
HunterDouglas

Technical Manual
***XLnt* Panels**

Colophon

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PRODUCT INFORMATION

1. TOPICS OF INTEREST

Designer/Architect

Composite aluminium honeycomb panel
Monolithic, big dimensions
Flat, minimal deflection
Narrow 12.5mm joint
Acoustic α_w 0.75
Fire properties A2,s1,d0
VOC emission class A+ (to be tested)
Swing-down/ swing-up
Light reflection
Low weight
Recyclable

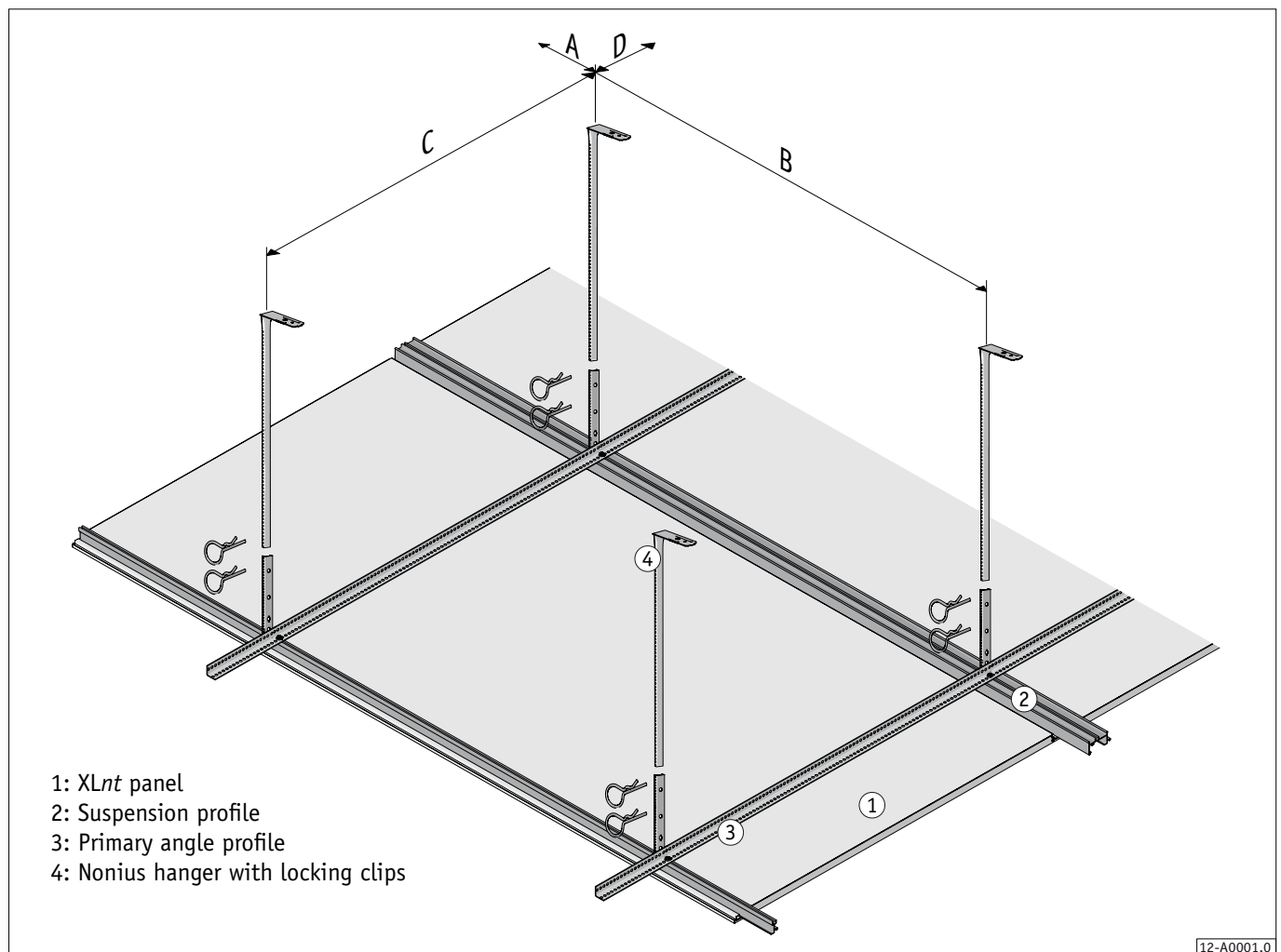
Installer

Easy to install
Minimal number of elements
Big
“cut-to-measure”
Rigid
Low weight
Integration of installations
No special tools required

Owner

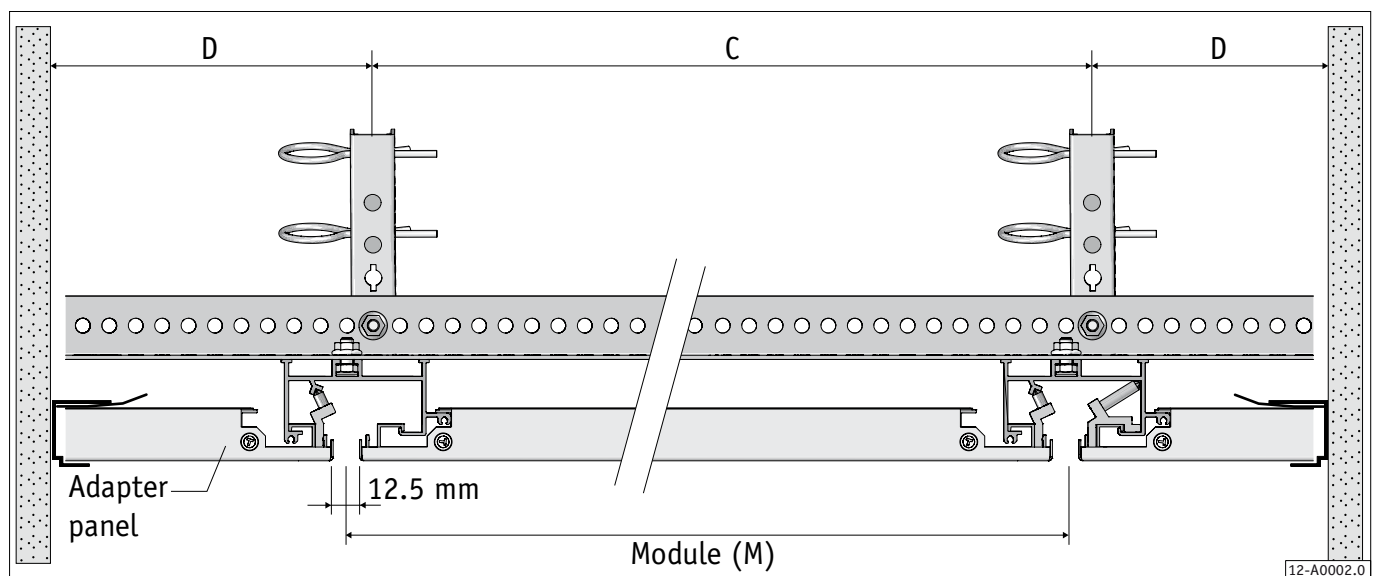
Access to installations
Swing-down/ swing-up
No special tools required
No special training required
Easy cleaning
Low weight
Recyclable
VOC emission class A+ (to be tested)

2. SYSTEM OVERVIEW



3. SPANS

Panel type	Carrier span (mm)		Panel span (mm)	
	A	B	C	D
XLnt	150	1250	M	$\geq 1/2 M$



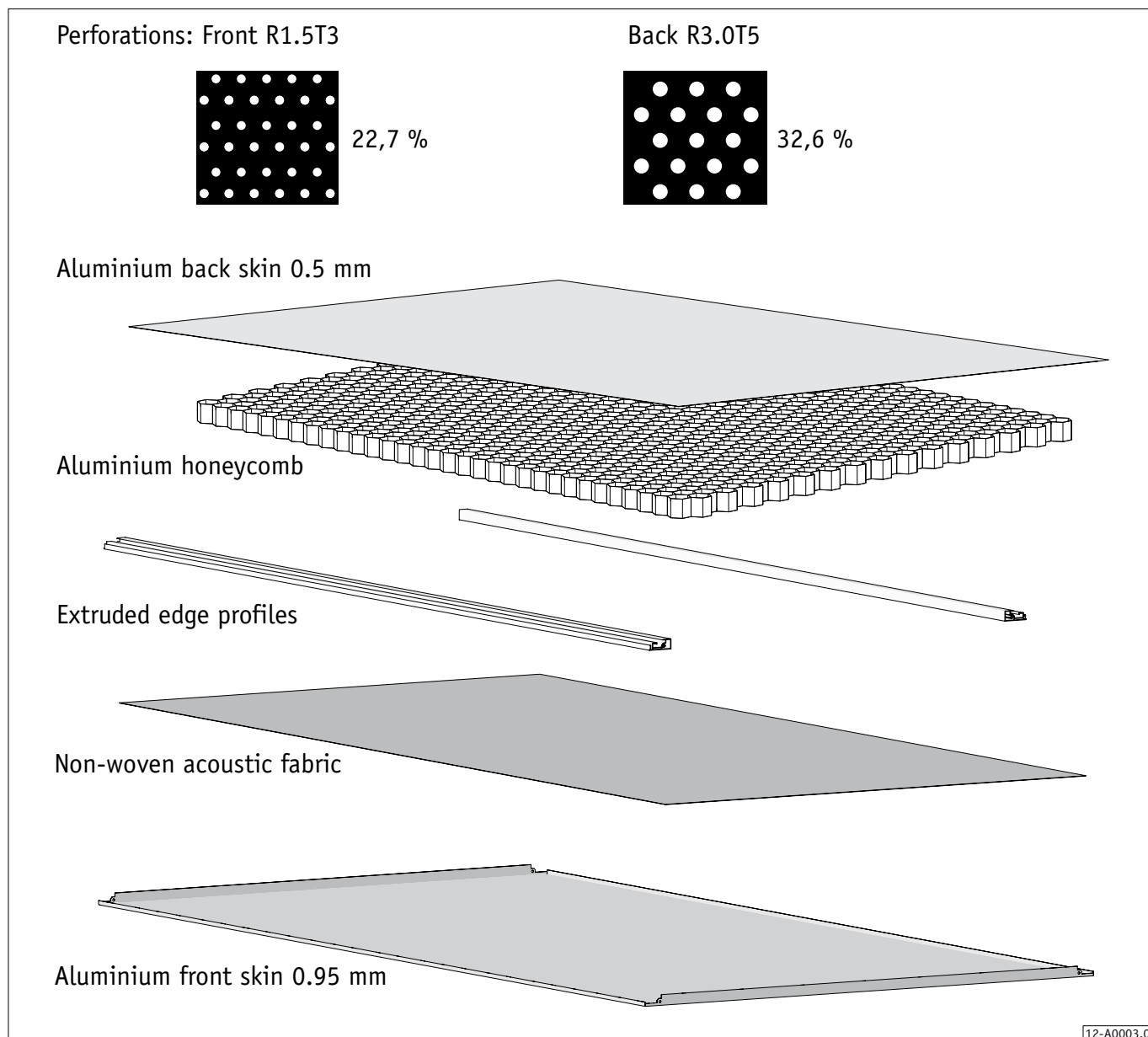
4. PANELS

Min. modular length*	1000 mm
Max. modular length*	2500 mm**
Modular widths (fixed)	600, 625, 750, 900, 1000, 1050, 1200, 1250 mm**
Colour	0280 (equal to RAL 9010)
Joint width	12,5 mm

* Panels are to be ordered in modular lengths and widths

**Due to limitations in manufacturing equipment, panels exceeding the maximum length of 2500 mm and maximum width of 1250 mm are not possible.

5. PANEL COMPOSITION



Aluminium back skin 0.5 mm, alloy EN AW3005, plain/perfo R3.0T5, anodised

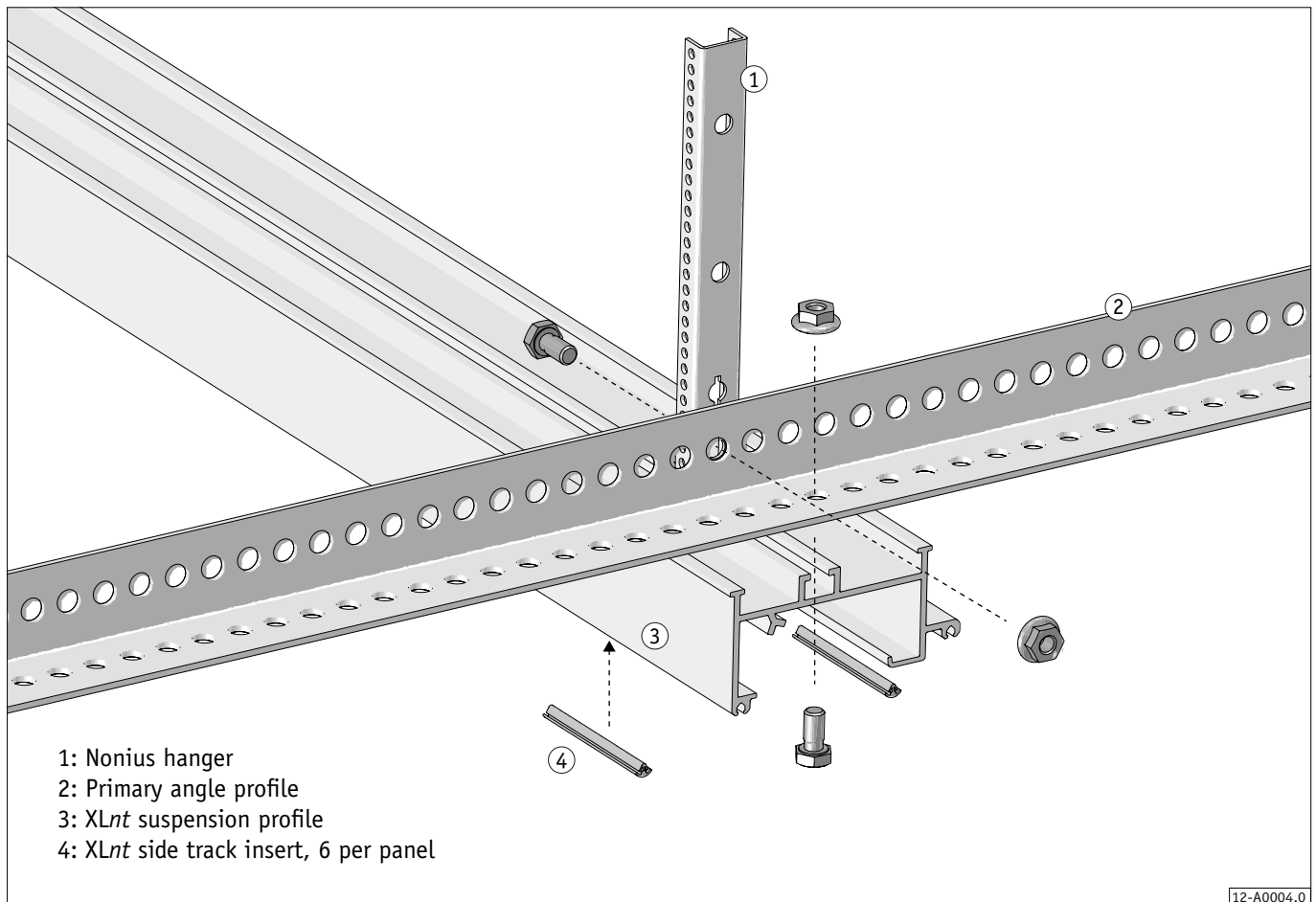
Aluminium honeycomb, alloy EN AW3003

Extruded edge profiles, alloy EN AW6000, anodised

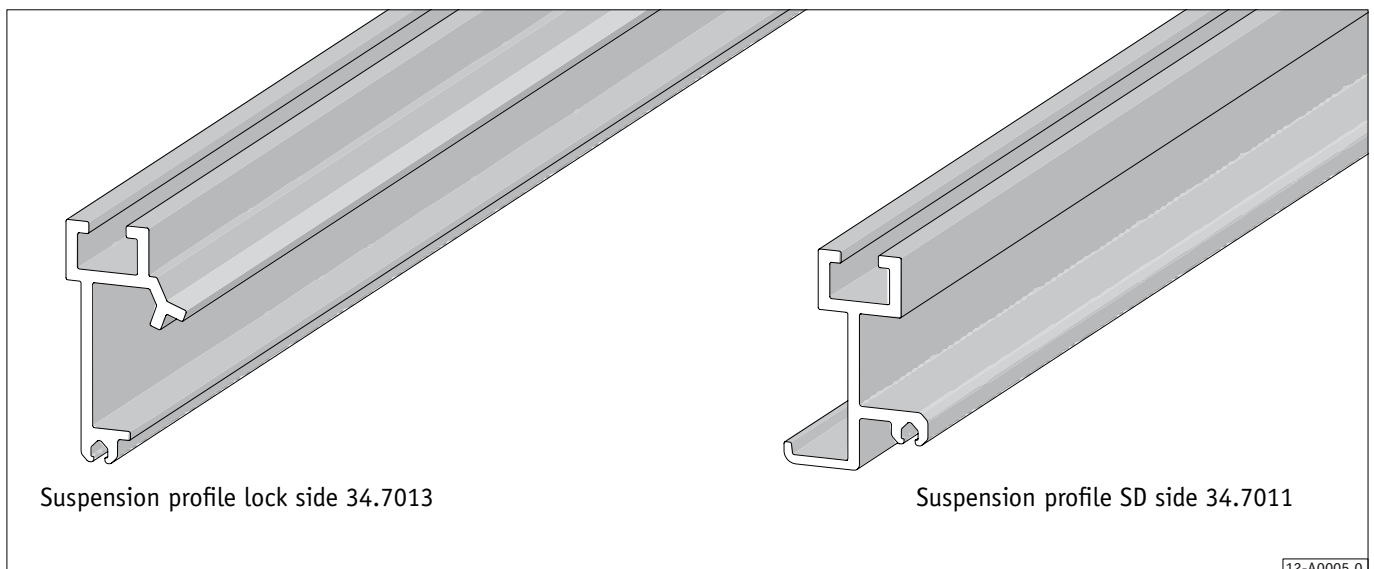
Non-woven acoustic fabric, Soundtex C1986 S (only in perforated panels)

Aluminium front skin 0.95 mm, alloy EN AW3005, plain/perfo R1.5T3, finish polyester coating colour 0280

6. SUPPORT SYSTEM



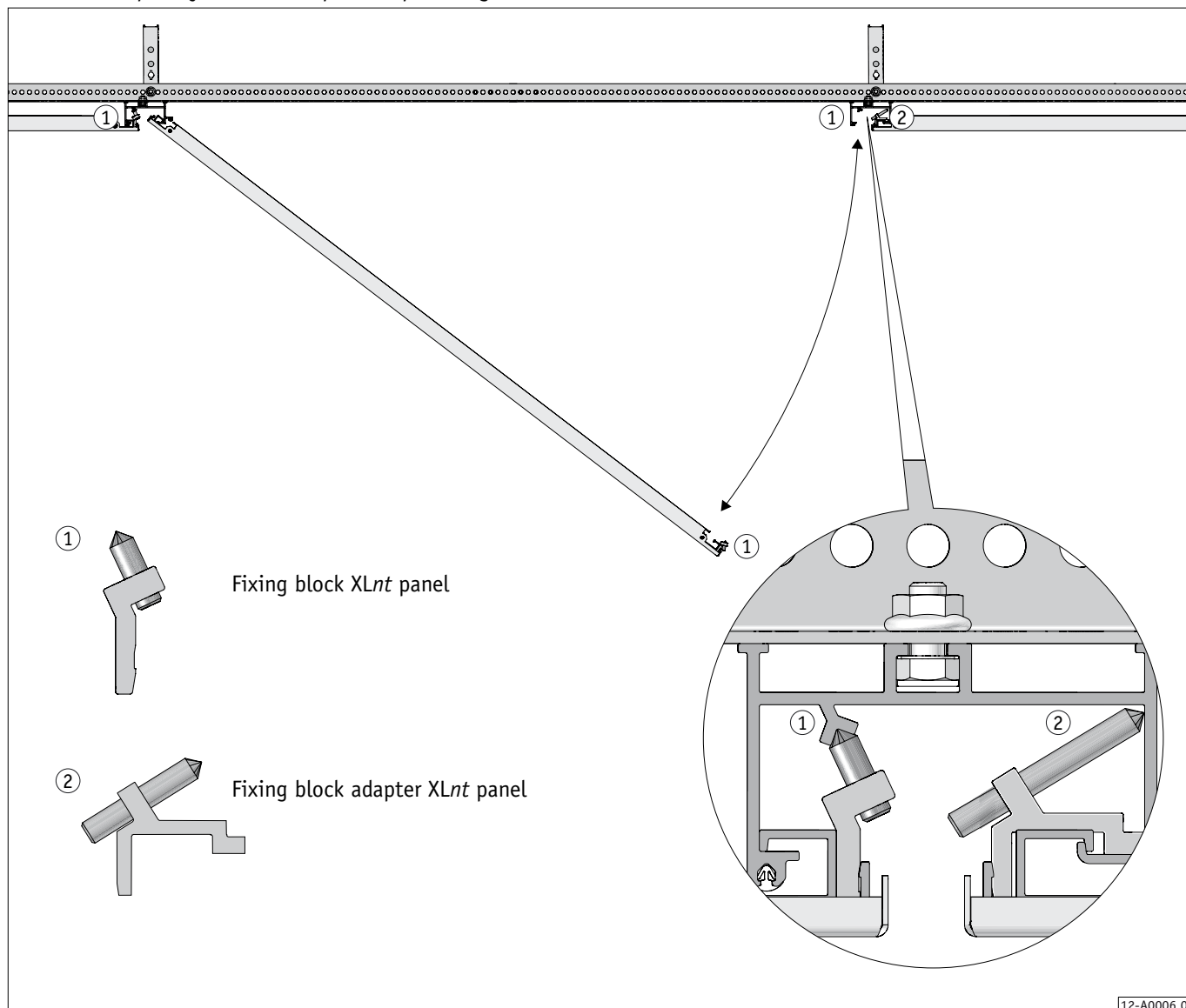
The new developed suspension profile has a asymmetric inverted u-shape. The panels attach to both side of the profile. The suspension profile is fixed to a primary grid consisting of standard pre-punched angle profiles. The primary grid is suspended using nonius hangers or threaded rods. The hangers should be positioned above the suspension profiles. To absorb possible vibrations, for each panel 6 pcs of side track inserts (pre-cut in 50mm length) are pushed into the bottom grooves of the suspension profile.



Where wider joints than 12.5mm are required (i.e. openings for grills, linear light fixtures), the 2 sides of the suspension profile are available as separate items: Suspension profile SD side and Suspension profile lock side. Since both profiles also attach to the primary pre-punched profile the width of the opening shall be a multiple of 12.5mm. Both profiles are also used to suspend the perimeter panels when installed as a floating ceiling.

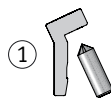
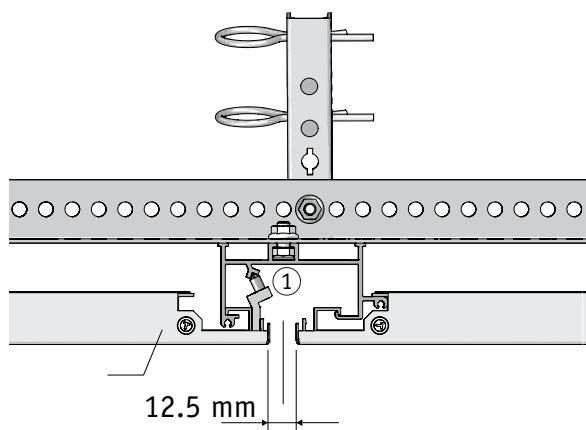
7. SWING DOWN

The XLnt system allows each individual panel to swing down for easy access into the plenum (not applicable to adapter panels). To open the ceiling one unlocks the screw of the fixing block and with a slight pulling motion the panel swings down. If required the panel can be taken down completely. To close the ceiling, execute in reverse order. Make sure that the panel connects completely with the suspension profile against the friction of the side track inserts.

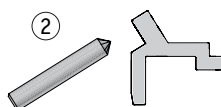
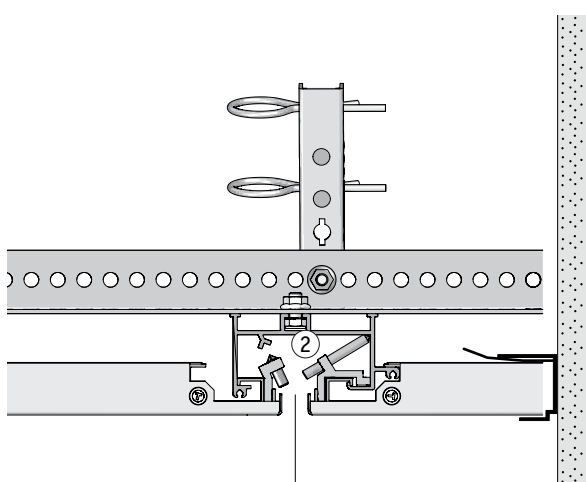


8. ACCESSORIES

To lock the panels in place 2 fixing blocks are available: Fixing block XLnt panel and Fixing block adapter XLnt panel.

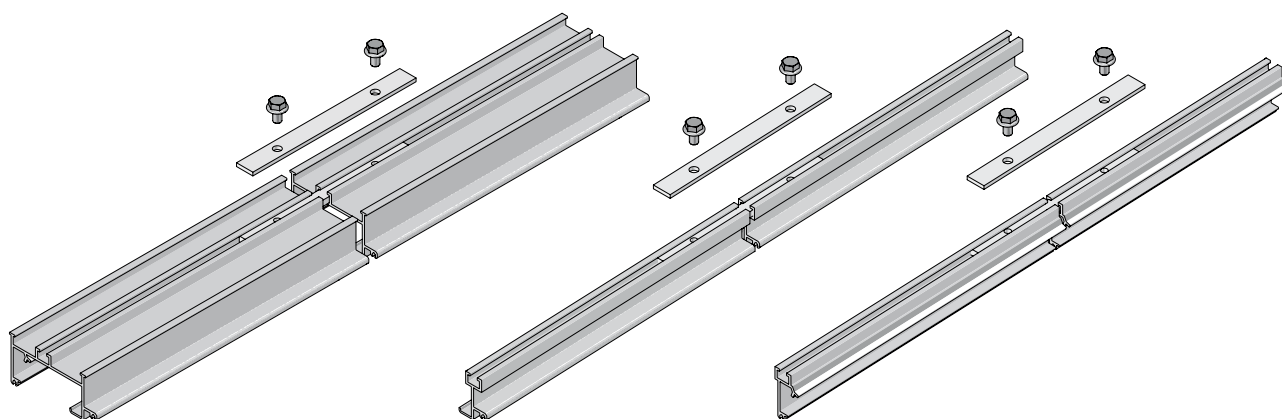


The Fixing block XLnt panel is used to lock panels onto the Suspension profile or the Suspension profile lock side. Each panel is fitted with 2 fixing blocks.



The Fixing block adapter XLnt panel is used to lock cut panels onto the swing-down side of the Suspension profile or on the Suspension profile SD side. Each panel is fitted with 2 fixing blocks.

There is also a splicing set available for the suspension profiles: Connection suspension set (34.7018). The set consists of 2 aluminium strips with holes and 2 bolts and is able to be used with all 3 suspension profiles.



Suspension profile

Suspension profile SD side

Suspension profile lock side

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9. FIRE RATING

The plain XLnt panels have a Reaction to Fire classification of A2,s1,d0. Perforated XLnt with non-woven panels also have a Reaction to Fire classification A2,s1,d0. The panel tested was perforated with non-woven and 12.5mm joint. The classification is valid for plenum depths of 120mm or more. Test report is available on request. (2015-effectis-R000304)

10. ACOUSTICS

The panels are available in plain version or perforated R1,5T3mm, 22,7% open, with non-woven (standard colour black). The perforation runs over the panel edges. Until further notice, due to limitations in the perforation die, perforated panels in the width of 1250mm will have a plain edge of ca. 3mm on the upper rim of the panel side. An unperforated plain border like with planks is not possible. The average absorption value $\alpha_w = 0.75$. Test report is available on request (Peutz A2428-2-RA).

11. EMISSIONS TO INDOOR AIR

Panels are tested on VOC emissions to indoor air conform the requirements of French French regulation of March 23, 2011 (décret DEVL1101903D) and of April 19, 2011 (arrêté DEVL1104875A). The emission class is A+. Test report available on request (Eurofins XXX-2015-XXXXXX).

12. AREA OF APPLICATION

The panels are designed for interior applications (plain panels: exposure class A-C of EN 13964, perforated panels with non-woven: exposure class A-B of EN 13964). The panels are not tested on wind load capabilities and may not be used for exterior applications.

The panels are also not tested on impact resistance and therefore not certified for use in sport halls.

13. CE-MARKING/ DOP

XLnt is subject to CE-marking according EN13964:2014 Suspended ceilings – Requirements and test methods.

HunterDouglas

Declaration of Performance

No. 123456

Unique identification code of the product type: 347030

Intended use/es:

Suspended ceiling membrane component for use internally in buildings

Manufacturer:

Hunter Douglas Ceiling Centre
Piekstraat 2
3071 EL Rotterdam
The Netherlands

System/s of AVCP:

System 3

Harmonised standard (date referenced):

EN 13964:2014

Notified body/ies:

KIWA N.V. Certificatie en Keuringen, NB 0620

HunterDouglas

Declared performance/s:

Essential Characteristic	Performance	Harmonised Technical Specification
Reaction to Fire	Class A2,S1,d0	EN 13964:2014
Release of formaldehyde	NPD	EN 13964:2014
Release and/or content of other dangerous substances	NPD	EN 13964:2014
Susceptibility to the growth of harmful micro organisms, as dampness	NPD	EN 13964:2014
Susceptibility to the growth of harmful micro organisms, through thermal insulation	NPD	EN 13964:2014
Shatter properties as impact resistance	NPD	EN 13964:2014
Flexural tensile strength	NPD	EN 13964:2014
Bond strength as resistance to fixings	NPD	EN 13964:2014
Resistance to fixings	NPD	EN 13964:2014
Sound absorption	$\alpha_w = 0.75$	EN 13964:2014
Thermal conductivity	NPD	EN 13964:2014
Durability	Class B	EN 13964:2014

The performance of the product identified above is in conformity with the set of declared performance/s. This declaration of performance is issued, in accordance with Regulation (EU) No 305/2011, under the sole responsibility of the manufacturer indentified above.

Signed for and on behalf of the manufacturer by:

E. de Beste,
General Manager Hunter Douglas Ceiling Centre
Rotterdam, 1 July 2013

No. 123456 - 1 of 2

No. 123456 - 2 of 2

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14. TAIM

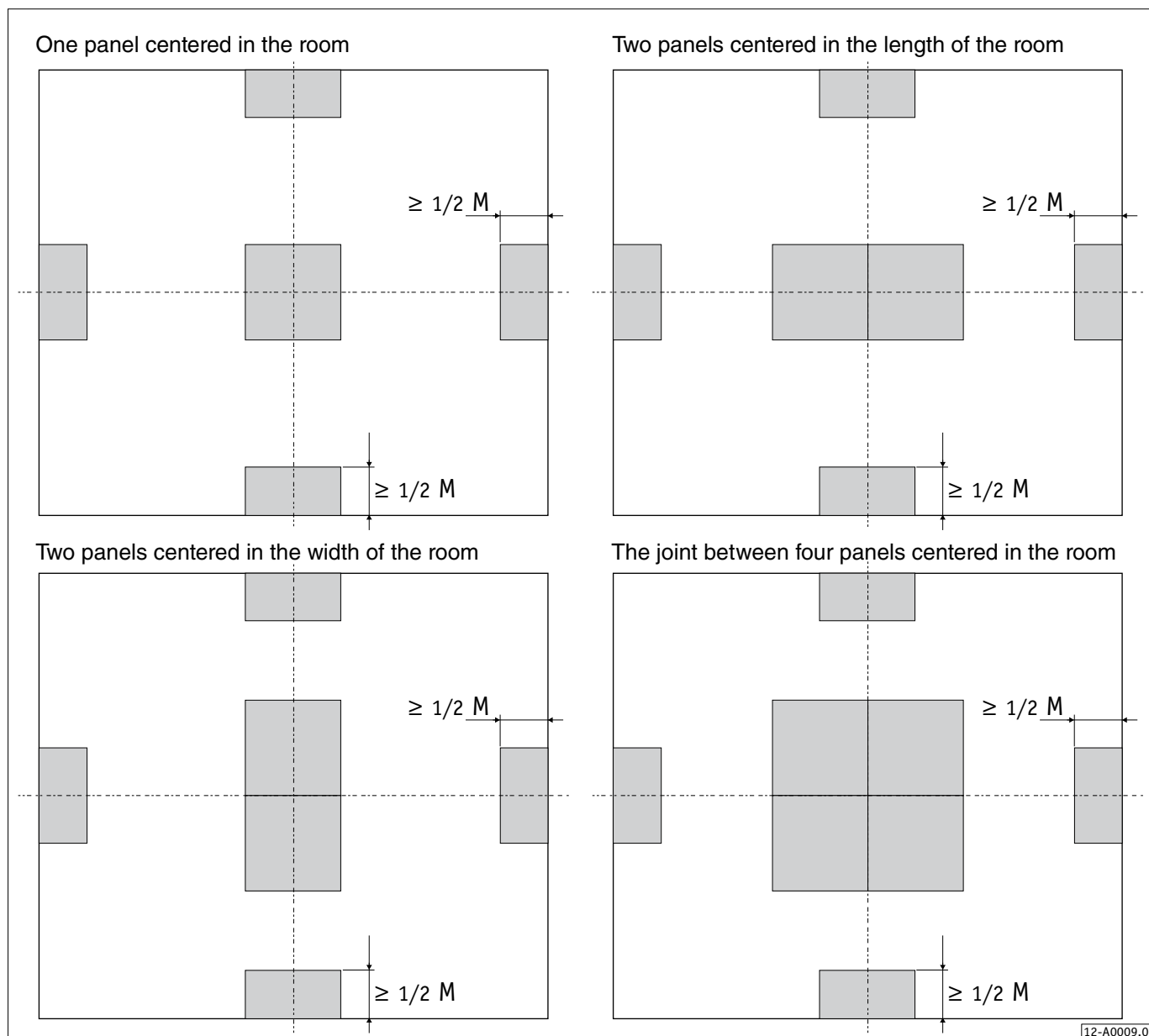
XLnt conforms to the quality standards of TAIM e.v.

15. DESIGN / LAY OUT

The distribution of the panels in the room:

In general there are four different ways to place a tile-in-grid type of ceiling in a room:

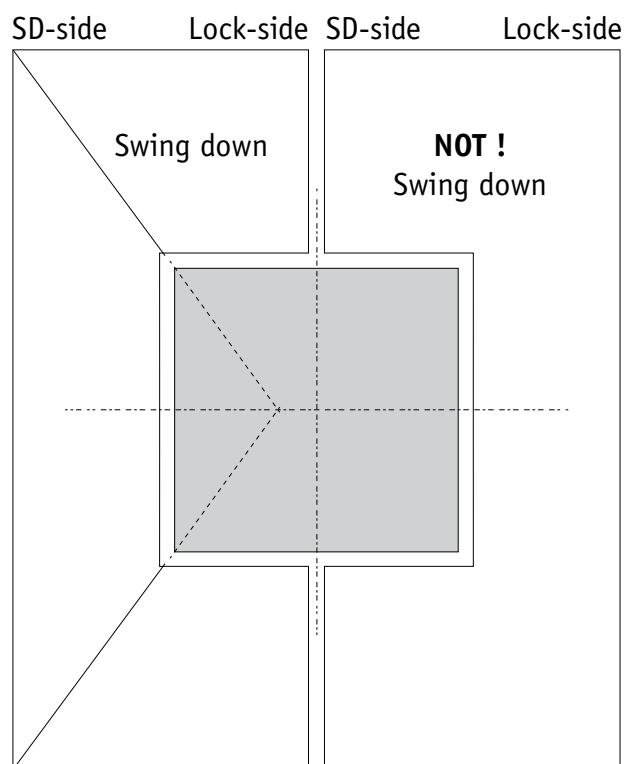
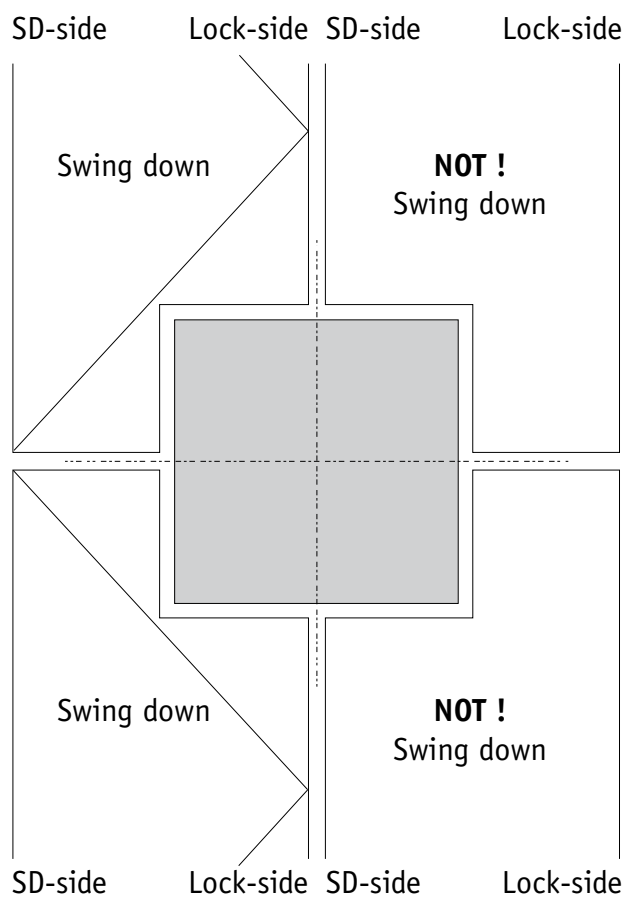
All designs are based on a symmetrical distribution of the panels. Depending on the remaining width of the panels around the perimeter of the room (which should be at least half the modular size), the distribution is as follows:



16. PANELS AROUND COLUMNS

When cutting panels around columns there can be restrictions in the swing-down possibilities:

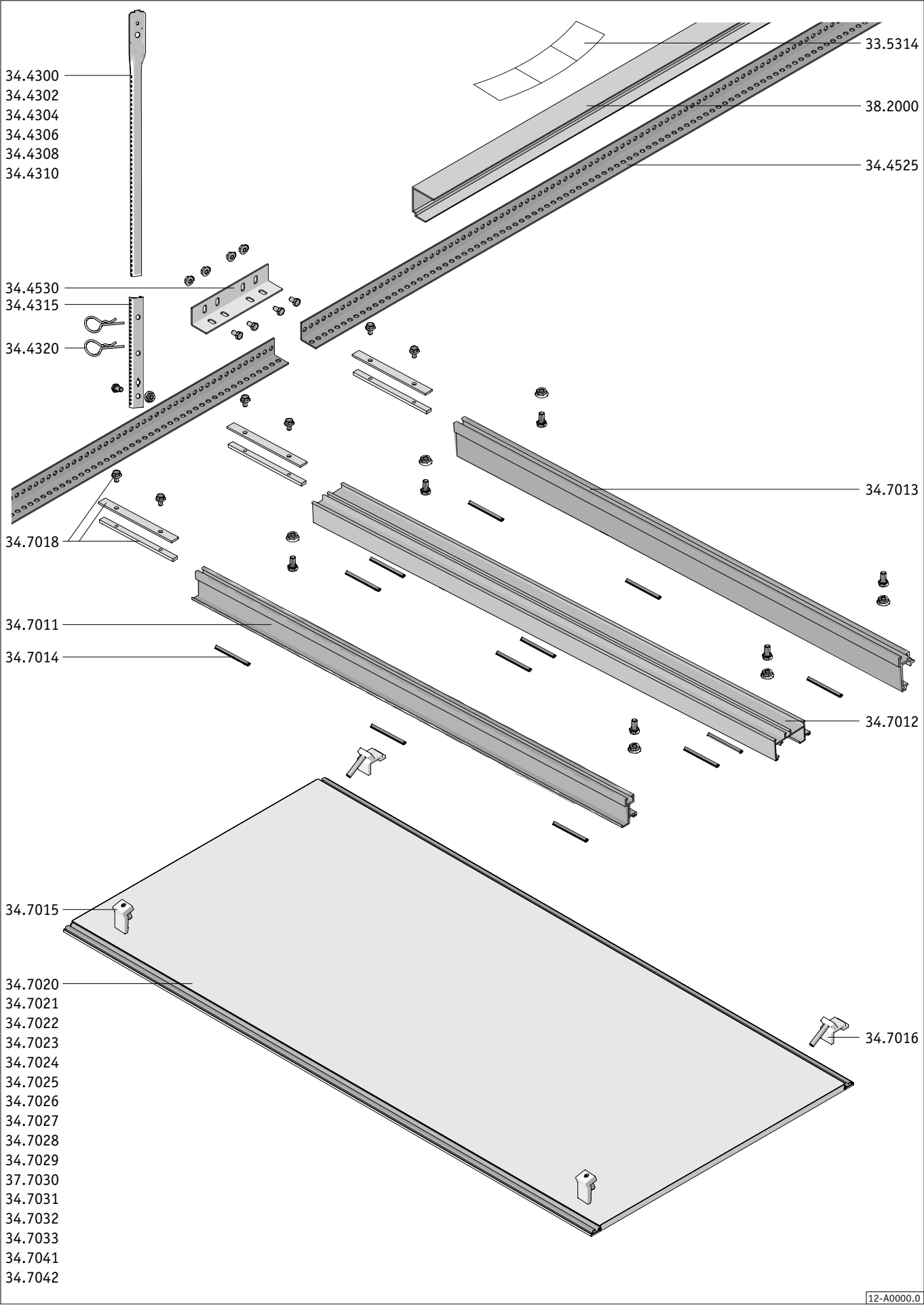
- With edge trim profiles: no swing-down possibility
- Without edge trim profiles: see drawings



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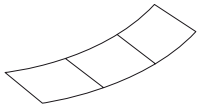
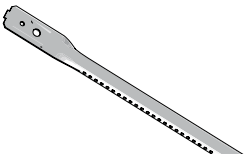
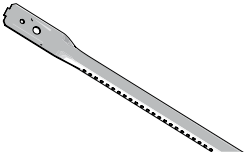
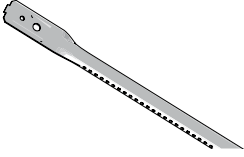
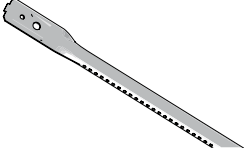
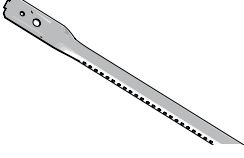
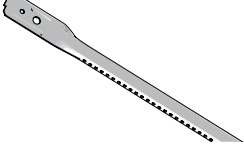
EXPLODED VIEW

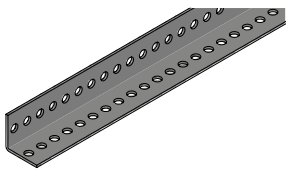
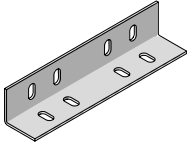
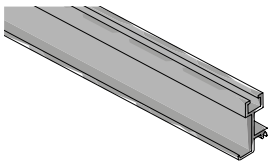
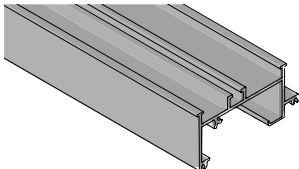
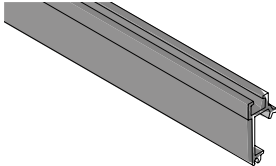
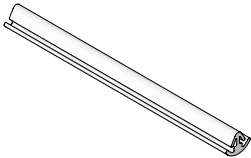
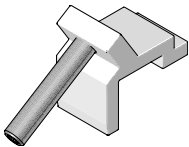
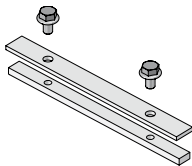
1. XLnt PANEL

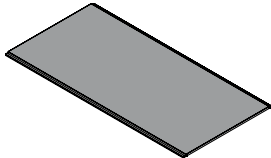
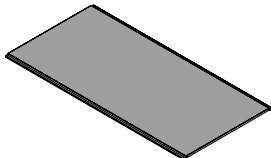
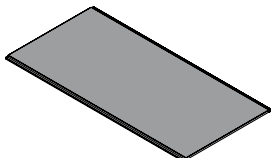
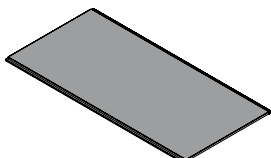
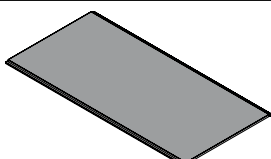
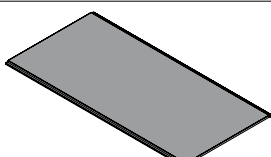
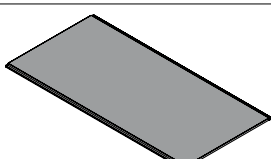
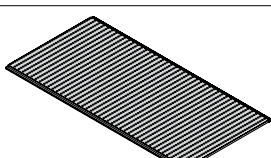
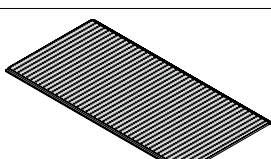


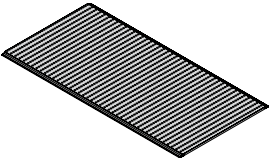
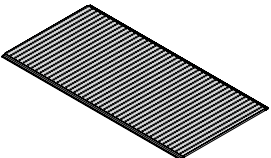
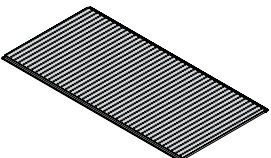
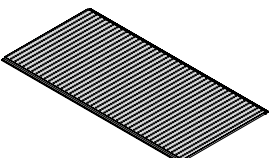
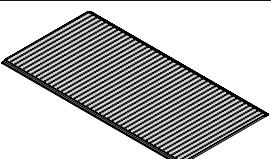
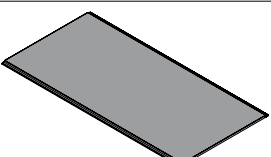
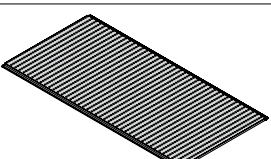
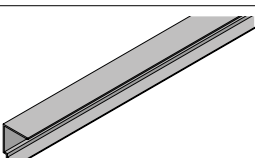
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PARTS LIST

Description	Product code	Colour code	Packing Unit	Figure
Luxalon® blade spring	33.5314	0000	1000 pcs	
Luxalon® upper nonius hanger 150 mm	34.4300	0000	100 pcs	
Luxalon® upper nonius hanger 300 mm	34.4302	0000	100 pcs	
Luxalon® upper nonius hanger 500 mm	34.4304	0000	100 pcs	
Luxalon® upper nonius hanger 1000 mm	34.4306	0000	100 pcs	
Luxalon® upper nonius hanger 1500 mm	34.4308	0000	100 pcs	
Luxalon® upper nonius hanger 2000 mm	34.4310	0000	25 pcs	
Luxalon® lower nonius hanger 150 mm	34.4315	0000	100 pcs	
Luxalon® locking clips for nonius hanger	34.4320	0000	100 pcs	

Description	Product code	Colour code	Packing Unit	Figure
Luxalon® primary angle profile	34.4525	0000	10x4 m = 40 m	
Luxalon® primary angle profile splice	34.4530	0000	20 pcs	
Suspension profile SD side	34.7011	Mill finish	46.4 m 8x5,8 m	
Suspension profile	34.7012	Mill finish	17.4 m 3x5,8 m	
Suspension profile lock side	34.7013	Mill finish	46.4 m 8x5,8 m	
Side track insert 50 mm	34.7014	Grey	100 pcs	
Fixing block set	34.7015	Mill finish	100 sets	
Fixing block adapter panel set	34.7016	Mill finish	20 sets	
Connection suspension set	34.7018	Mill finish	20 sets	

Description	Product code	Colour code	Packing Unit	Figure
Luxalon® XLnt panel plain, b =600 mm	34.7020	0280	Variable Min 1,- m Max 2,5 m	
Luxalon® XLnt panel plain, b =625 mm	34.7021	0280	Variable Min 1,- m Max 2,5 m	
Luxalon® XLnt panel plain, b =750 mm	34.7022	0280	Variable Min 1,- m Max 2,5 m	
Luxalon® XLnt panel plain, b =900 mm	34.7023	0280	Variable Min 1,- m Max 2,5 m	
Luxalon® XLnt panel plain, b =1000mm	34.7024	0280	Variable Min 1,- m Max 2,5 m	
Luxalon® XLnt panel plain, b =1200 mm	34.7025	0280	Variable Min 1,- m Max 2,5 m	
Luxalon® XLnt panel plain, b =1250 mm	34.7026	0280	Variable Min 1,- m Max 2,5 m	
Luxalon® XLnt panel perf R1.5T3, b = 600 mm	34.7027	0280	Variable Min 1,- m Max 2,5 m	
Luxalon® XLnt panel perf R1.5T3, b = 625 mm	34.7028	0280	Variable Min 1,- m Max 2,5 m	

Description	Product code	Colour code	Packing Unit	Figure
Luxalon® XLnt panel perf R1.5T3, b = 750 mm	34.7029	0280	Variable Min 1,- m Max 2,5 m	
Luxalon® XLnt panel perf R1.5T3, b = 900 mm	34.7030	0280	Variable Min 1,- m Max 2,5 m	
Luxalon® XLnt panel perf R1.5T3, b = 1000 mm	34.7031	0280	Variable Min 1,- m Max 2,5 m	
Luxalon® XLnt panel perf R1.5T3, b = 1200 mm	34.7032	0280	Variable Min 1,- m Max 2,5 m	
Luxalon® XLnt panel perf R1.5T3, b = 1250 mm	34.7033	0280	Variable Min 1,- m Max 2,5 m	
Luxalon® XLnt panel plain, b=1050 mm	34.7041	0280	Variable Min 1,- m Max 2,5 m	
Luxalon® XLnt panel perf R1.5T3, b = 1050 mm	34.7042	0280	Variable Min 1,- m Max 2,5 m	
Luxalon® reveal edge wall channel 29x16	38.2000	0181	44m 12x3.67	

TOOL LIST

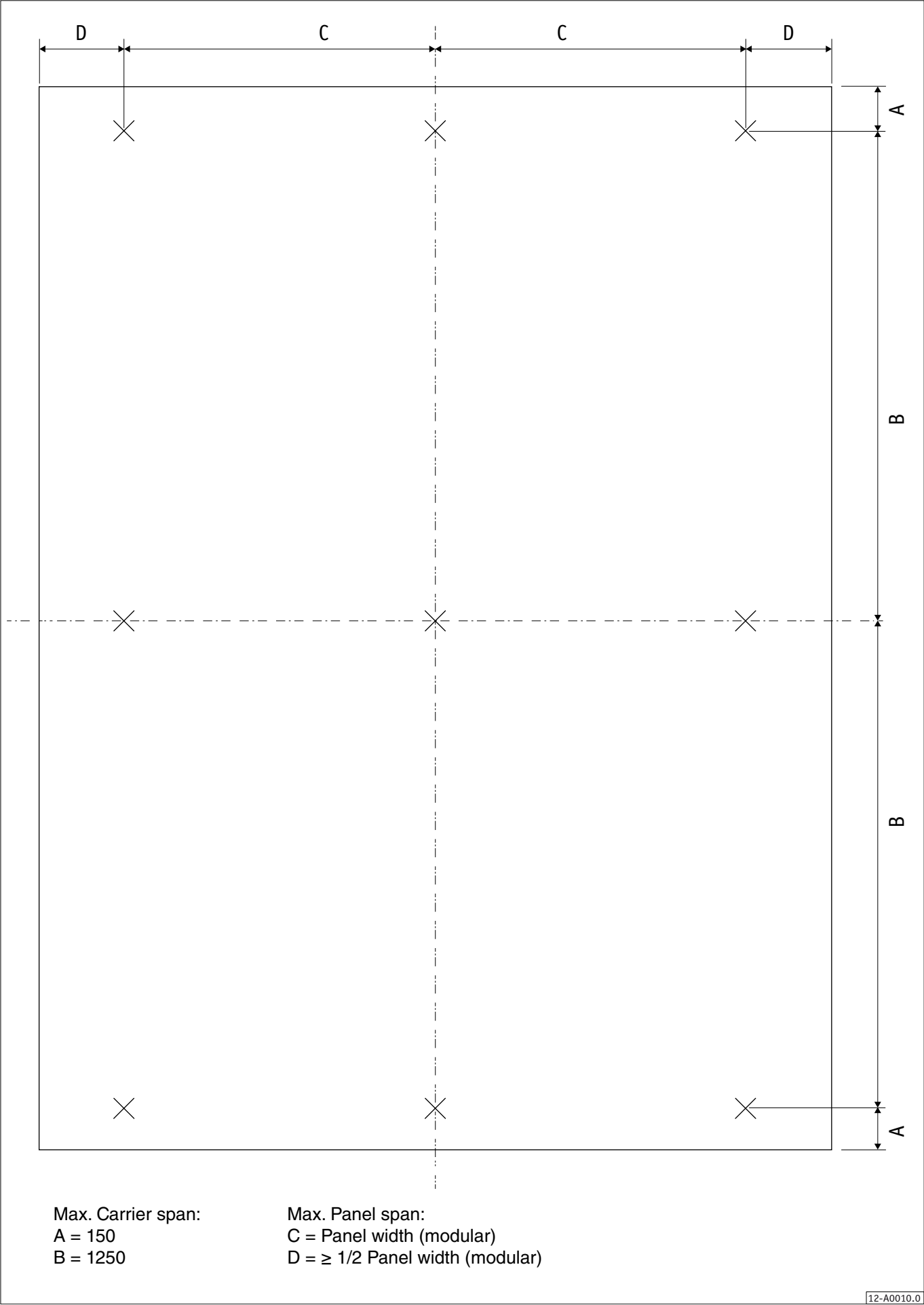
1. TOOLS

Stairs / scaffold
Ruler / tape measure
Telescopic ruler*
Rotating laser*
Spirit level
Chalkline
Plumpline*
Electrical drill
Bow saw
Mitre saw*
Allen key 2.5 mm
Electrical screwdriver
Screwdrivers
Circular saw
Metal scissors
Nibbling scissors
Multi-purpose scissors
Cutting edge 45°/90°
“Stanley” knife
Tool for circular holes
Cotton gloves
90° square
Variable square
Mini bow saw*
Hammer
Drill bits
Awl*
Palet knife
Popriveter*
Demounting tool 300C
Bending tool 300A/C
Demounting tool clip-in tiles

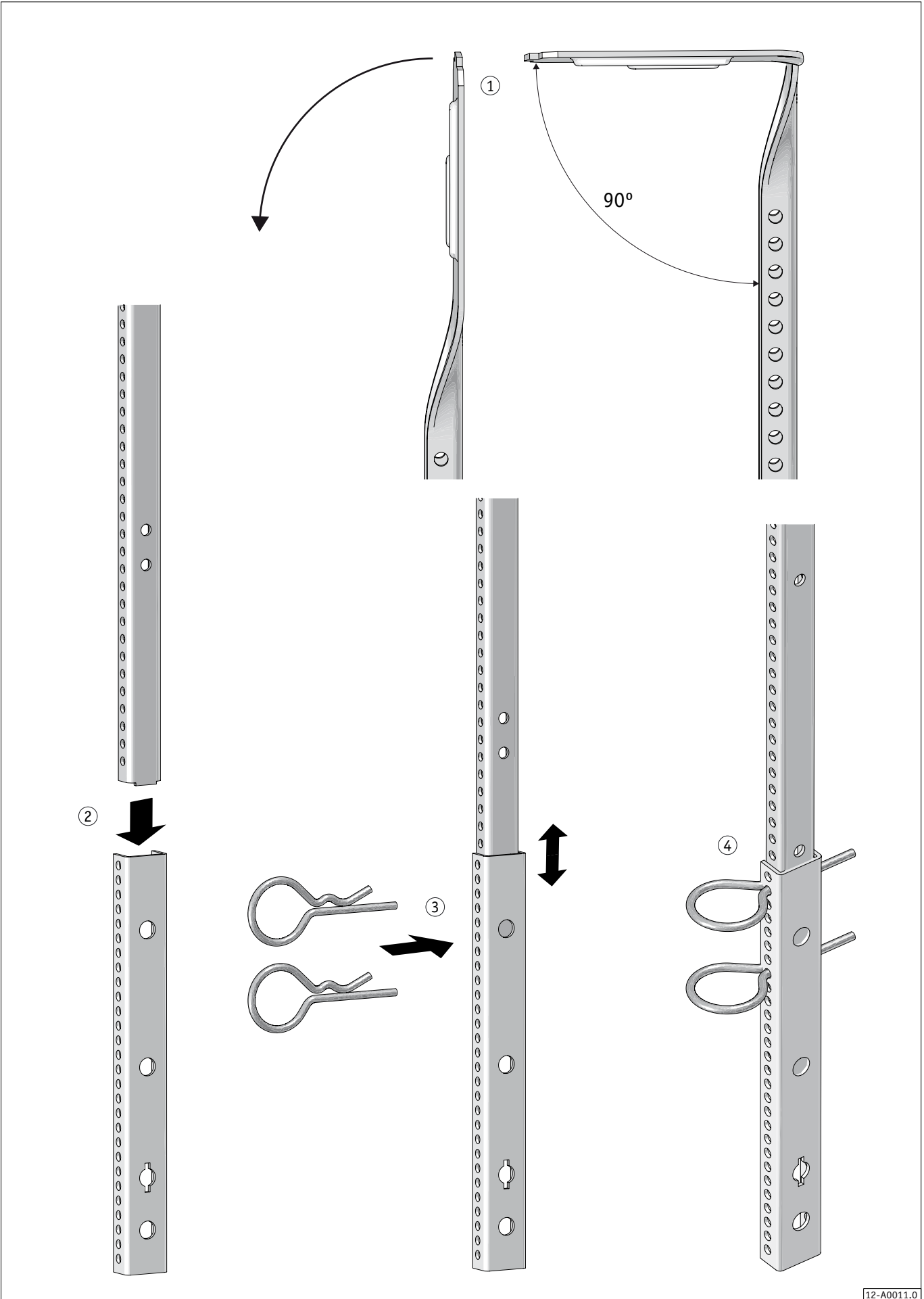
*Optional tools

MOUNTING

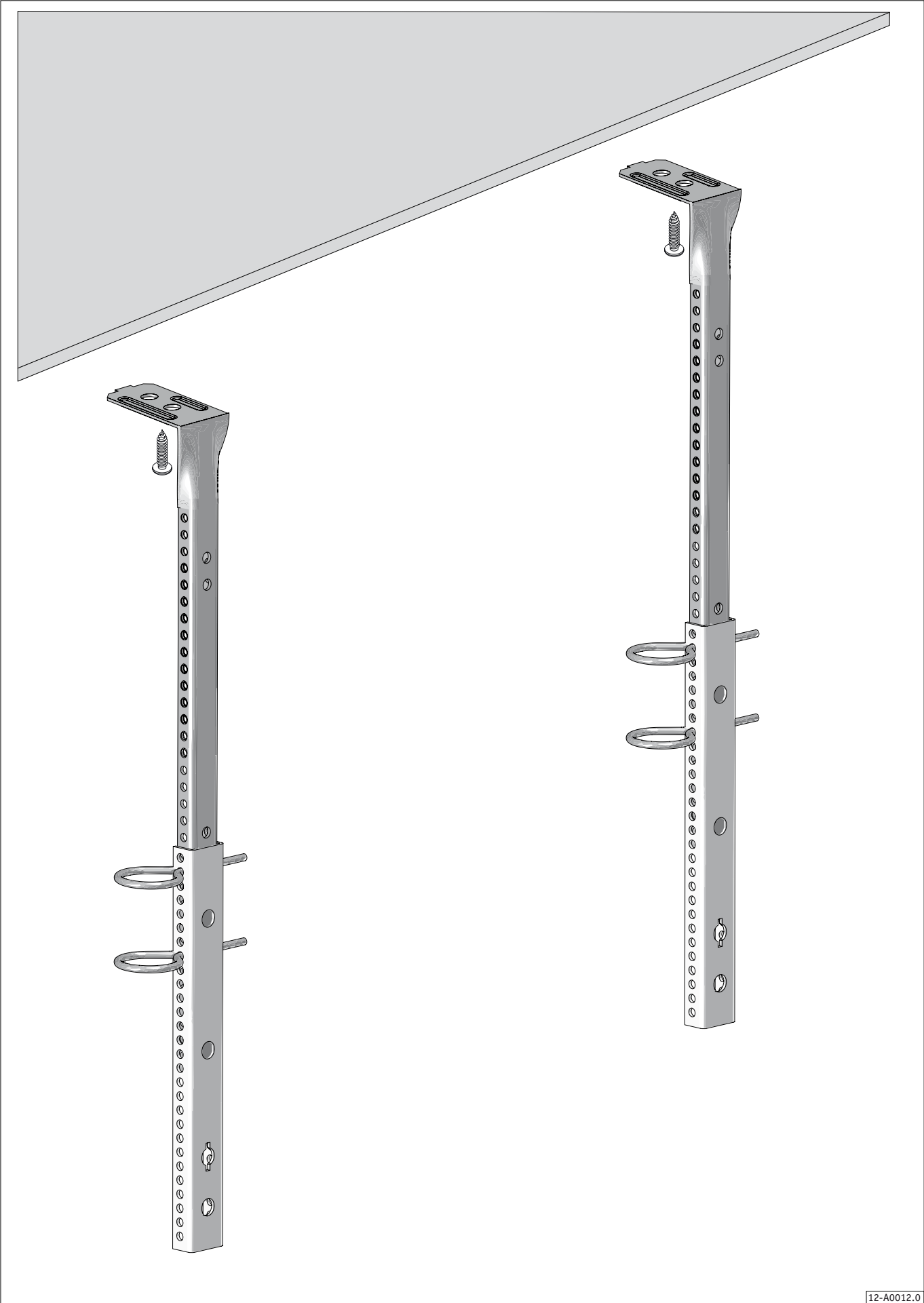
1. MARKING THE SUSPENSION POINTS



2. ASSEMBLE THE NONIUS HANGER

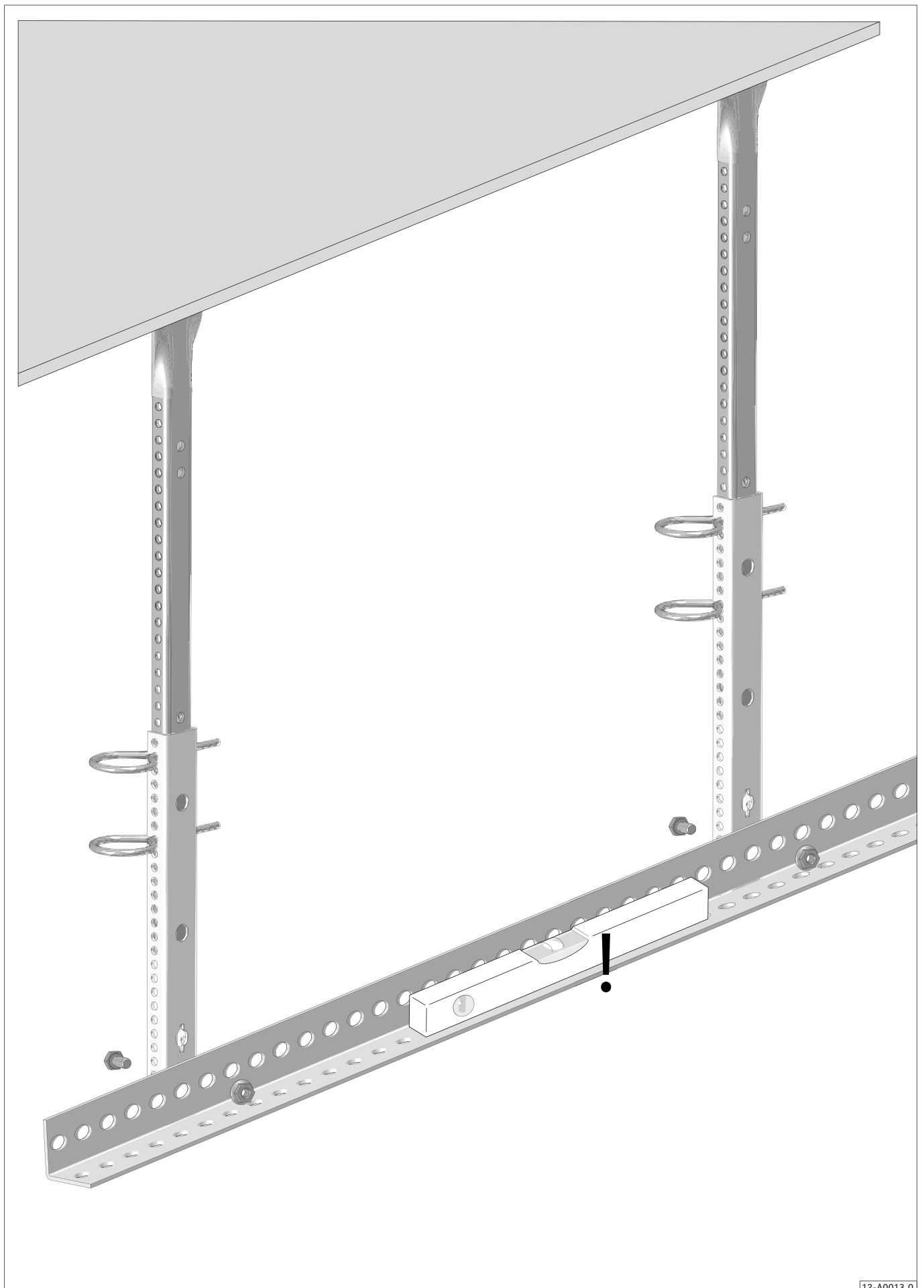


3. MOUNT THE NONIUS HANGERS TO THE CEILING

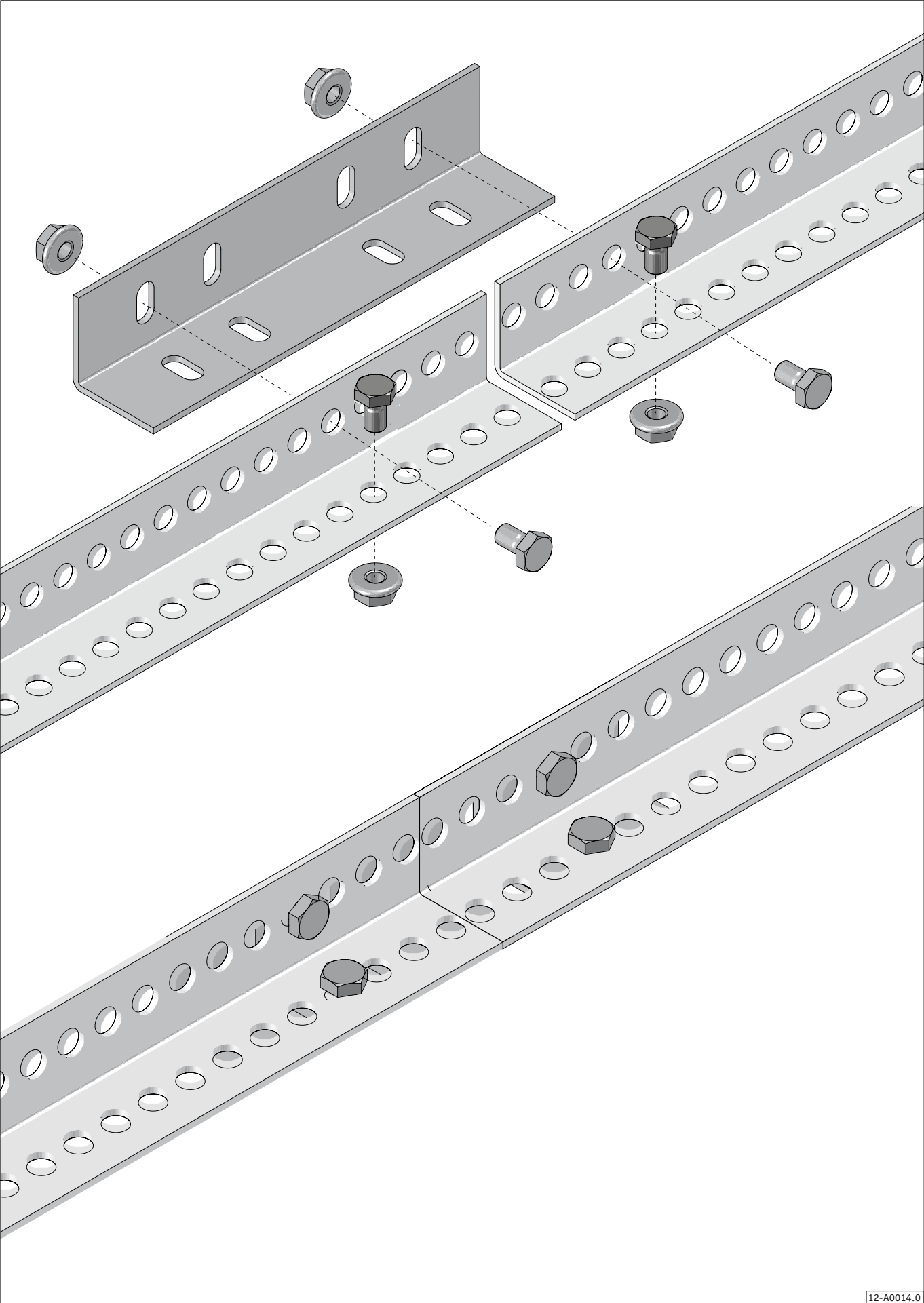


12-A0012.0

4. ATTACH THE ANGLE PROFILE

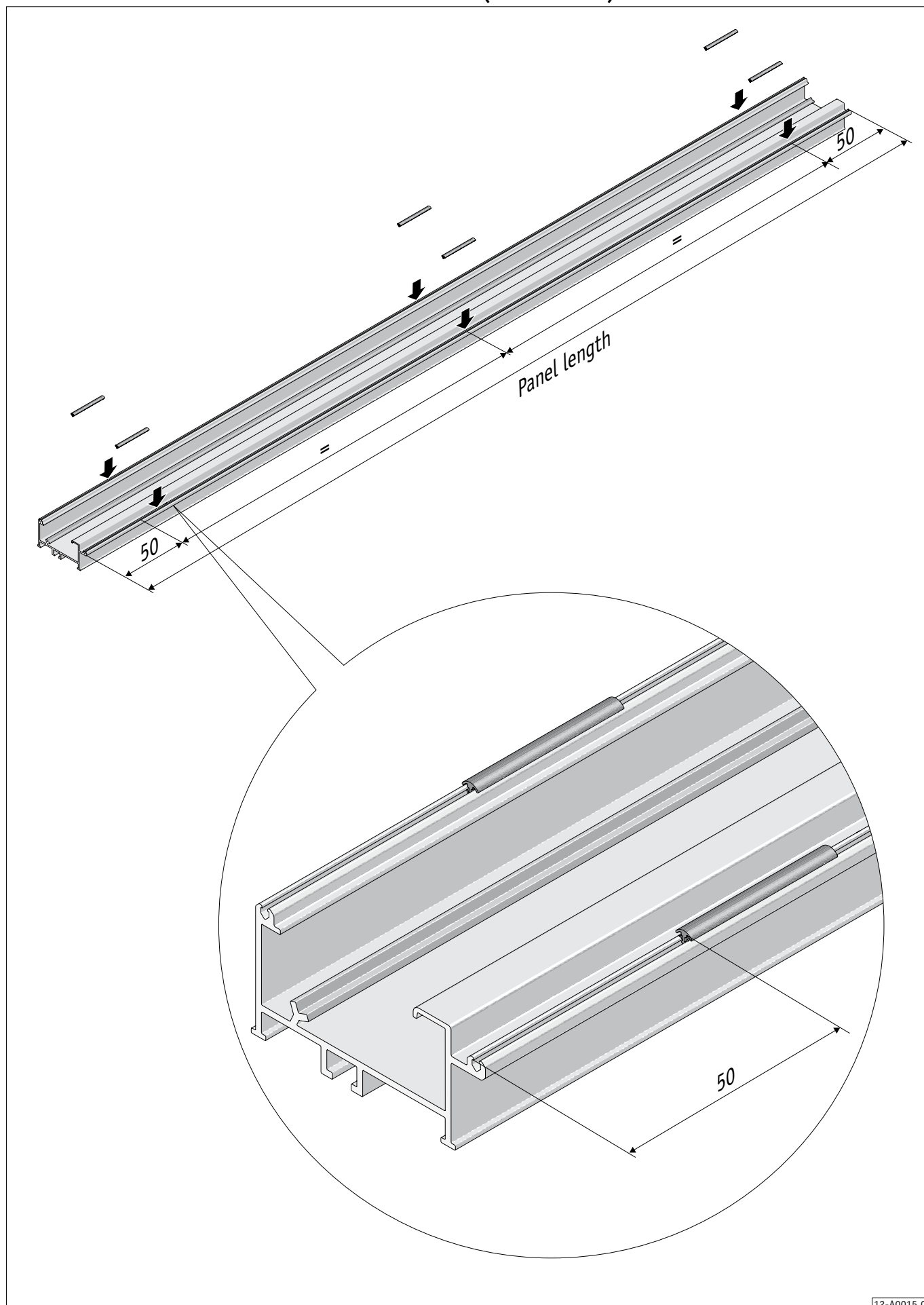


5. CONNECT THE ANGLE PROFILES



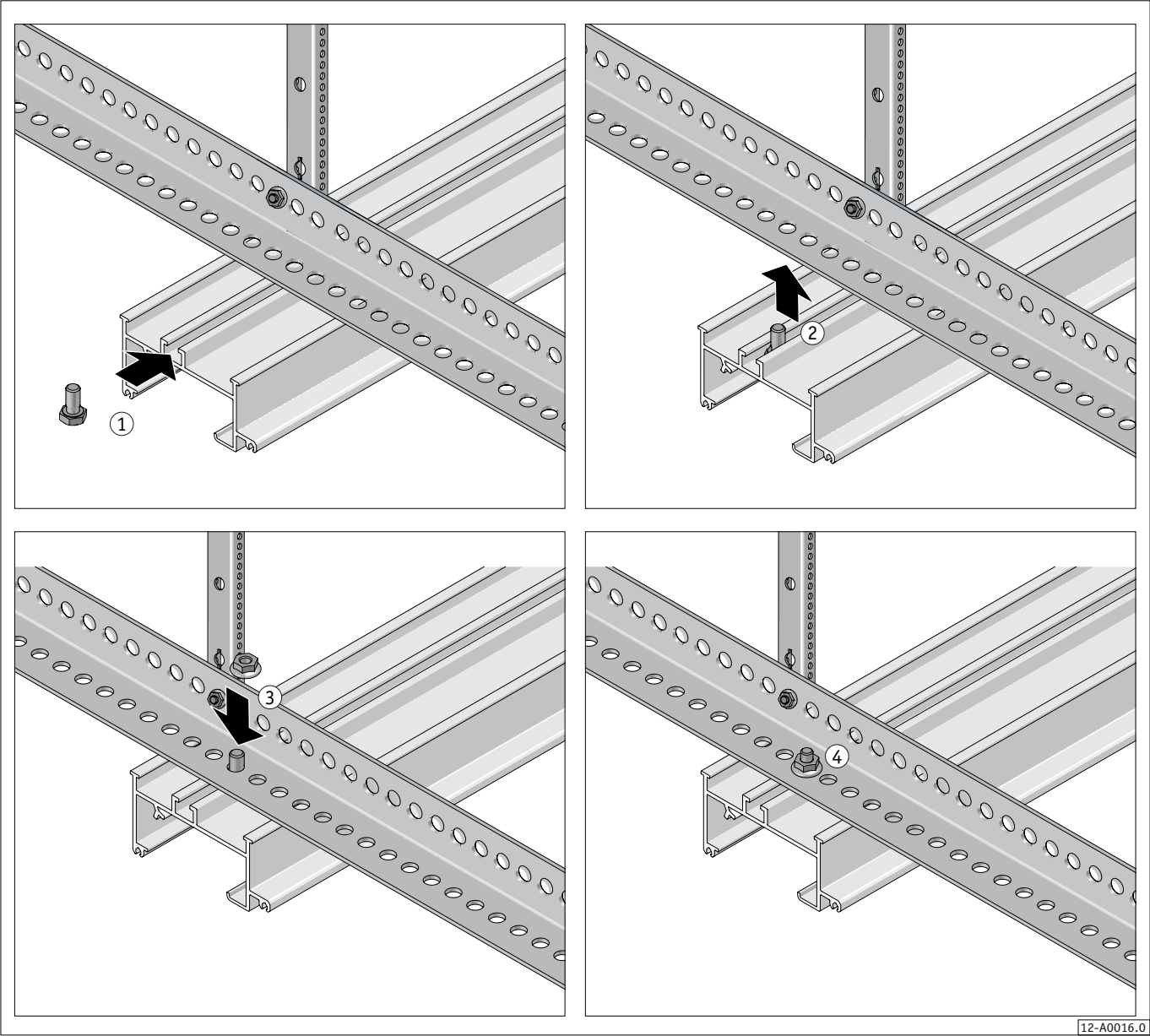
12-A0014.0

6. PUSH THE INSERTS IN THE SUSPENSION PROFILE (6 PER PANEL)

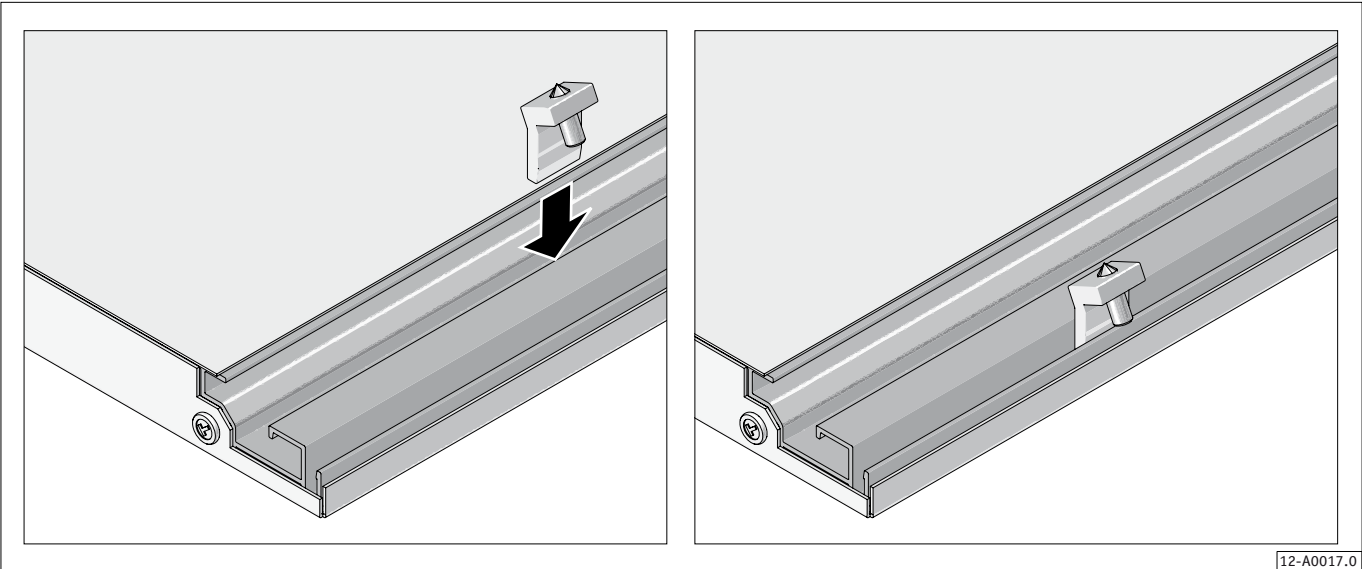


12-A0015.0

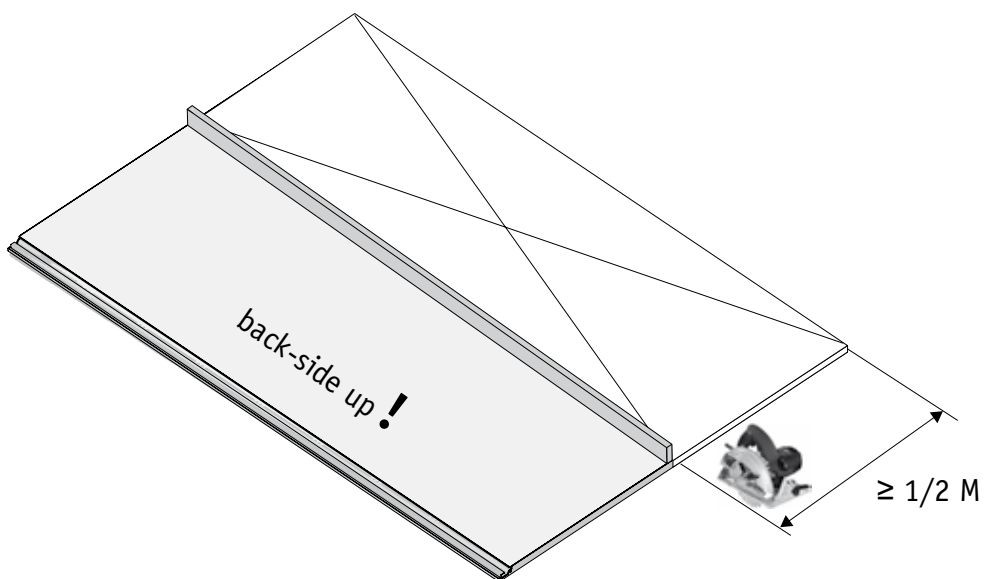
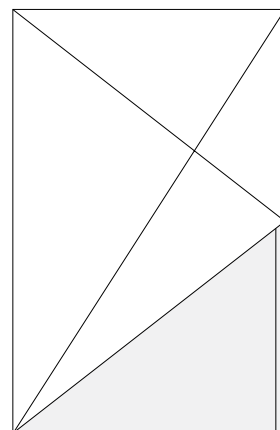
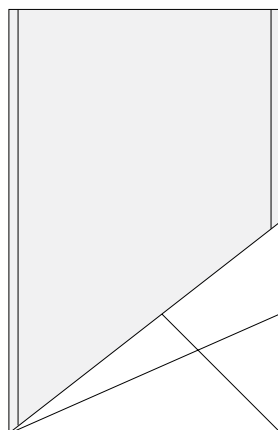
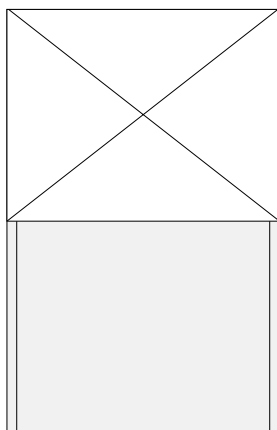
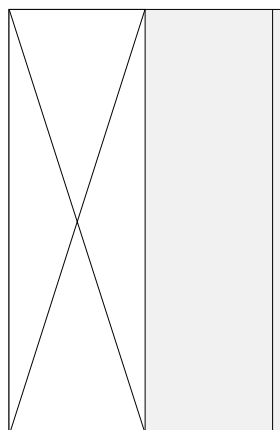
7. MOUNT THE SUSPENSION PROFILES TO THE ANGLE PROFILES



8. CLICK THE FIXING BLOCKS LOCK SIDE (2 PER PANEL)

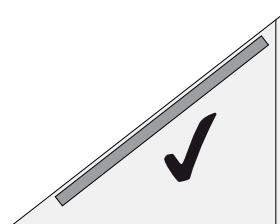
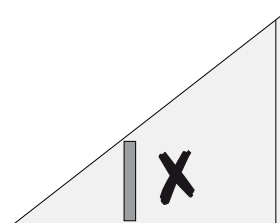


9. CUT TO SIZE THE ADAPTER PANELS



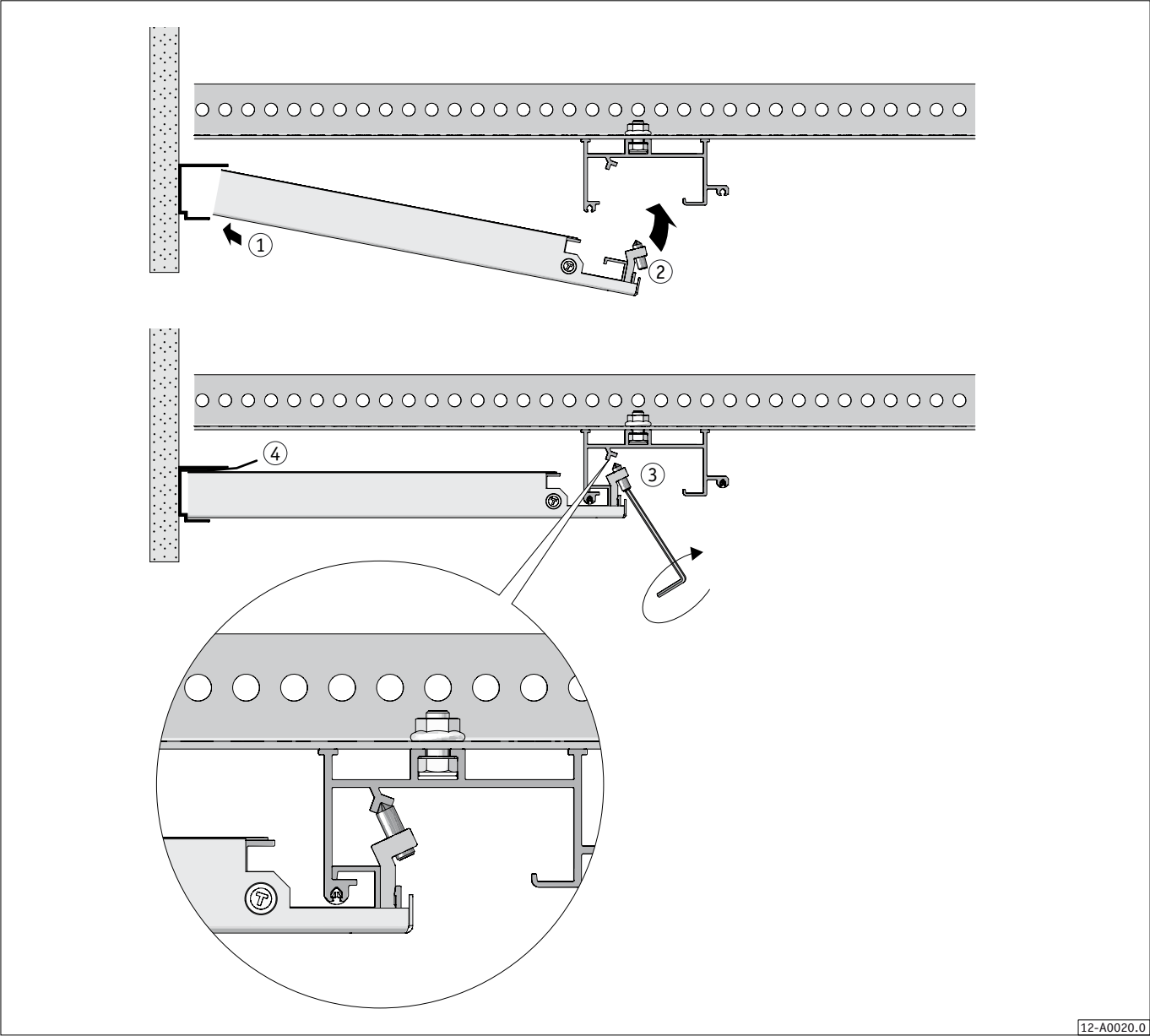
Panels shall be cut from the backside using tools fitted with a fine-toothed blade suitable for cutting aluminium.

Panel support
(see also page 38)

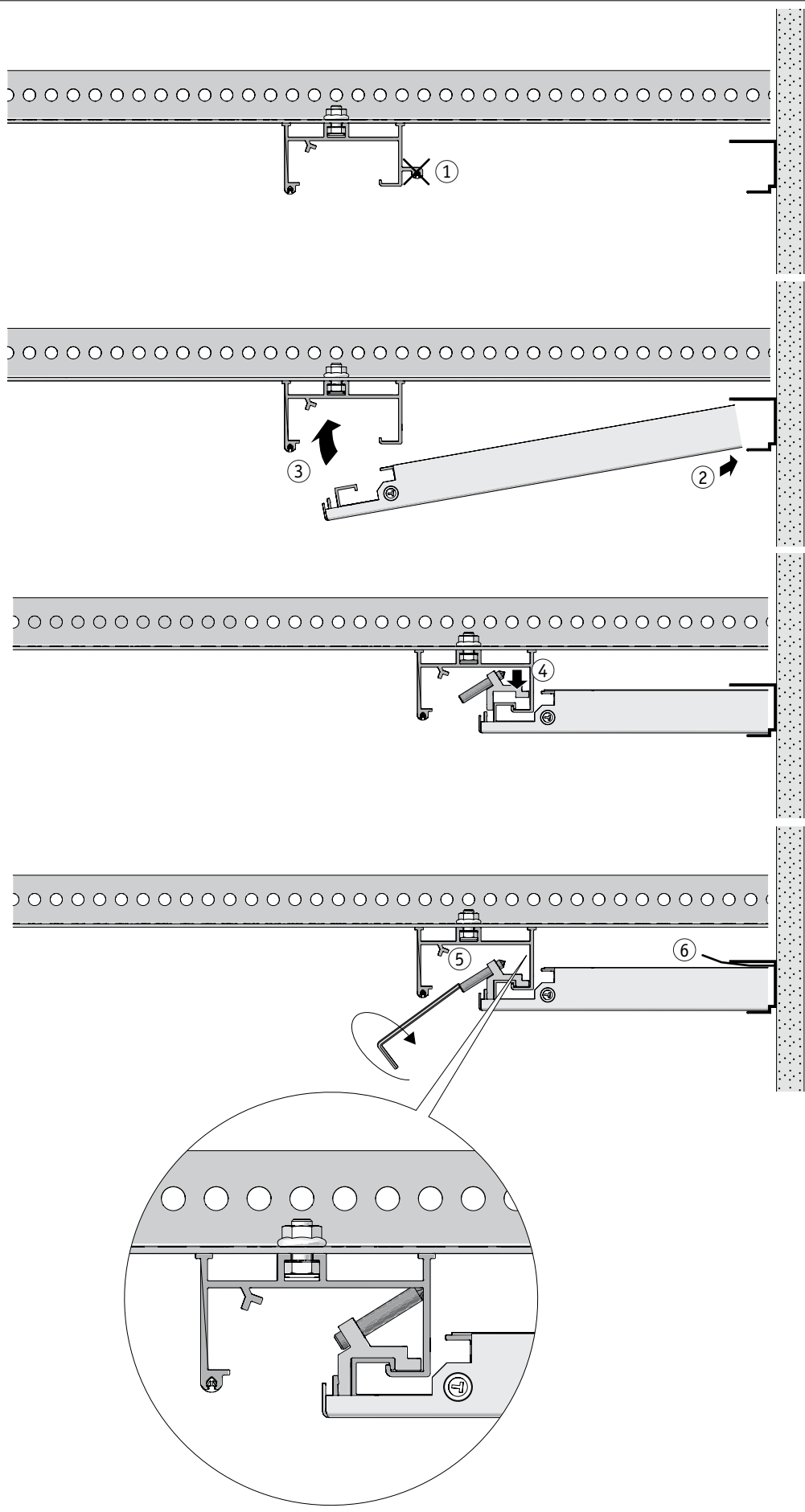


12-A0019.0

10. MOUNT THE ADAPTER PANEL ON THE LOCK SIDE

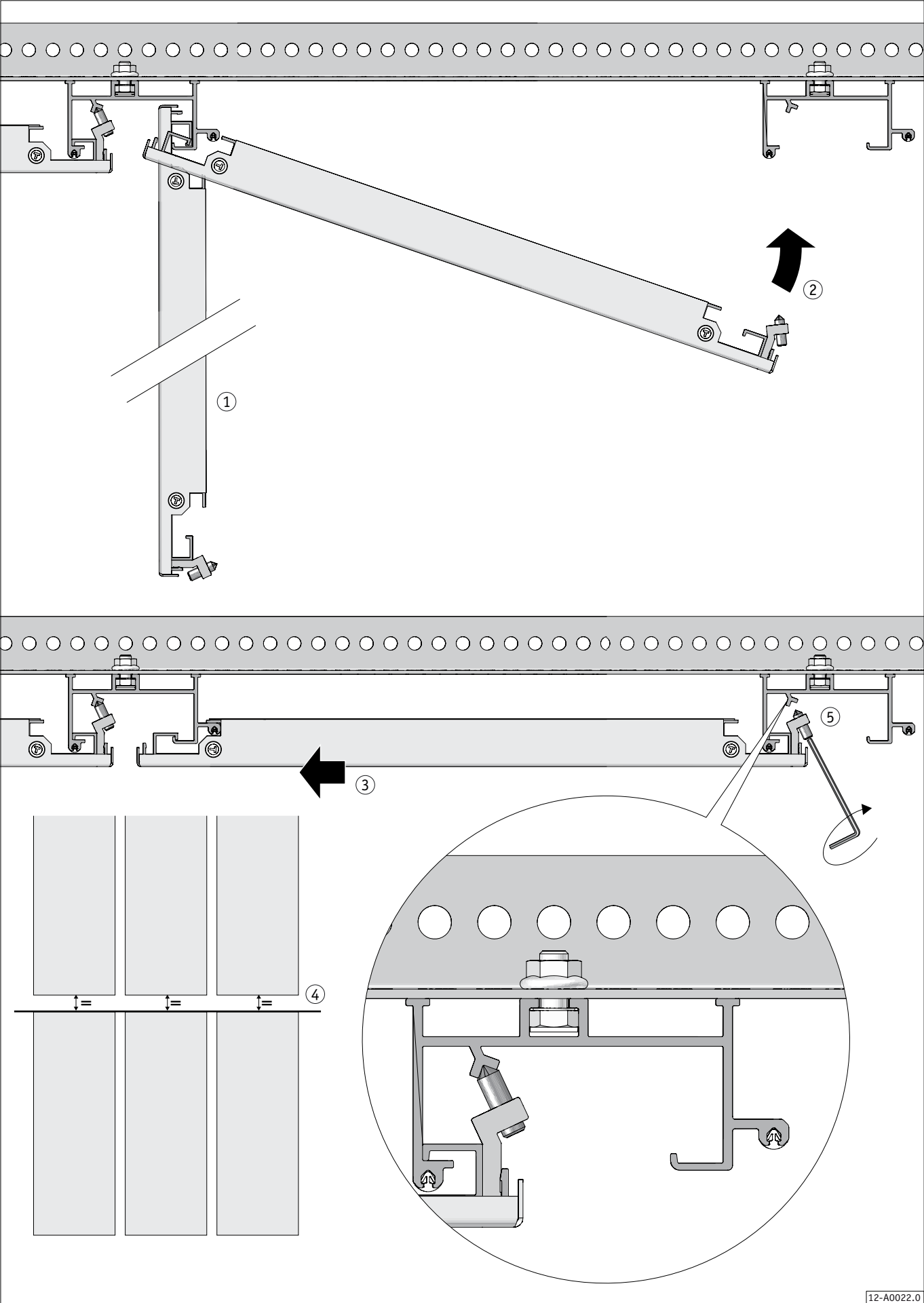


11. MOUNT THE ADAPTER PANEL ON THE SWING DOWN SIDE



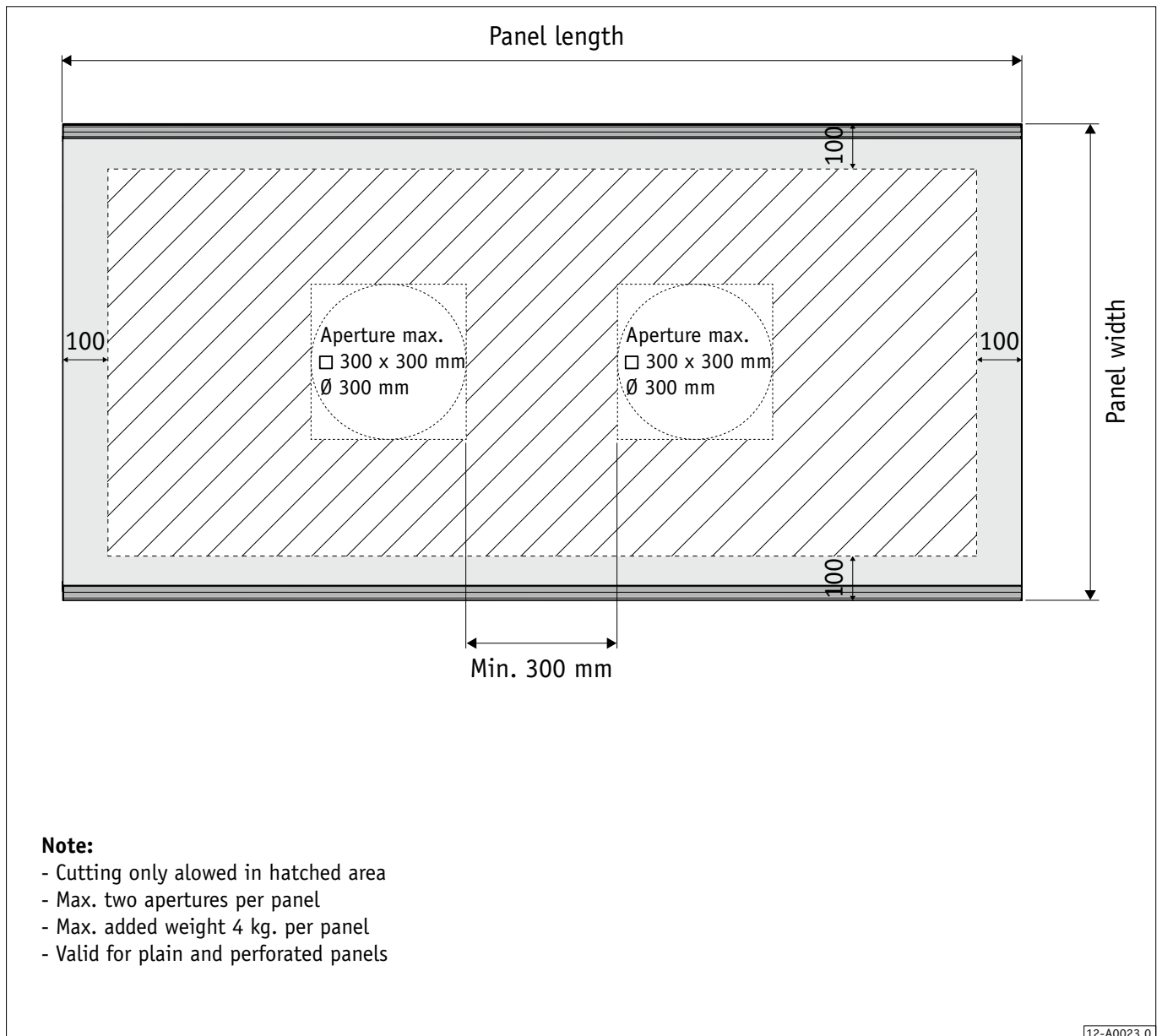
12-A0021.0

12. MOUNT THE OTHER PANELS



12-A0022.0

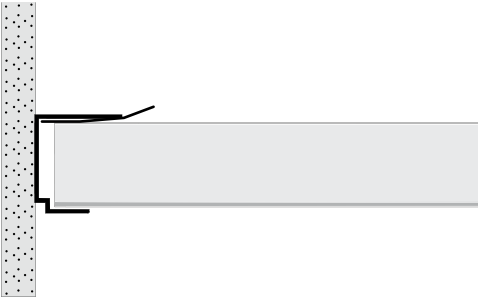
13. DIMENSIONS FOR APERTURE CUTTING



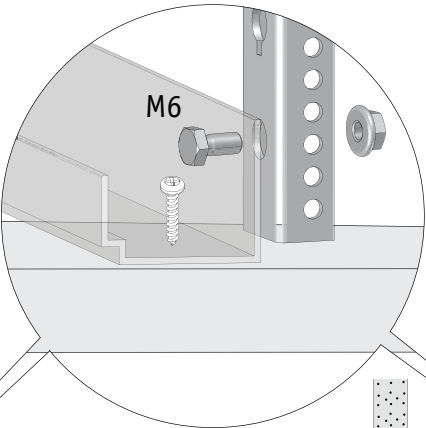
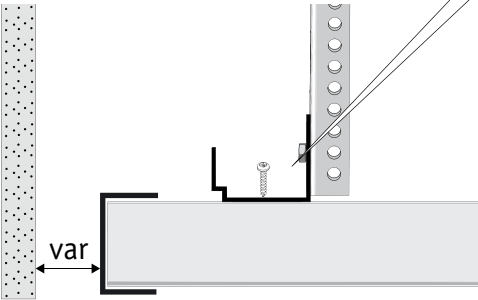
Panels shall be cut from the backside using tools fitted with a fine-toothed blade suitable for cutting aluminium.

14. PANEL-EDGE DETAIL SOLUTIONS

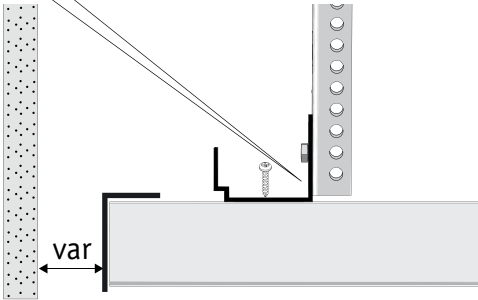
Not swing-down



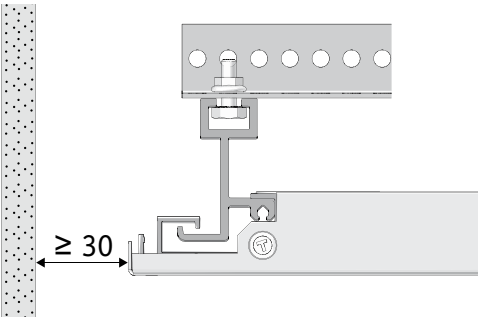
Non HD
Not swing-down
Not fire-stable



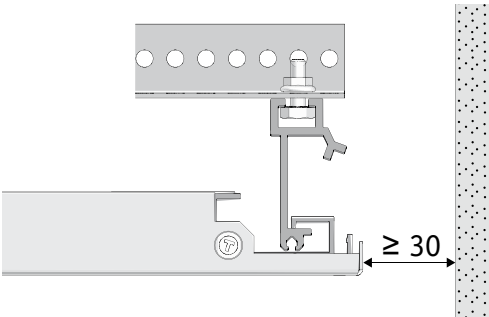
Non HD
Not swing-down
Not fire-stable



Swing-down
Fire-stable



Swing-down
Fire-stable

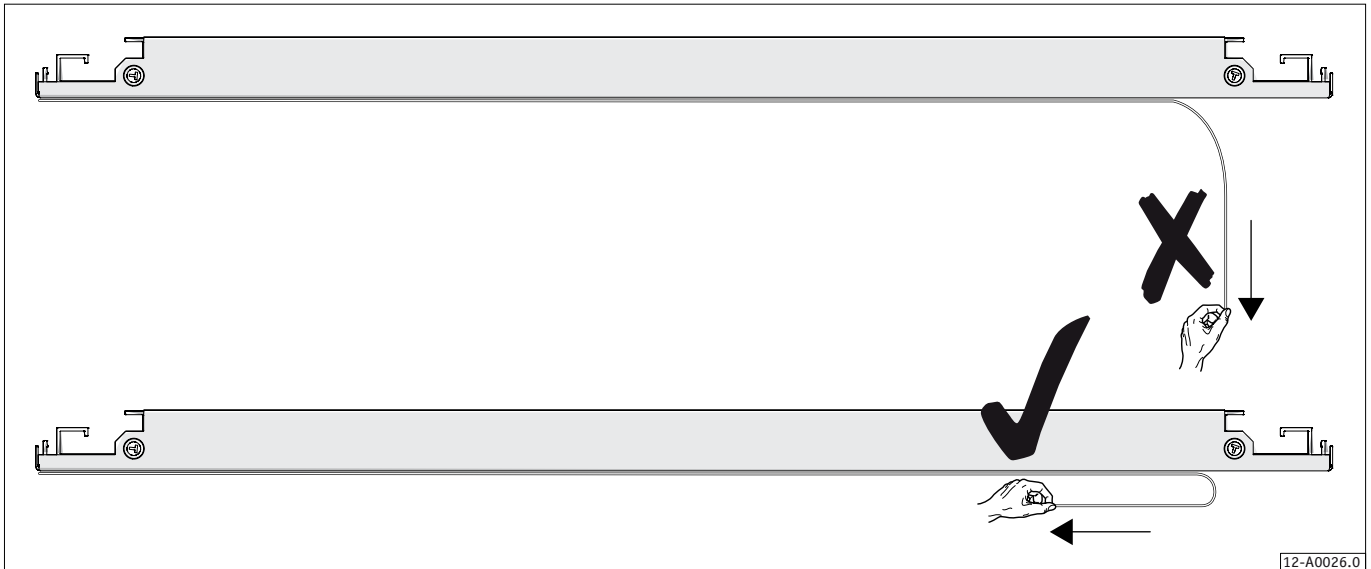


15. STORAGE ON SITE

Panels shall be stored on site in the original packing. Maximum 2 crates on top of each other with the frames of the top crate in line with the frames of the lower one. The climate of the storage location shall correspond to the indicators of the “area of application”. During installation, the building interior climate shall correspond to the indicators of the “area of application” (see page 12).

16. FOIL REMOVAL

The protective foil shall be removed as soon as possible after installation of the panels but never later than 3 months after delivery. The foil on the edges shall be peeled off before installation of the panels. The foil on the panel face shall be peeled off in a direction parallel to the plane of the face.



Note:

As long as the foil is present on the panels, the XLnt system does **not** fulfil the tested reaction to fire performance.

MAINTENANCE

1. INTRODUCTION

This document covers the cleaning and maintenance of Luxalon® Metal Ceilings. A Luxalon® Metal Ceiling is by virtue of the use of high quality materials and extensively tested coatings almost maintenance free. However, environmental influences may make it necessary to establish an inspection and maintenance routine. Paragraphs 2 to 5 discuss the sense behind cleaning and maintenance. The other paragraphs cover cleaning and maintenance itself and the appropriate materials.

2. PREVENTING DAMAGE

Damage to the surface and/or substrate (base material) can be caused by mechanical actions or by the adherence of dirt. During the construction phase there is an enhanced risk for mechanical damages and soiling due to building processes. The general contractor/ installer shall take appropriate measures to avoid damages. It should be prevented that ceiling elements are soiled by cement droplets and/ or other alkaline pollutions. In the event this has occurred, this pollution shall be removed immediately by flushing the ceiling element with abundant clean water. Cement water and other alkaline-type soiling may damage the surface of metal (in particular aluminium) elements. Attention! Perforated ceiling panels with non-woven acoustics tissue glued to the inside shall never be cleaned wet due to staining. Self-adhesive foils used for surface protection shall be removed as soon as possible after protection is no longer required. When left on too long they may damage the coating.

3. CORROSION

Corrosion on ferrous and non-ferrous metals is caused by, among others:

- Metal particles
- Chlorides
- Soiling

When metal particles from the air deposit on a metal surface, corrosion can develop under influence of moisture. Dissimilar metals in combination with dirt or moisture will cause electrolytic (galvanic) corrosion. Less noble metals are sacrificed in favour of more noble metals. Corrosion often occurs near industrial areas, railways and tramways. In coastal areas high salinity and chloride levels are sources of corrosion. In addition, corrosion can occur due to the interaction of dirt on metal surfaces.

4. PRESERVATION APPEARANCE

The appearance of metal ceiling elements can be negatively influenced by soiling and weathering and lead to loss of colour and gloss. Timely cleaning and maintenance may prevent or limit detrimental effects.

5. DURABILITY OF SURFACE TREATMENTS

The durability of surface treatments and ceiling elements is negatively influenced by moisture and soiling, interaction of acids, salts and other aggressive substances. To conserve the durability, timely cleaning and maintenance is necessary.

6. CLEANING FREQUENCY

The cleaning frequency is determined by the level of soiling and weathering of the ceiling elements. Aggressive conditions are: Environmental factors:

- Located within 25 km from the coast (salt deposits)
- Located above/near water (condensation)
- Urban areas (emission of exhaust gases)
- Industrial areas (emission of chemicals, flue gases, (metal) ore particles)
- Traffic loads (sulphuric compounds, nitrous compounds, brake pad particles, iron and copper particles from railway traffic)
- High temperatures (> 30°C), high RH (>95%) and interaction with chlorides and/or salts (i.e. swimming pools)

Use factors:

- Difficult access for proper maintenance and cleaning

Indication inspection- and cleaning frequency metal ceilings			
Interior ceilings		Exterior ceilings	
Normal load	Aggressive conditions	Normal load	Aggressive conditions
Inspection: 1x per 2 yr.	Inspection: 1x per yr.	Inspection: 1x per yr.	Inspection: 1x per yr.
Cleaning: 1x per yr.	Cleaning: 2x per yr.	Cleaning: 1x per yr.	Cleaning: 2x per yr.

Table 1 Indication inspection- and cleaning frequency metal ceilings

When one or more of above soiling or weathering factors are present we talk about aggressive conditions; in all other cases we talk about normal loads. The level of corrosion of the coating and/or substrate caused by above factors depends on:

- 1. Type of metal**
- 2. Type of surface coating**
- 3. Type of application**
- 4. Severity and duration of soiling and weathering factors.**

Point 1-3 are agreed upon with the principal (where necessary after consultation with experts) and are part of the product performance as defined by Hunter Douglas, based on the intended use of the product. Pt. 4 is excluded from the influence and responsibility of Hunter Douglas. This is a responsibility of the principal, respectively the user or facility manager who is also responsible for the actual cleaning, maintenance, inspection and repairs (see also par. 8). It is important that immediately after finalisation or even during installation the cleaning, inspection and maintenance moments are defined and where necessary are corrected. These may differ from project to project. The inspection should focus on level and type of soiling and the present soiling factors. The surveyor shall have a sufficient level of knowledge and expertise. Practice has shown that a quality coating when cleaned in time will maintain its protective and aesthetic properties for decades. Table 1 gives a first indication concerning inspection and cleaning frequencies.

7. CLEANING AGENTS

When cleaning is required we advise to clean the ceiling with a slightly damp, non-linting and non-abrasive cloth. A mild neutral (pH=7) detergent (i.e. car shampoo) may be used when necessary. Perforated panels with non-woven acoustic fabric glued to the inside shall never be cleaned wet, due to the risk of staining. The use of water on high mirror surfaces may cause stains. High mirror and high gloss surfaces are also very sensitive for scratching. Grid type ceilings are best cleaned dry utilising a feather duster. It is not recommended to utilise high pressure- or steam cleaners. It is damaging to expose the ceiling to aggressive agents. One should always test the intended cleaning agent on a non-visible part of a panel before commencing cleaning.

8. FACILITY MANAGEMENT

The principal shall allow in the design of a building that all ceiling elements can be reached in a safe way, by means of provisions in the building, for inspection, cleaning and maintenance. At hand-over of a ceiling Hunter Douglas will provide a copy of this maintenance instruction for the facility manager. This instruction is also available as download from www.hunterdouglascontract.com. This instruction contains guidelines for preventive maintenance, inspection, cleaning and attention points. As an indication for the urgency and frequency of periodic refer to the information as presented in the inspection- and maintenance matrix (table 1) can be used. This matrix is dependent on materials used and environmental influences and may have to be adapted or extended.

