN 10149-2 S315 MC

10.2 AS-P001 Corner connector

The corner connector is used to connect system profiles at angles of 90° or 45°.



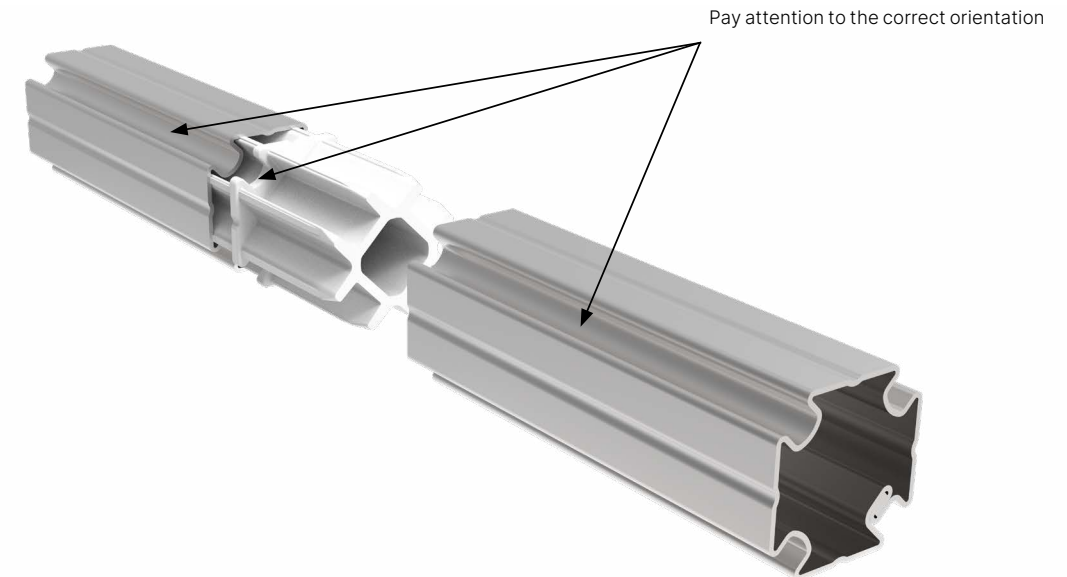
- to tighten the corner connector on the system profile, it is necessary to use a 4 mm Hex key.
- the recommended max. tightening torque of the corner coupling screw is 9 Nm, but the condition must be met, see below.



If the corner connector is correctly installed on the profiles, it must apply that there must be no gap between the ribs of the flexible coupling elements. Can be seen on the picture.

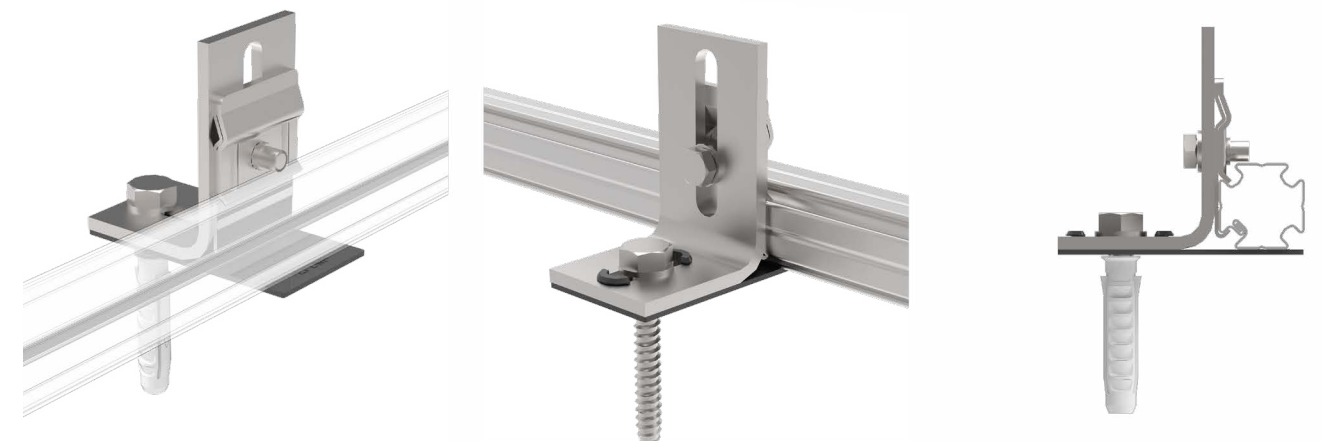
10.3 AS-P002 Profile connector

The plastic connector is used to connect two profiles. The task is to ensure, in particular, the coaxiality of such a connection, which will subsequently ensure smooth installation of cladding panels. Since the plastic profile connector is not a load-bearing element, it is necessary to additionally ensure the load-bearing capacity of the construction by installing other metal elements – fasteners, locks or anchors, which will ensure sufficient load-bearing capacity of the construction!



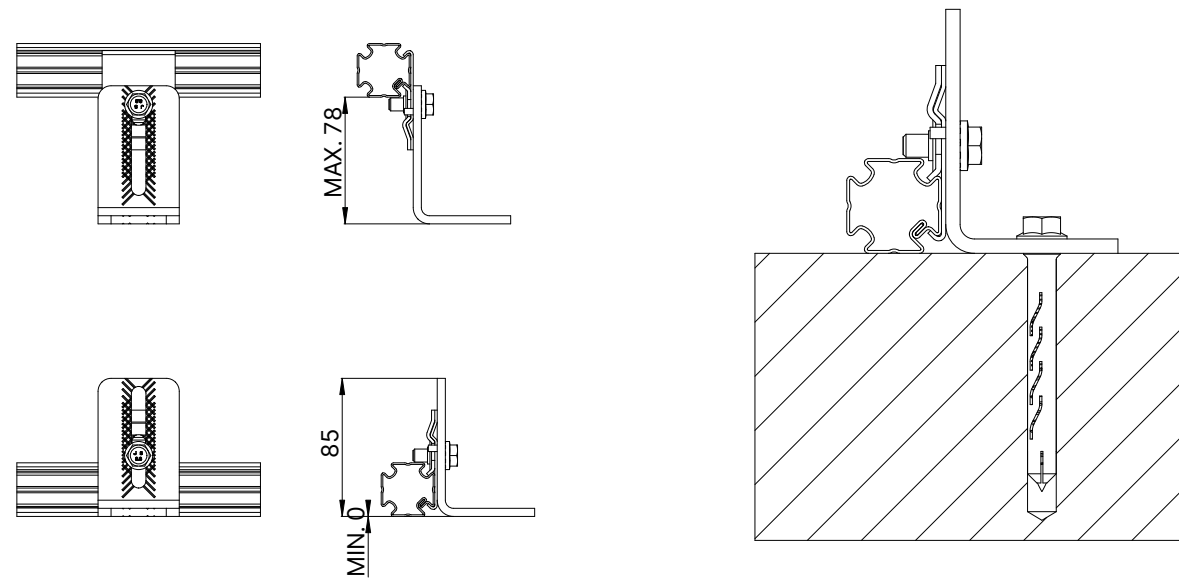
10.4 AS-P003 Handle washer

It is a sound insulation pad for profile holders (AS-P012, AS-P011, AS-P013, AS-P014). The mounting principle is shown on the picture below.

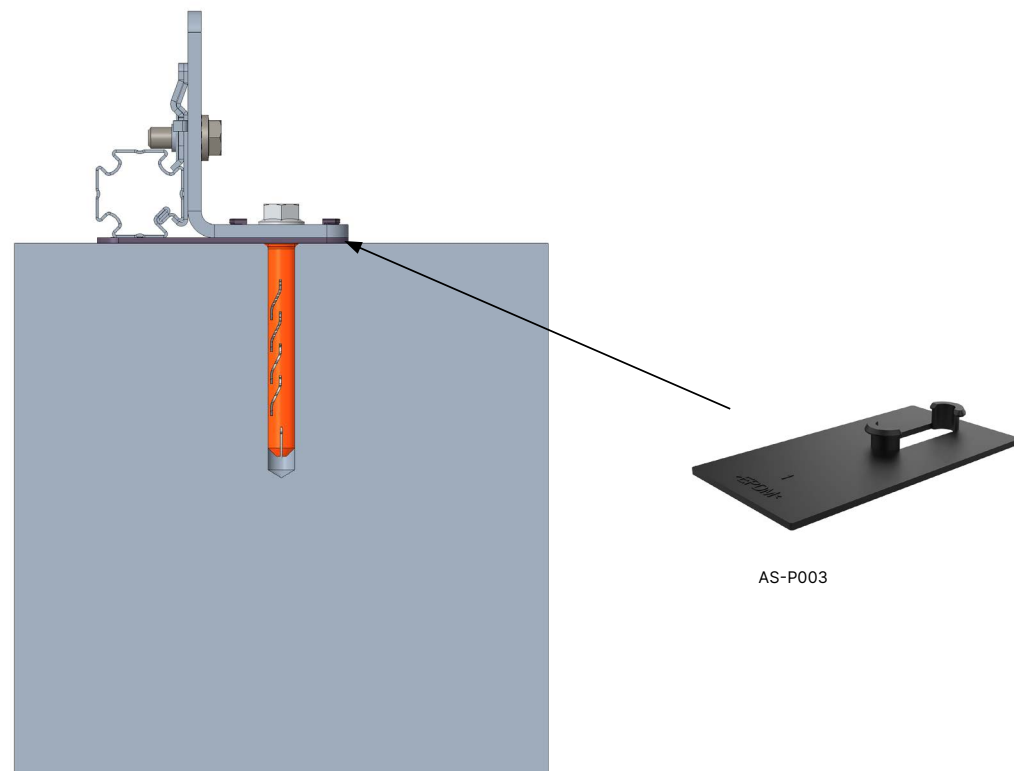


10.5 AS-P012 Profile holder, simple 85

It is an element for fixing the construction to the floor, ceiling or wall.
The range of the holder setting is shown on the picture below.



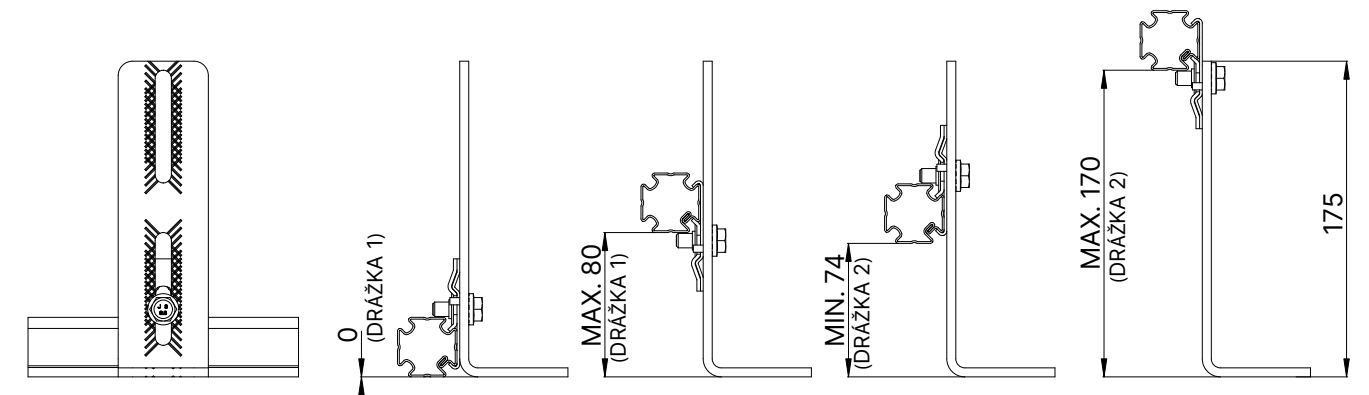
When anchoring the wall construction to the floor, the base profile of the construction must always lie on the floor (on the subfloor or the final layer of concrete). Due to the requirement to prevent the spread of noise, it can be supported by a self-insulating pad AS-P003.



AS-P003

10.6 AS-P011 Profile holder, simple 150

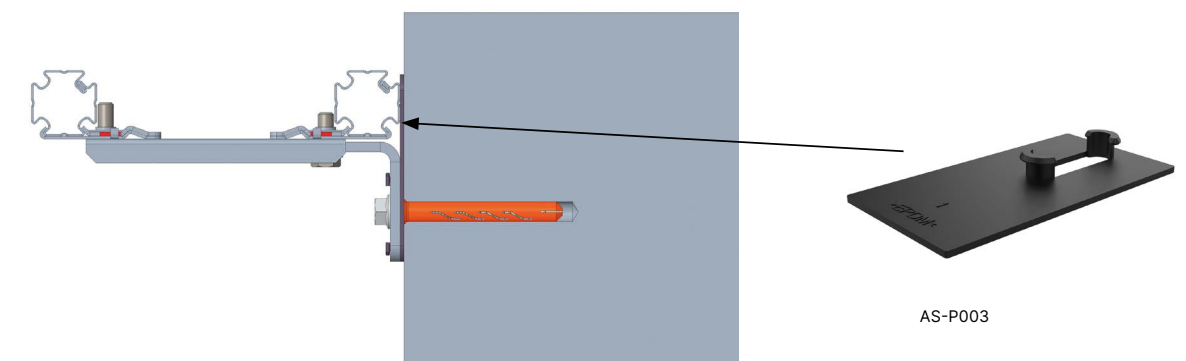
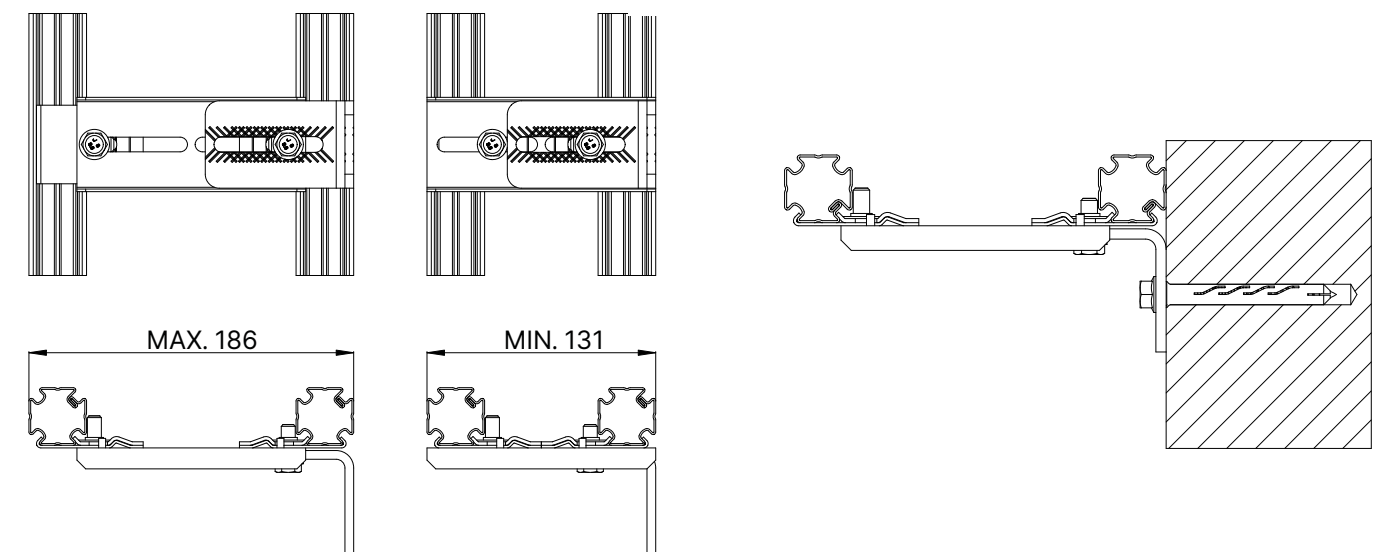
It is an element for fixing the construction to the floor, ceiling or wall. The range of the holder setting is shown on the picture below.



When anchoring the Alca System wall construction to the floor, the base profile of the construction must always lie on the floor in the same way as stated in the previous point of the chapter for Profile holder simple 85 – AS-P012.

10.7 AS-P013 Profile holder, double 186

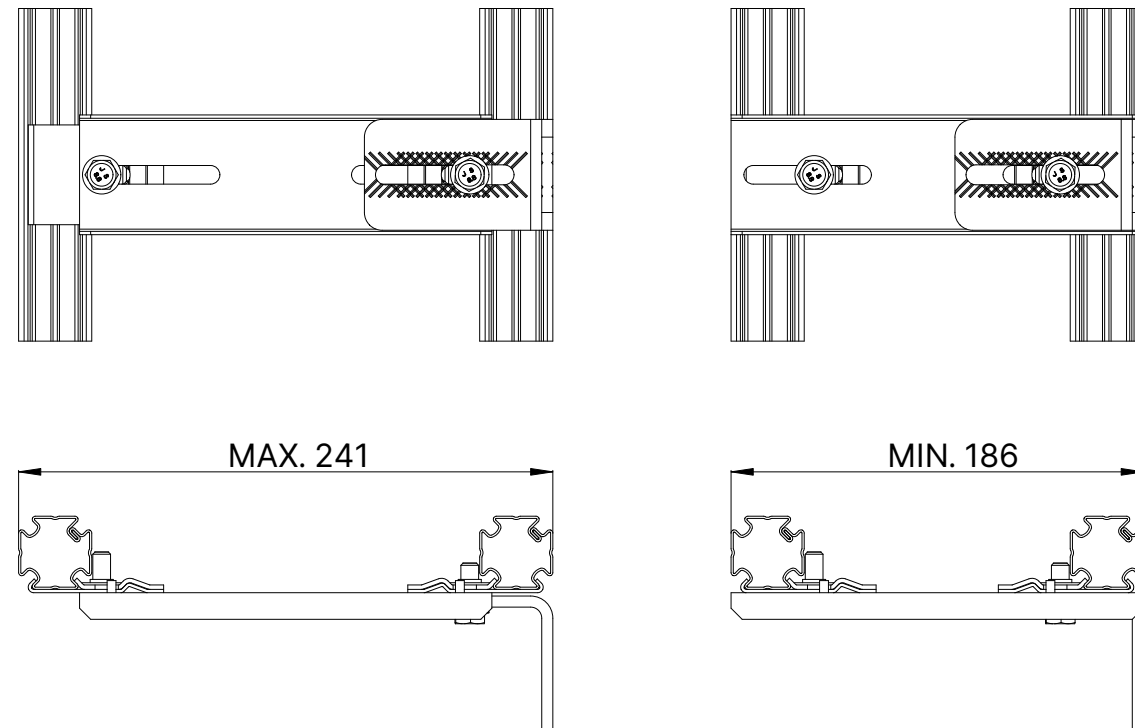
It is designed for anchoring the wall construction of the Alca System to the wall. The range of the holder setting is shown on the picture below.



AS-P003

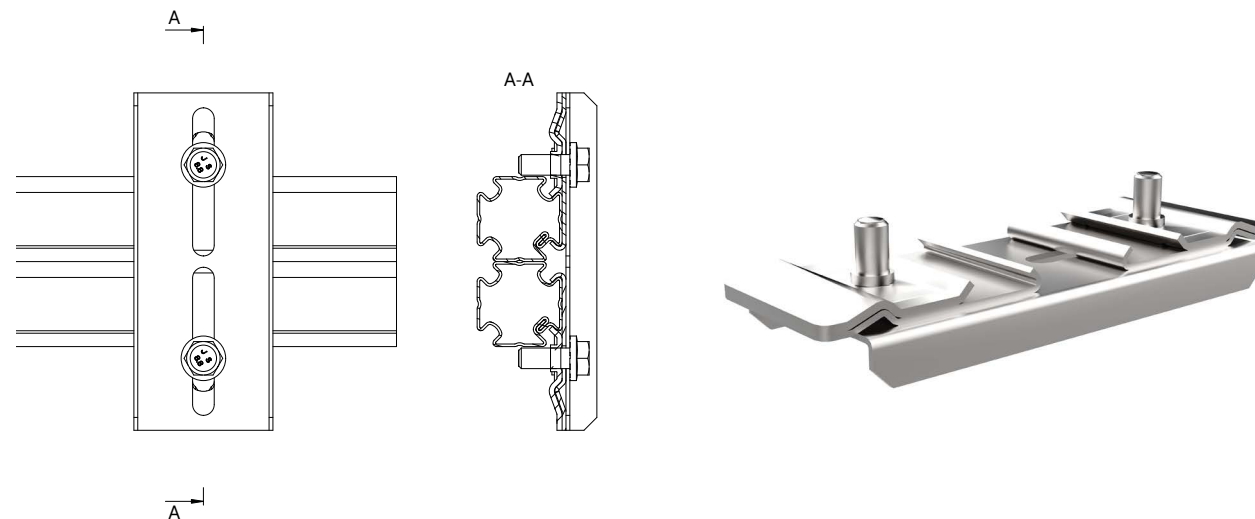
10.8 AS-P014 Profile holder, double 241 – extended version

It is designed for anchoring the Alca System construction to the wall. The range of the holder setting is shown on the picture below.



10.9 AS-P015 Profile lock

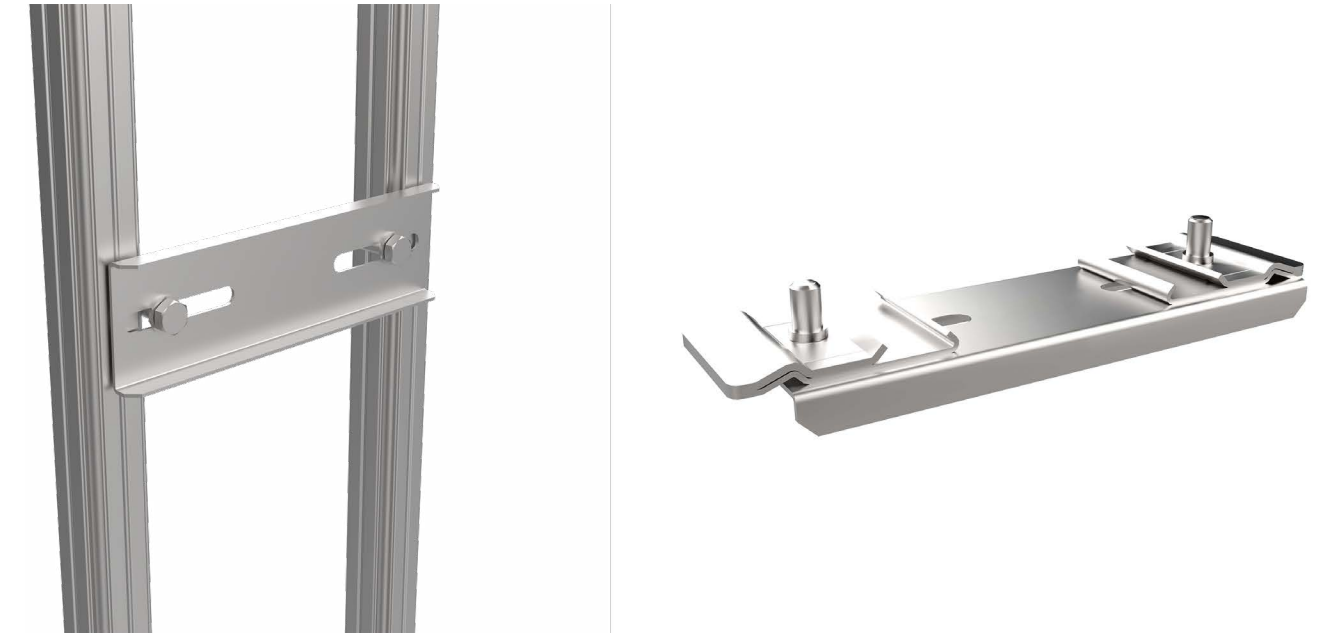
It is designed for connecting two parallel profiles. The setting range of the element is identical to the element AS-P013.



The element can also be used to connect angled profiles. It can be used, for example, in the construction of attic walls.

10.10 AS-P018 Profile lock - extended 186

It is designed for connecting two parallel profiles. The setting range of the element is identical to the element AS-P014.



11. Alcasystem payloads

In addition to the permanent load, which is given by the actual weight of the construction and the weight from the wall cladding, it is also possible to load the construction with a payload. These are mainly loads from installed sanitary wares (toilets, bidets, washbasins and urinals) or fixtures, especially furniture and its accessories.

Alca System constructions can be loaded with a **maximum cantilever load up to 70kg/m of wall length, while the considered center of gravity of the load is 30 cm distant from the wall construction.**

- according to the technical instructions from the manufacturer of the wall cladding and anchoring material, it is possible to place some small loads directly on the wall cladding. These are mainly various holders for toilet papers, towel rails, pictures, mirrors and shelves.
- if, according to the technical instructions from the manufacturer of the wall cladding and anchoring material, it is not possible to fix it directly to the wall cladding (SDK boards), it is necessary to use wooden logs to fasten such object. These logs are fixed inside the Alca System construction using AS-P031 console. They should be made of many layers of glued veneers (MULTIPLEX plywood). The thickness of such plywood boards must be 25 mm. In this case it will be mainly for fixing furniture cabinets.
- Very heavy loads from sanitary equipment such as toilets, bidets, washbasins and urinals can in some cases exceed the permitted cantilever loads of 70kg/m wall length with an eccentricity of 30cm. Therefore, for these very heavy loads it is necessary to use special accessories – mounting frames – for installation into the Alca System constructions. For a list of such accessories, see Chapter 1.2. Restrictions for the installation of sanitary equipment in individual types of constructions are given in each chapter for the relevant type of construction. The statics of constructions must be verified.

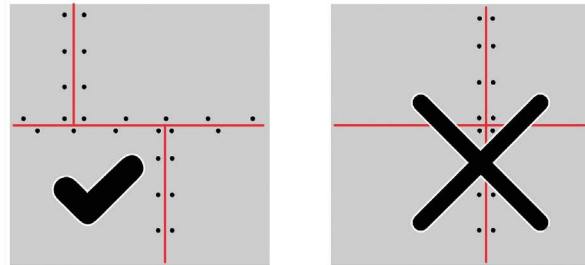
12. Cladding of Alcasystem constructions

In the case of very heavy loads from installed sanitary equipment such as toilets, bidets, washbasins and urinals, it is necessary to cover the construction of the Alca System with plasterboard (SDK) by min. 18.1 mm thick, or alternatively 2×12,5 mm plasterboard can be used.

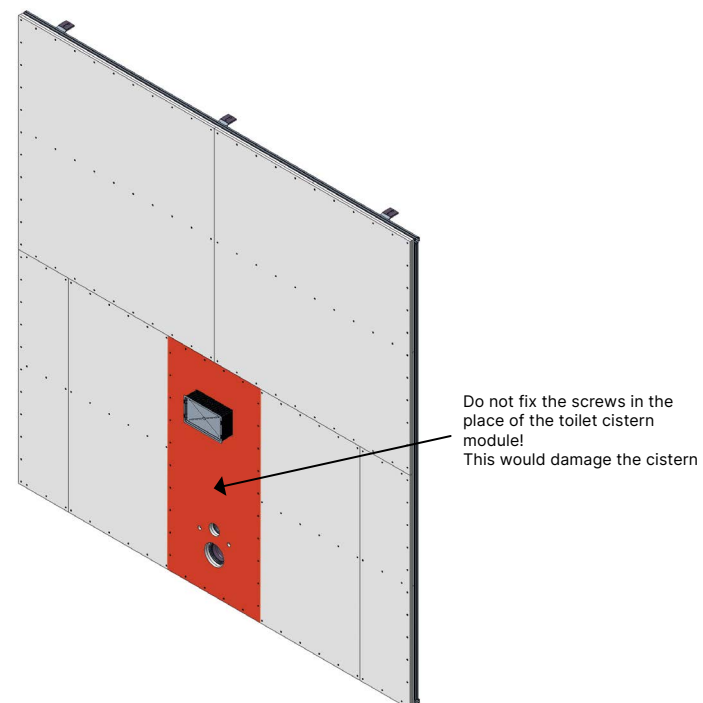
- Use plasterboard screws TB to secure the boards.



- The vertical joints of the individual rows of boards must be placed alternately. See on the picture below.



- The cladding of the construction should start from the WC module. Fix the plasterboard also at the place of mounting frames into the vertical profiles. See on the picture below.

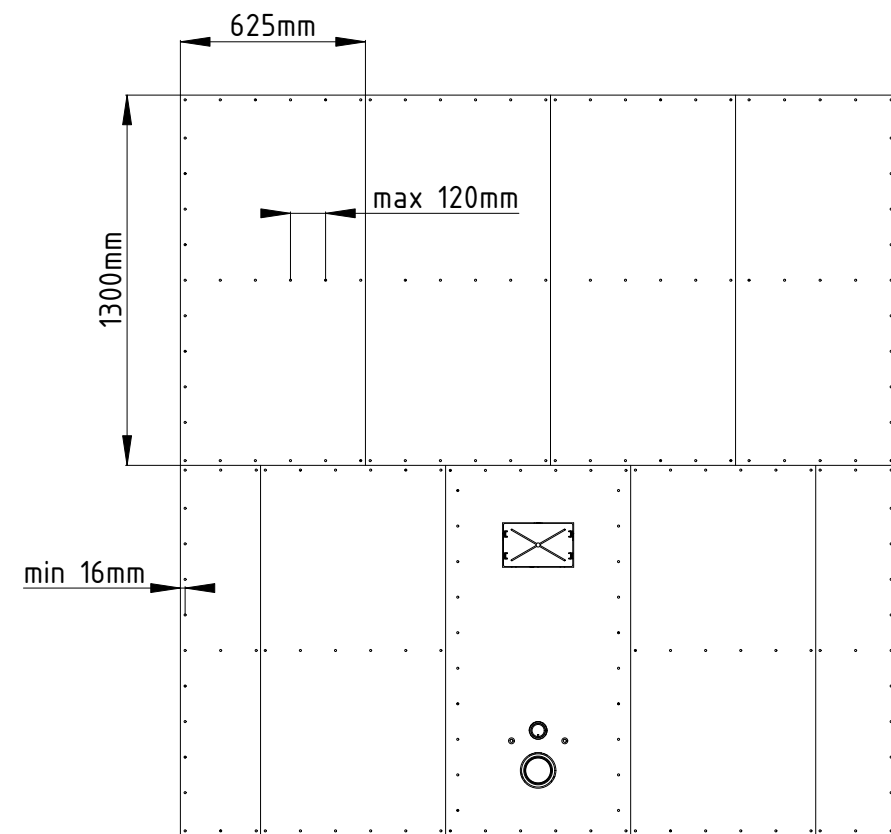
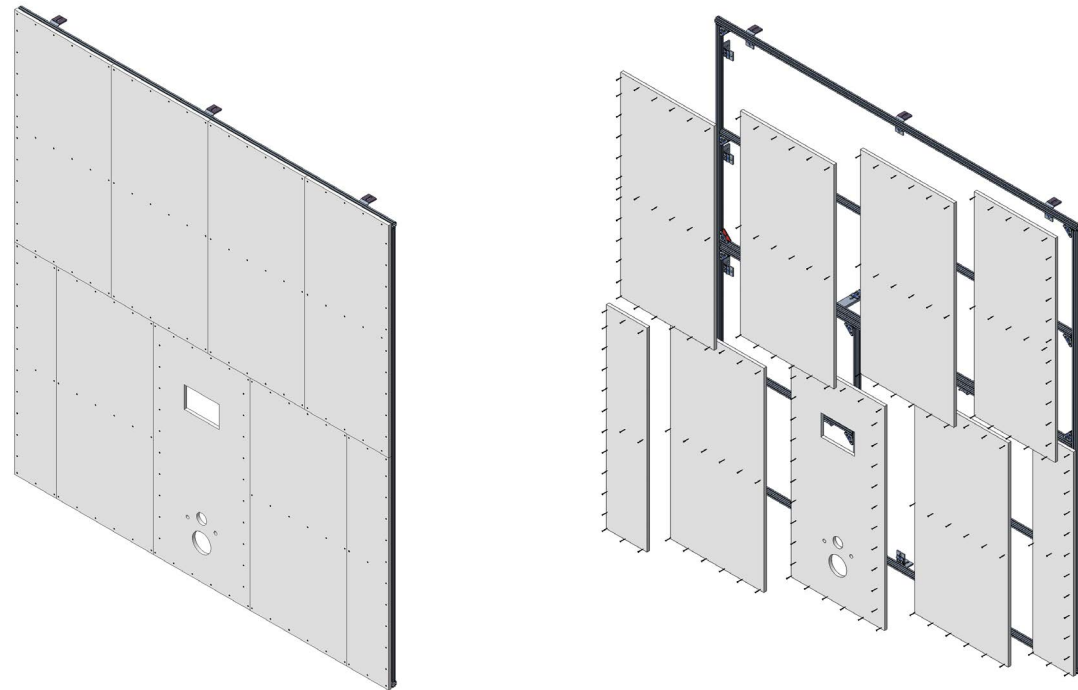


- Fill the joints between the plasterboards with gypsum joint sealant and reinforce with glass tape. We recommend using the Knauf dry construction system solution, Knauf Uniflott joint sealant and Knauf glass reinforcement tape. When grouting and machining plasterboard edges, follow the gypsum board supplier's instructions.



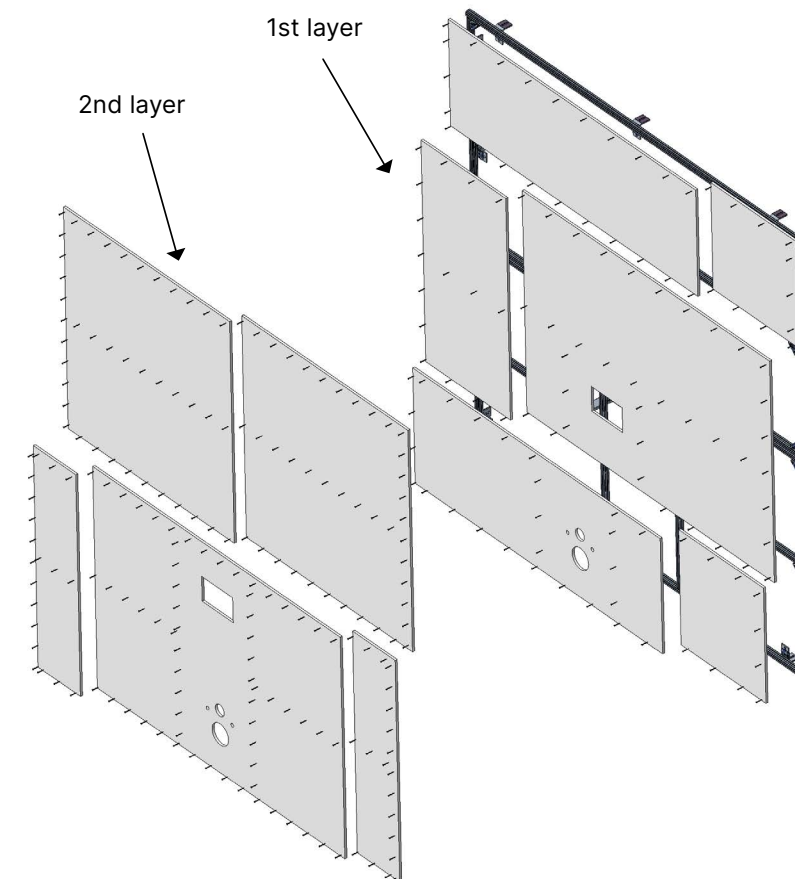
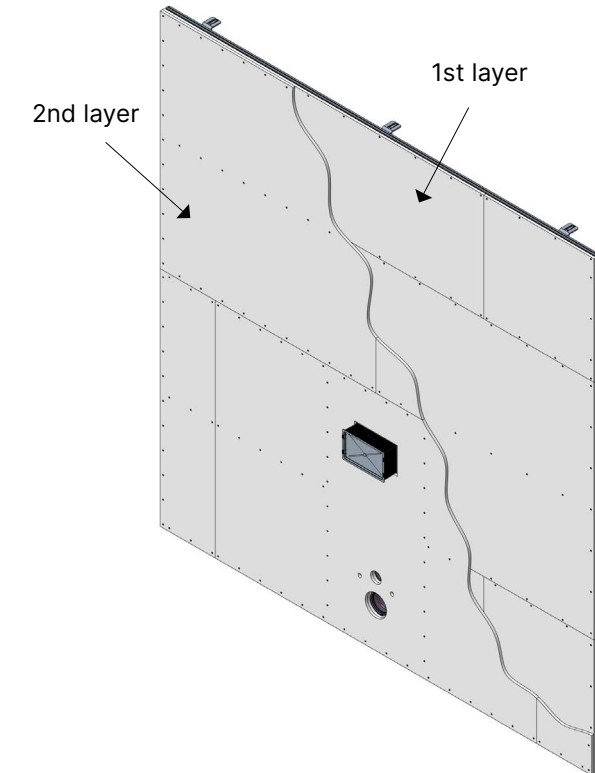
12.1 Cladding of Alca system constructions with one layer of plasterboards with a thickness of 18 mm

- cladding with plasterboard with a thickness of 18mm and dimensions of 1300mmx625mm

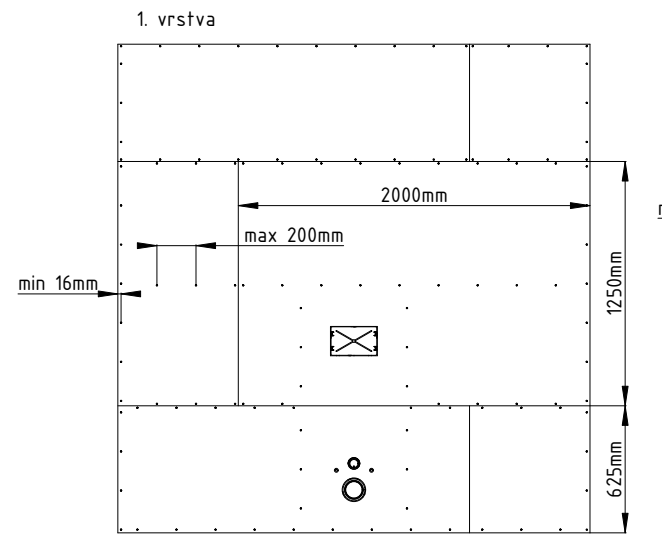
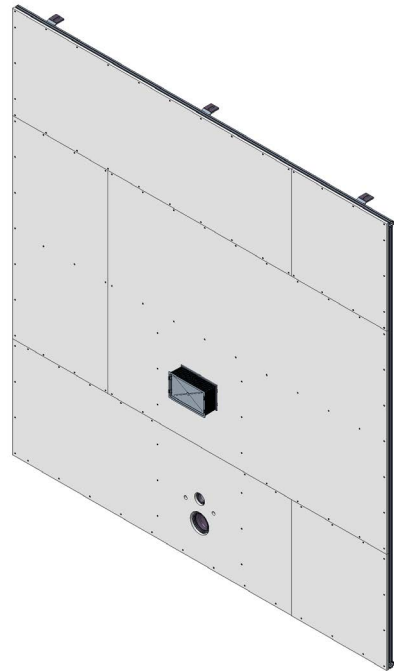


12.2 Cladding of Alca system constructions with two layers of plasterboard with a thickness of 2×12.5 mm

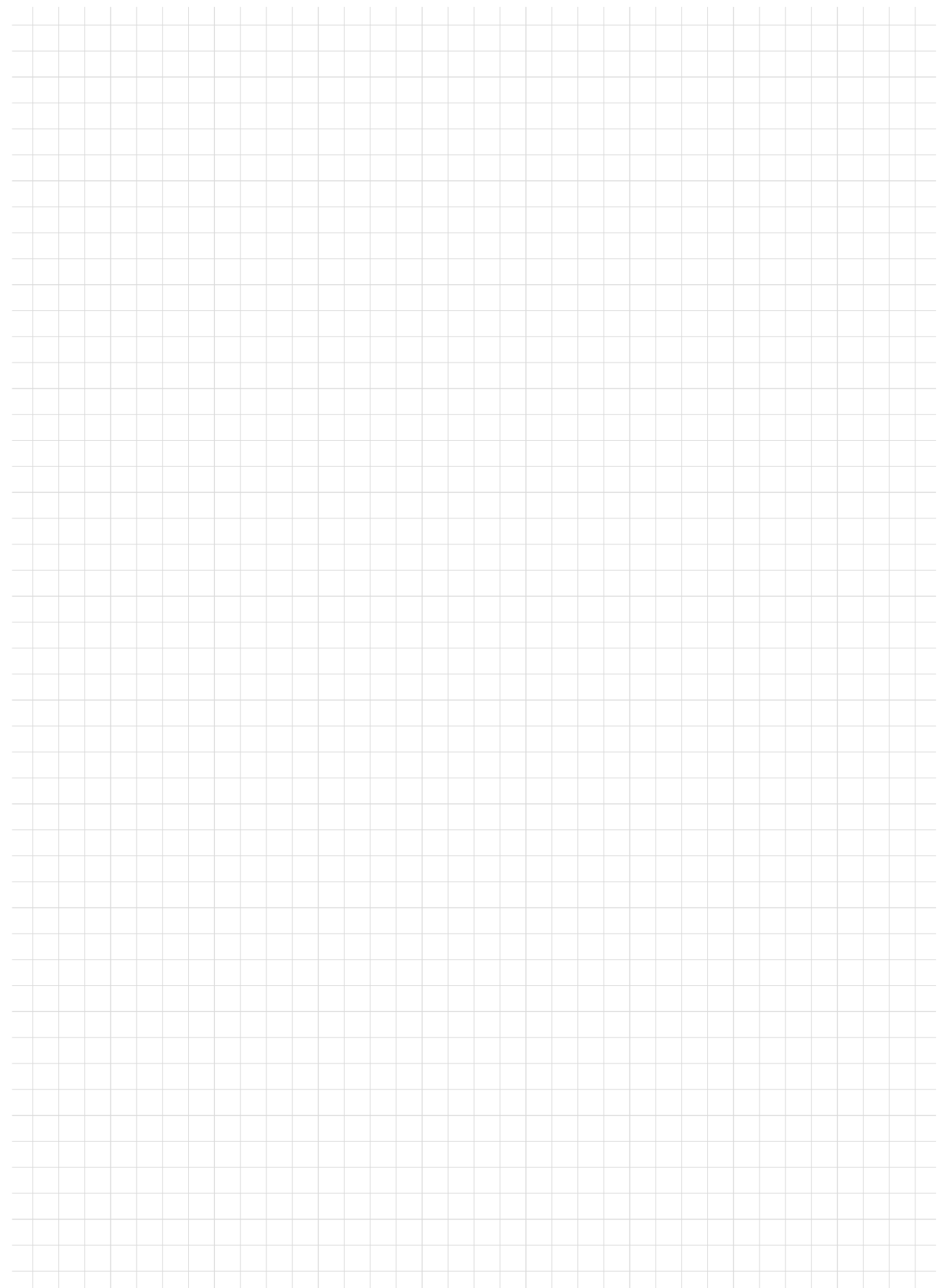
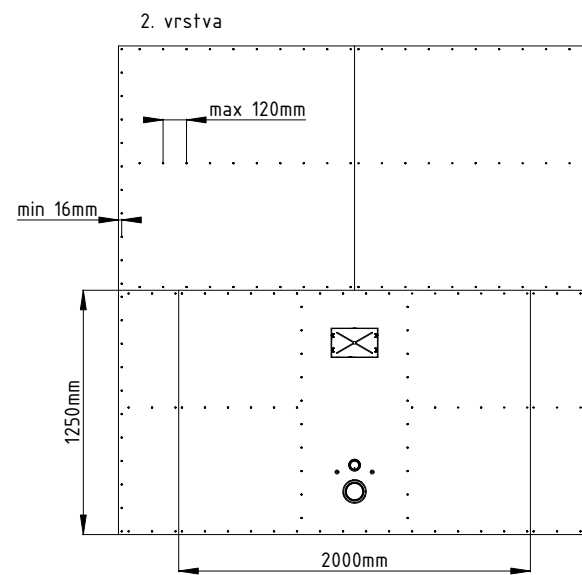
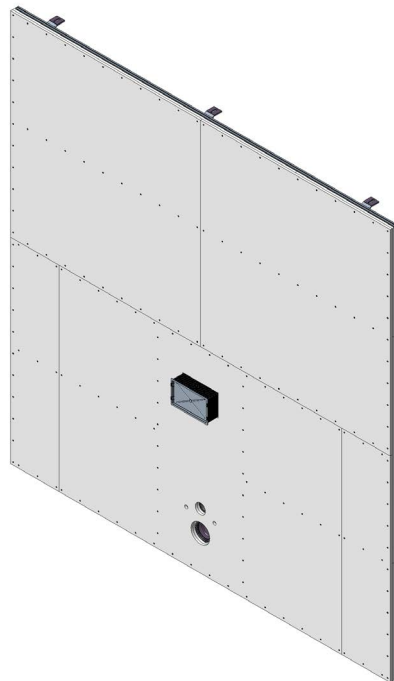
- cladding with plasterboard with a thickness of 2×12.5mm and dimensions of 1250mmx2000mm

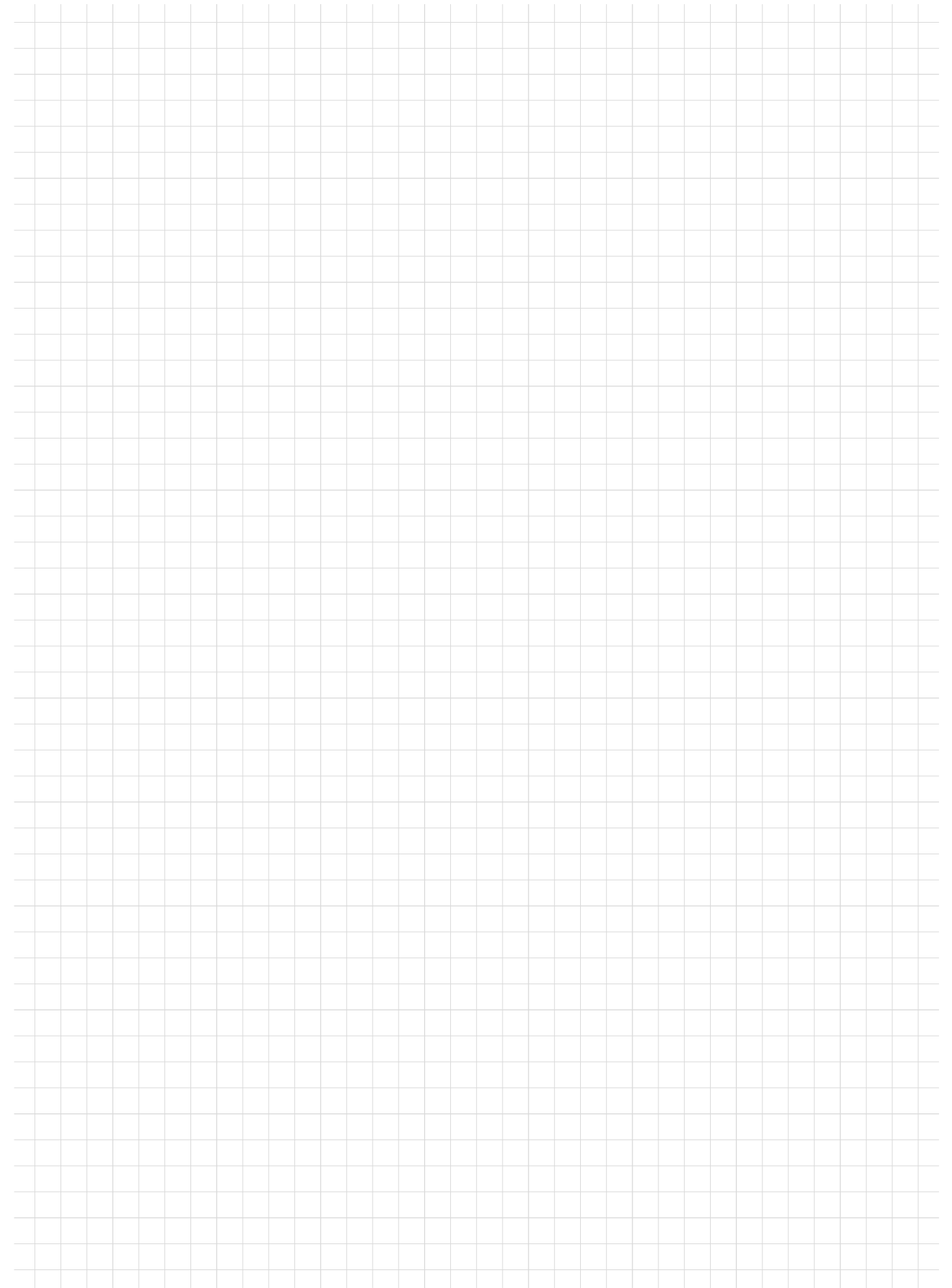
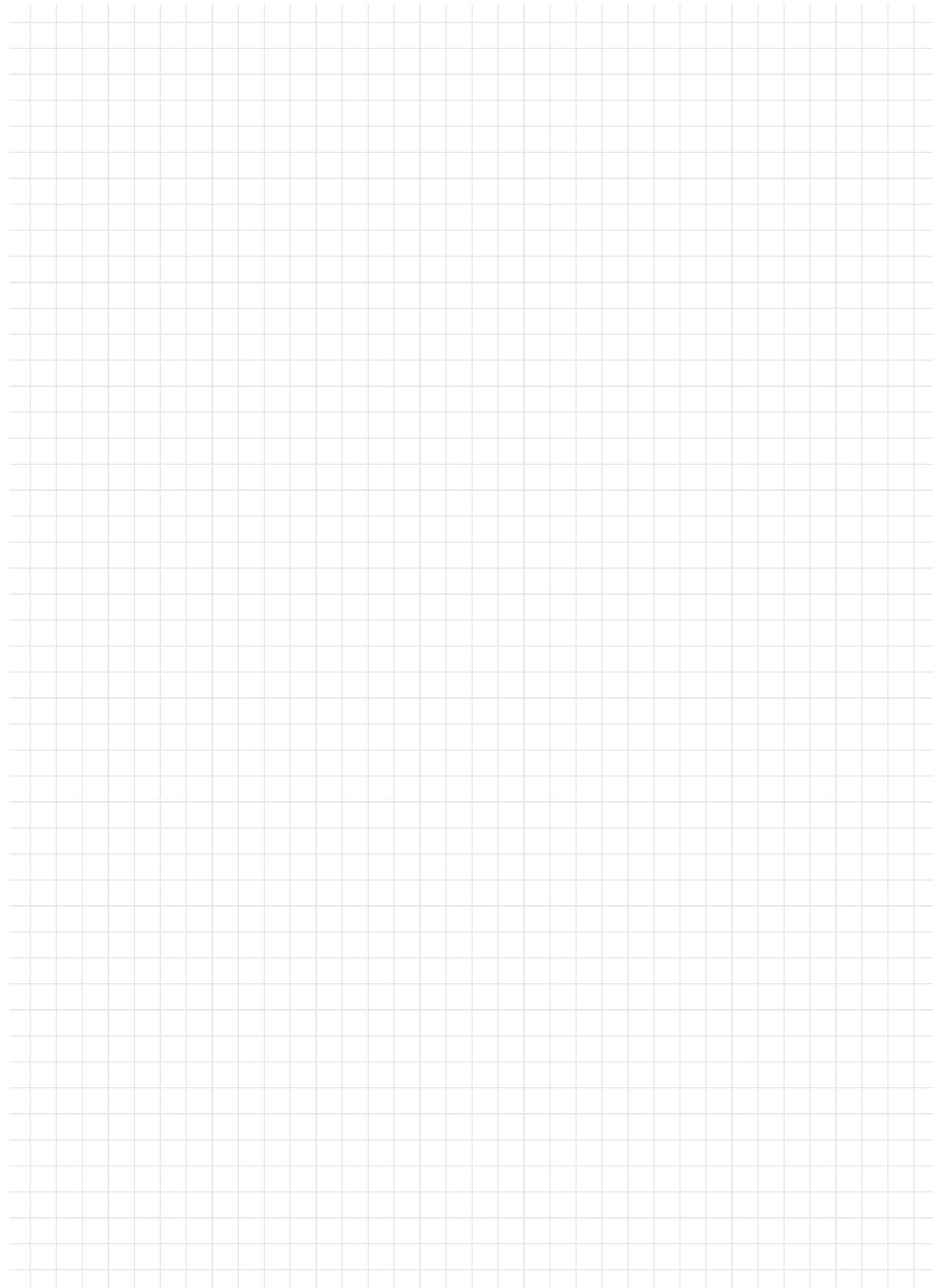


1st layer



2nd layer





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The warranty stated for individual products applies only to the functional technical properties of the product, does not apply to wear and tear of the product caused by its normal use or defects caused by non-compliance with general product handling principles or non-compliance with product instructions. Complete warranty conditions at www.alcadrain.com/guarantee.



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