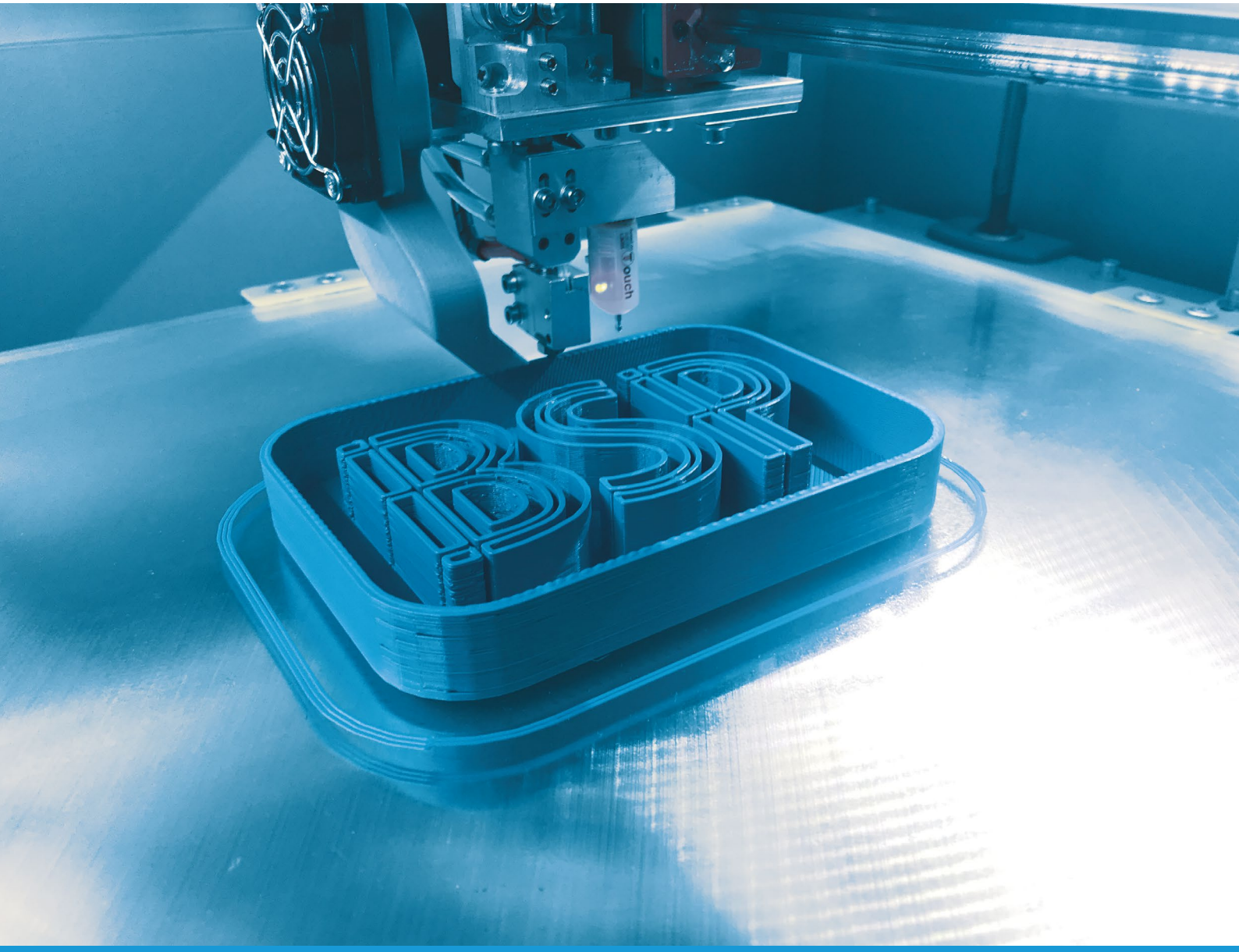
BSP BracketSystem®
Polska



Product Catalogue 2020

Aluminium fastening systems for façades

INNOWACYJNA GOSPODARKA
NARODOWA STRATEGIA SPÓJNOŚCI

PASSIVE SOLUTIONS

ITT®

§ 225

European Union
European Regional Development Fund

BSP | BracketSystem® Polska

BSP Bracket System Polska Sp. z o.o. is focused on aspects associated with ventilated façades and fixing arrangements accompanied by comprehensive servicesand professional consulting.

BSP Bracket System Polska Sp. z o.o. is the designer andmanufacturer of a complete façade fixing systems that iscommonly known and recognised on the market underthe brand “BSP System”.

We rely on the many years of experience of our managerial staff, gained in the sector of professional construction services in Poland and abroad.

The primary objective of our business is to provide ourcustomers with innovative technological solutions basedon our know-how and experience. Our company's staff are experts recognised on the market in engineering, construction, building and investment process management, such as design, performance and financing as well as coordination and engineering.

BSP Bracket System Polska Sp. z o.o. cooperates withworld-renowned partners, such as contractors, manufacturers, design and architectural offices, universities, research institutes, authorities and building surveyors.

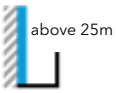
BSP | BracketSystem® Polska

TABLE OF CONTENTS

Product Catalogue 2020

Aluminium fastening systems for façades

TABLE OF APPLICATIONS

	internal	external		
				
KW STANDARD SYSTEM	**Any**	**up to 12m**	**12-25m**	**above 25m**
KW1	✓	✓	✓	✓
KWP1	✓	✓	✓	✓
KWW1; KWP2	✓	✓	✓	✓
KWR1; KWR2	✓	✓	✓	✓
KWRG	✓	✓	✓	✓
PASSIVE SYSTEMS				
KW1 PAS	✗	✓	✓	✓
KW2 PAS	✗	✓	✓	✓
KW 3 PAS	✗	✓	✓	✓
KW4 PAS	✗	✓	✓	✓
ECO BRACKET SYSTEMS				
KW1 EB	✓	✓	✓	✗
KWR7, KWR9, KWR10, KWR11	✓	✓	✓	✓
KWR3, KWR4	✓	✓	✓	✓
OTHER SYSTEMS				
KWRY SYSTEM	✓	✓	✓	✓
KCS SYSTEM	✓	✓	✓	✓
KWRW; KWRZ SYSTEMS	✓	✓	✓	✓
F-T-F SYSTEM	✓	✓	✓	✓
KWE SYSTEM	✓	✓	✓	✓
KRS; KRW SYSTEMS	✓	✓	✓	✓
INTERNAL FAÇADES				
KW1 40	✓	✓	✓	✓
KWR5, KWR8	✓	✓	✓	✓
RW2	✓	✓	✓	✓
KWRW	✓	✓	✓	✓

✓ Recommended application.

✓ Application possible after accurate static verification.

✗ Not recommended application.

PASSIVE SOLUTIONS

The product meets stricter thermal requirements.

The product has been tested by the Building Research Institute.

The product has been tested on the basis of the guidelinesissued by the European Organisation for Technical Approvals.

The product has Construction Mark “B”.

§ 225

The product has been tested in accordance with requirements referred to in Art. 225 of the Regulation of the Minister of Infrastructure concerning technical conditions.

The product has been tested by Warsaw Technical University.

cool, temperate climate

CERTIFIED COMPONENT

Passive House Institute

The product was certified at the Passive House Institute in Darmstadt.

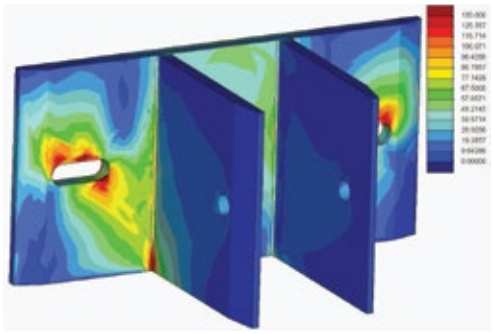
GLASS FAÇADES

Glazed façades are the most common type of the so-called curtain walls. These are building elements that have a no load-bearing role but serve only as a thermal and functional division. Such façades can be fixed to floor slabs of transverse walls, structural mullions or steel structures.

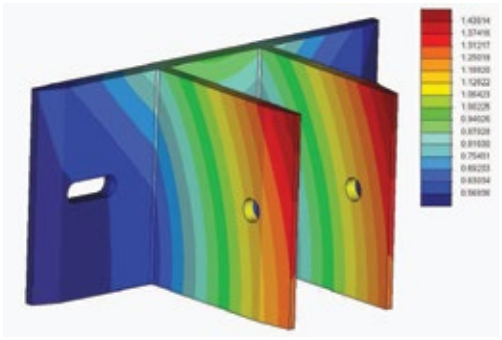
They only transfer their own load and wind pressure andtake no part in transferring loads of the primary buildingstructure. As there are various fixing methods and final effects, several types of façades can be distinguished, which are informally referred to as:

Mullion and transom façadesSegmental façades

MULLION AND TRANSOM FAÇADES



Stress distribution in the K1/100-100 bracket



Deflection distribution in the K1/100-100 bracket

The advantages of the BSP extruded aluminium brackets for mullion and transom façades:

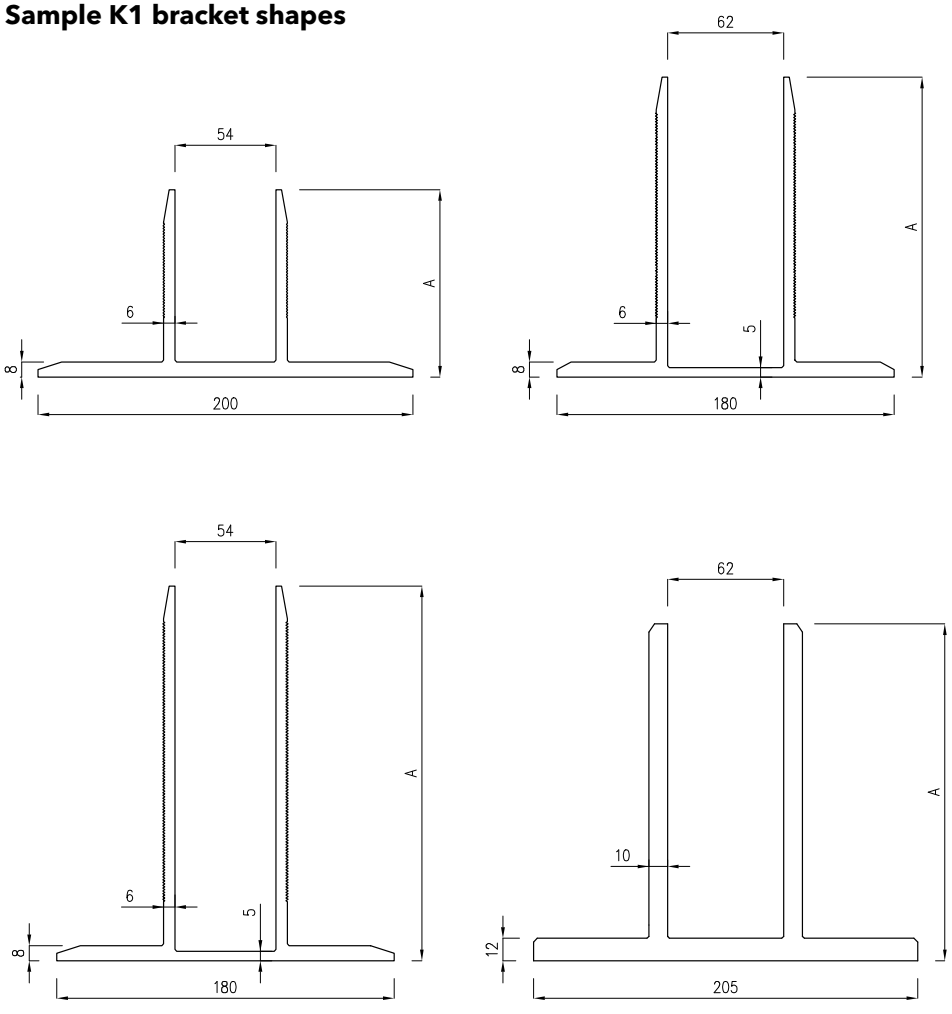
- High weather resistance, especially when compared to steel brackets that are susceptible to corrosion.
- Relatively low mass that has a substantial impact on the reduction of transport cost.
- Drilling new holes and cutting without the need for corrosion protection.
- No galvanic corrosion at the contact between brackets and other aluminium elements.
- No welded joints and the risk that may occur in case of improper welding.
- Lack of internal stresses typical for bent or welded brackets.
- Great aesthetics as brackets can optionally be anodised or powder coated.
- Fast delivery and wide-range offer as standard products are always available from stock.

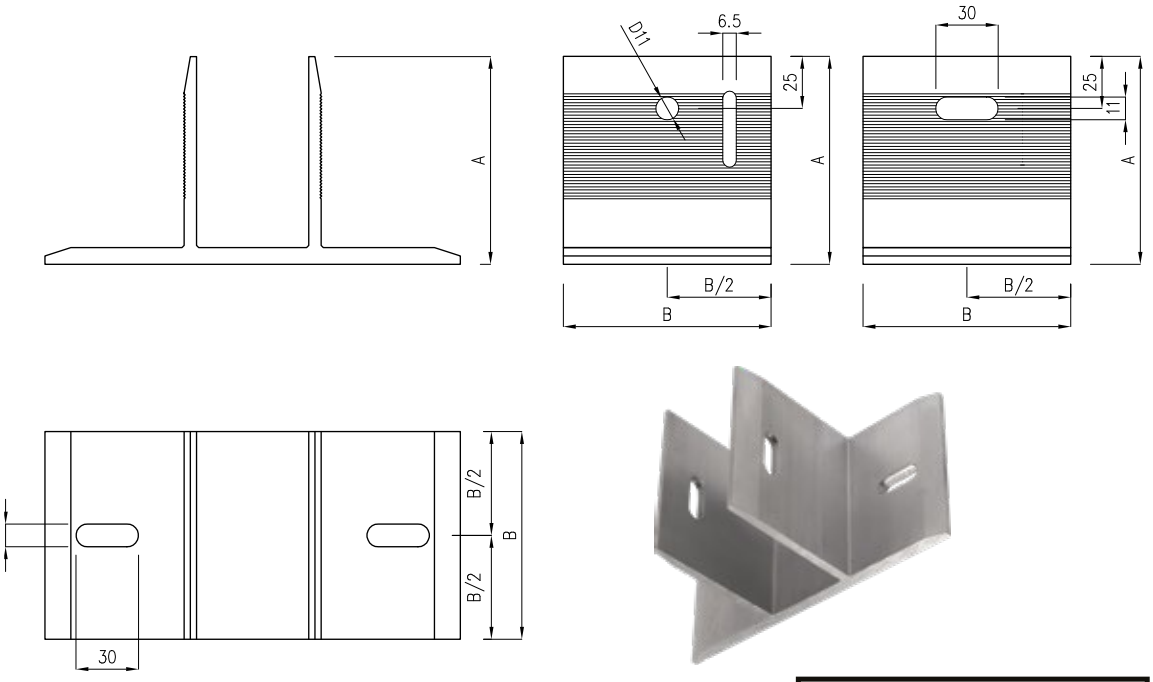
K1 BRACKET

The K1 brackets are a standard solution designed tofix mullions of the façade. The bracket that looks like the π letter provide good access to all dowel bars and bolts as well as the adjusting element.

Our CNC can be used to make any hole pattern requested by the customer.

Sample K1 bracket shapes





PATENT
№ 00221 8008-0001

The K1 FIX bracket (fixed element) is, by default,equipped with a 11-mm dia. hole to install a mullionwith a M10 bolt and an ancillary hole. An additional slotted hole is used for temporary fastening of the mullion with a 5.5 screw during installation.

The K1 LOS bracket (sliding-type) is, by default,equipped with a 30x11 mm slotted hole. The hole is used to fix the façade mullion with a M10 bolt. The LOS bracket is not used for load transfer of thefaçade's own mass and, in most cases, can be smallerthan the load-bearing bracket.

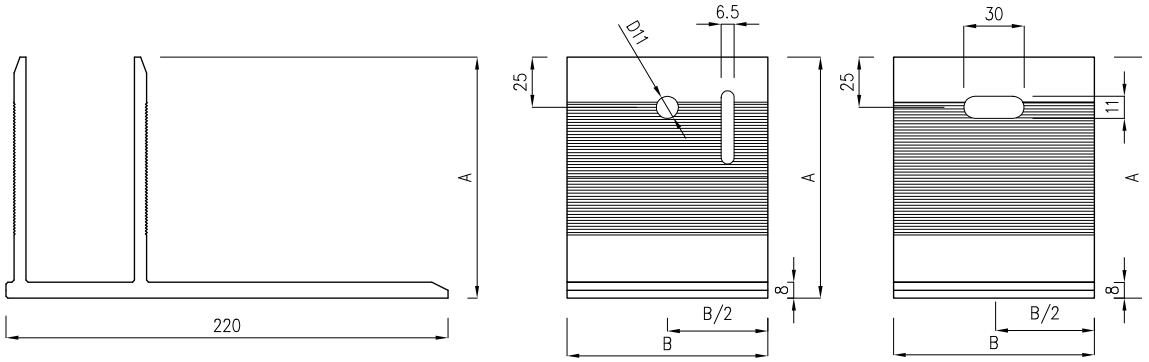
Our CNC can be used to make any hole pattern requested by the customer.

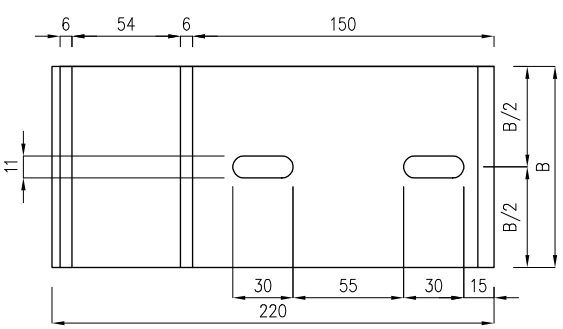
Bracket	A	B	C
K1/100-150- FIX	100	150	54
K1/100-120- FIX	100	120	54
K1/100-100- FIX	100	100	54
K1/100-80- FIX	100	80	54
K1/120-150- FIX	120	150	54
K1/120-120- FIX	120	120	54
K1/120-100- FIX	120	100	54
K1/120-80- FIX	120	80	54
K1/160-150- FIX	160	150	62
K1/160-120- FIX	160	120	62
K1/160-100- FIX	160	100	62
K1/160-80- FIX	160	80	62
K1/180-150- FIX	180	150	62
K1/180-120- FIX	180	120	62

Bracket	A	B	C
K1/180-100- FIX	180	100	62
K1/180-80- FIX	180	80	62
K1/200-150- FIX	200	150	54
K1/200-120- FIX	200	120	54
K1/200-100- FIX	200	100	54
K1/200-80- FIX	200	80	54
K1/115-150- FIX	115	150	104
K1/115-120- FIX	115	120	104
K1/115-100- FIX	115	100	104
K1/115-80- FIX	115	80	104
K1/124-150- FIX	124	150	90
K1/124-120- FIX	124	120	90
K1/124-100- FIX	124	100	90
K1/124-80- FIX	124	80	90

*Other non-standard dimensions can be manufactured on request.

K2 BRACKET





The K2 bracket is a non-standard solution designed-to fix mullions on façade sides or in places whereonly one-sided access to the bracket is available.

The K2 FIX bracket (fixed element) is, by de-fault,equipped with a 11-mm dia. hole to install a mullionwith a M10 bolt and an ancillary hole. An ad-ditional slotted hole is used for temporary fastening of the mullion with a 5.5 screw during installation.

The K2 LOS bracket (sliding element) is, by de-fault,equipped with a 30x11mm slotted hole. The hole is used to fix the façade mullion with a M10 bolt. The LOS bracket is not used for load transfer of the-façade's own mass and, in most cases, can be small-erthan the load-bearing bracket.

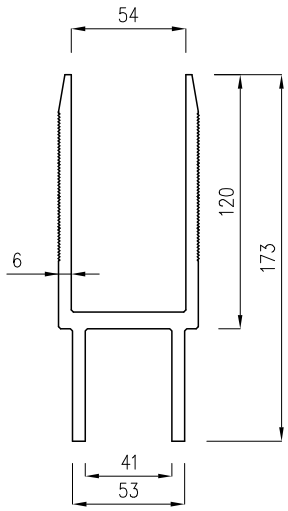
Our CNC can be used to make any hole pattern re-quested by the customer.

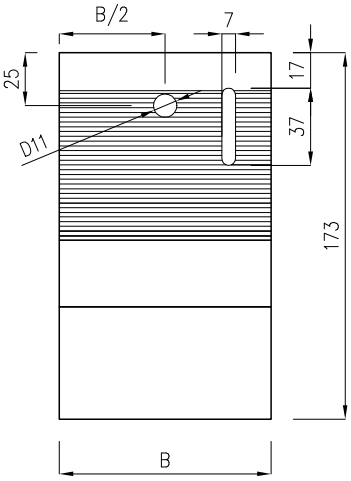
Bracket	A	B
K2/100-150- FIX	100	150
K2/100-120- FIX	100	120
K2/100-100- FIX	100	100
K2/100-80- FIX	100	80
K2/120-150- FIX	120	150
K2/120-120- FIX	120	120
K2/120-100- FIX	120	100
K2/120-80- FIX	120	80

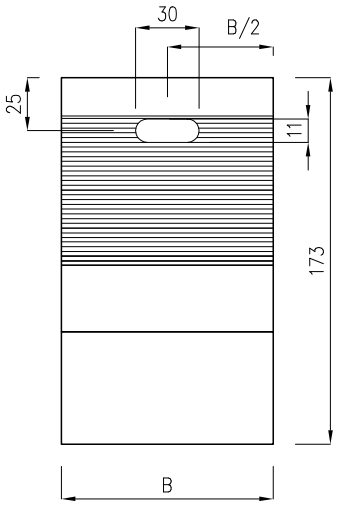
Bracket	A	B
K2/100-150- LOS	100	150
K2/100-120- LOS	100	120
K2/100-100- LOS	100	100
K2/100-80- LOS	100	80
K2/120-150- LOS	120	150
K2/120-120- LOS	120	120
K2/120-100- LOS	120	100
K2/120-80- LOS	120	80

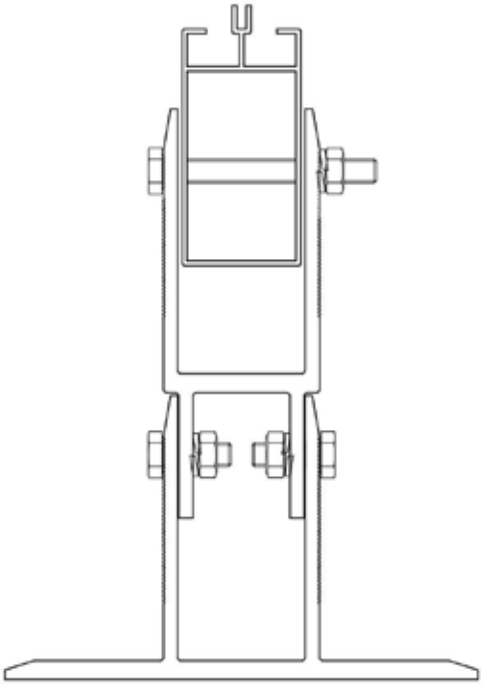
*Other non-standard dimensions can be manufactured on request.

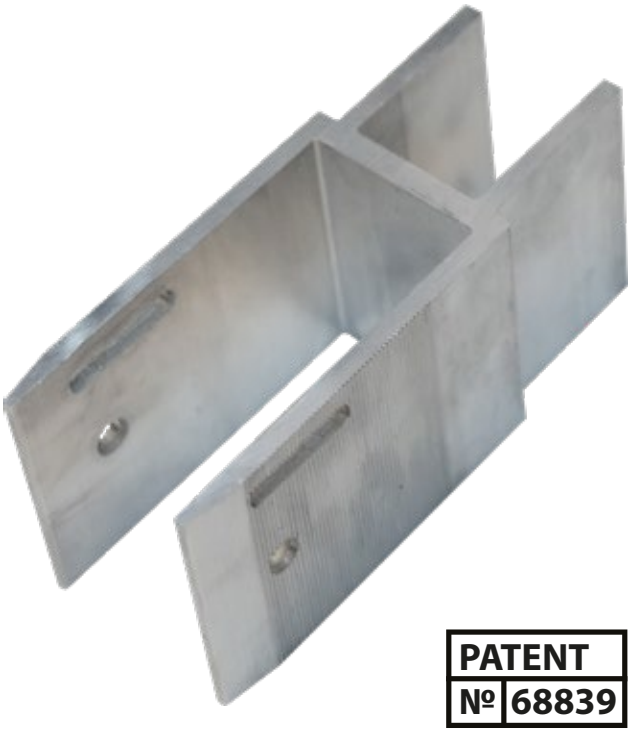
KP1 EXTENSION PIECE









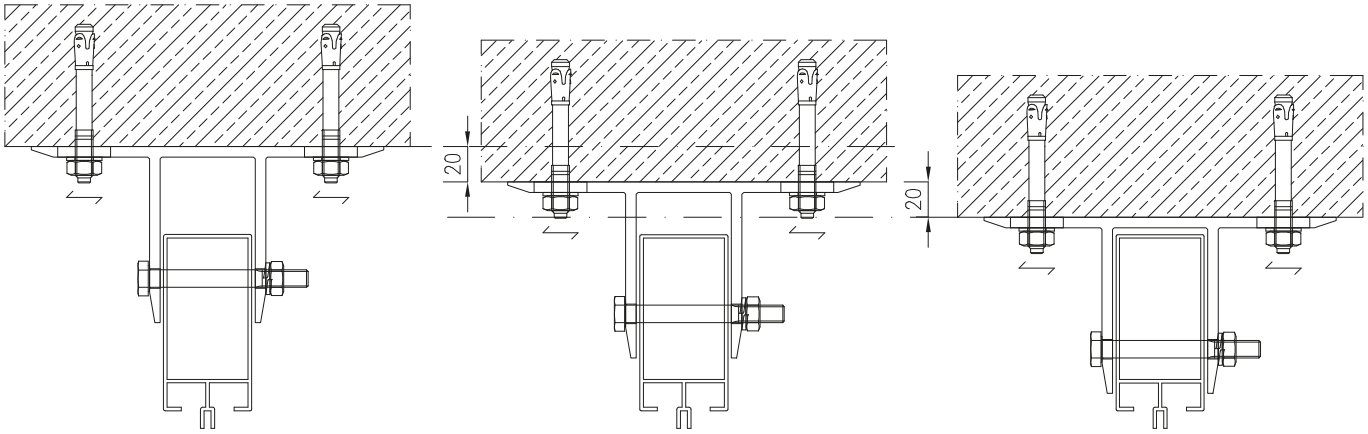


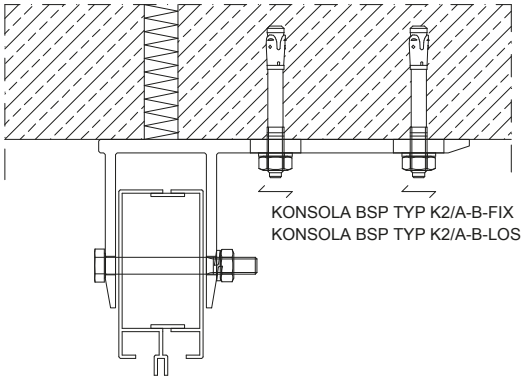
PATENT № 68839

The KP1/173-B extension piece can be used to obtaina uniform surface of the ventilated façade in case of alonger outreach, greater unevenness or at the offsetin the building structure. This solution eliminates theneed for brackets of different sizes, being advantageous in terms of logistics and the pace of work.

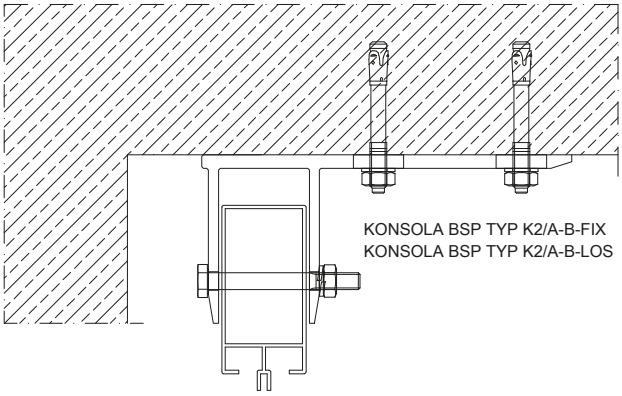
Extension pieces	B
KP1/173-150 - FIX-LOS	150
KP1/173-120 - FIX-LOS	120
KP1/173-100 - FIX-LOS	100
KP1/173- 80 - FIX-LOS	80

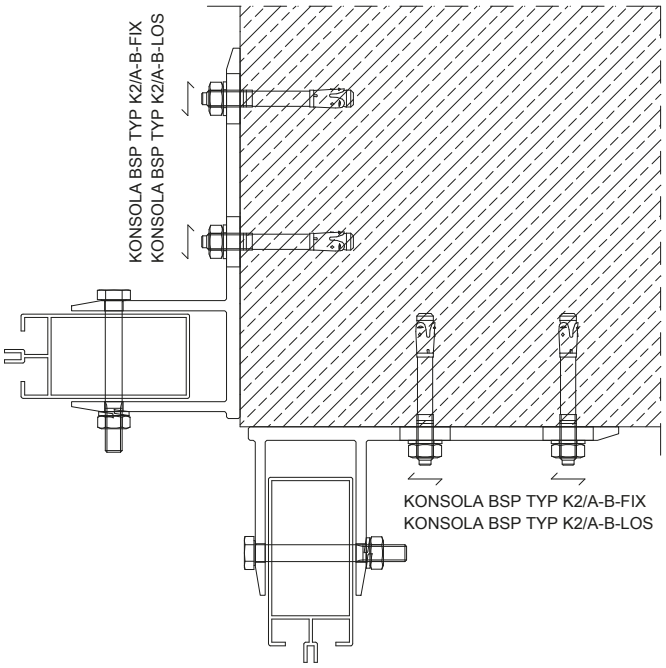
SAMPLE APPLICATIONS FOR BRACKETS IN MULLION AND TRANSOM FAÇADES





The adjustment range of the bracket helps to avoid problems associated with the tolerance of wall construction within ± 20 mm and in places where wall arrangement prevents fixing standard brackets, e.g. in corners.





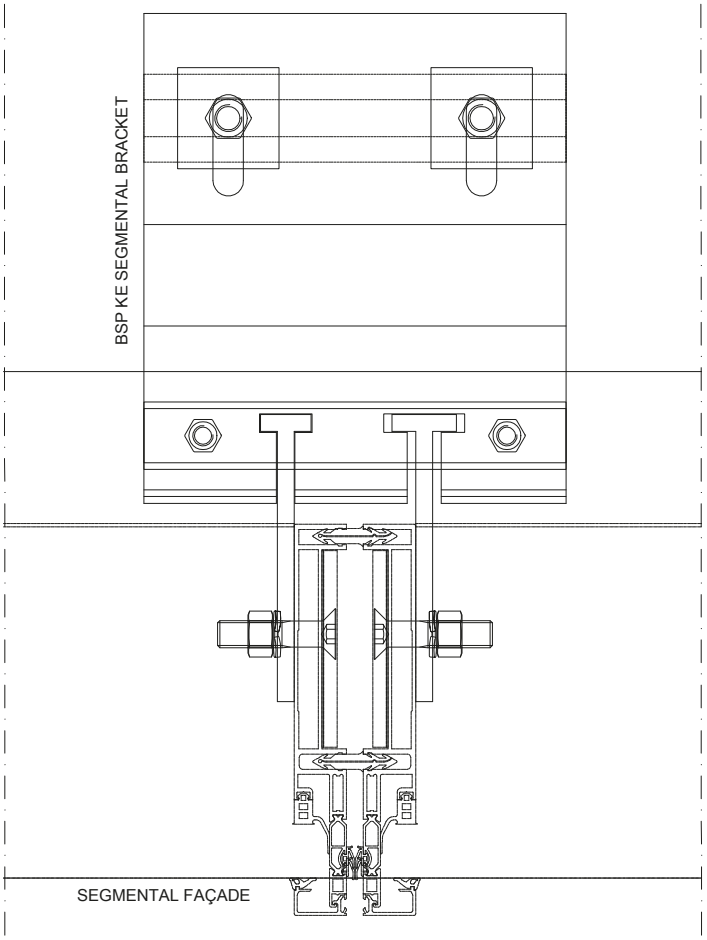
SEGMENTAL FAÇADES

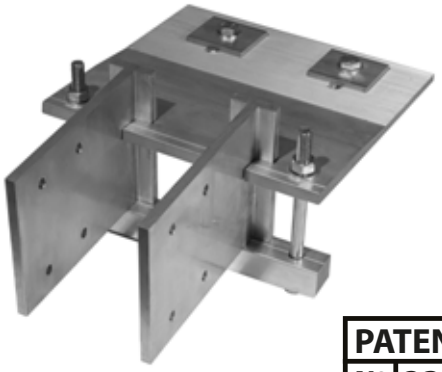
Over the years, buildings have been becoming higher and more demanding, whereas construction time has been successively reduced. In order to meet the requirements relating to façades, it is a perfect solution to use segmental façades (element-based façades, block façades). These are neatly finished façade modules that are prefabricated and connected with one another on the site. Segmental façades ensure fast mounting and require no scaffoldings during installation on the building.

The façade structure consists of complete segments fixed to the building's load-bearing structure with **SEGMENTAL BRACKETS** to be joined with one another.

Façade installation is not very dependent of weather conditions and location of the site relative to themanufacturing plant. Depending on the building structure, brackets can be fixed from the front or from above the spandrel wall.

KE1 SEGMENTAL BRACKET

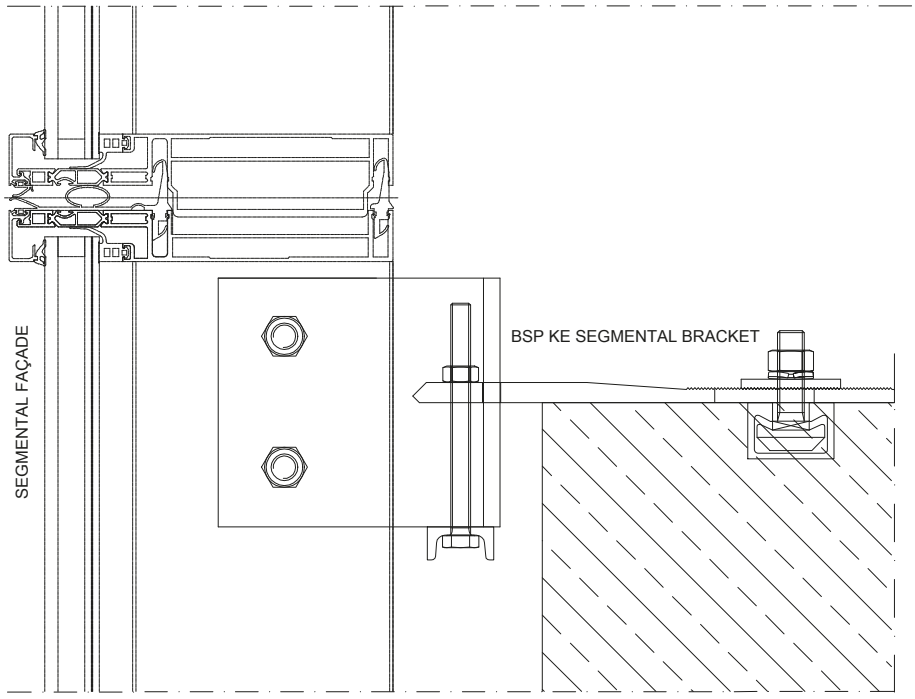




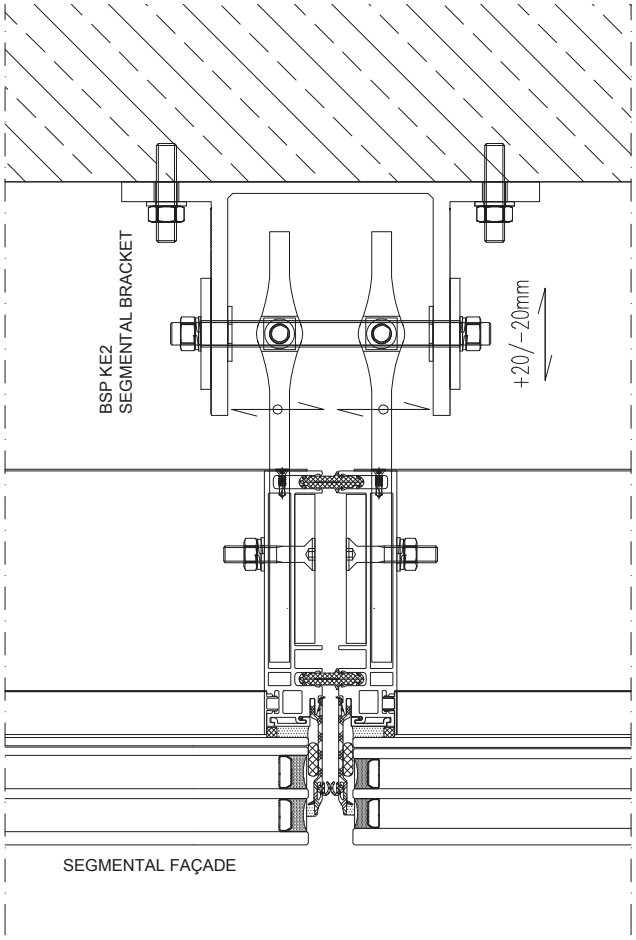
PATENT
№ 231193

Segmental brackets fixed from top of the floor slab

Brackets are usually fixed from the inside. The bracket fixed from top of the floor slab makes it possible to stay within the floor envelope. Simplicity and safety of installation greatly speeds up the entire work, which is of significant importance as regards the total installation cost of the whole façade. This installation method depends on the space available above the bracket. Since the bracket occupies some space, it is usually applied in places where a raised floor is to be constructed. While installing this bracket, it is recommended to use a mounting rail embedded in the floor slab.



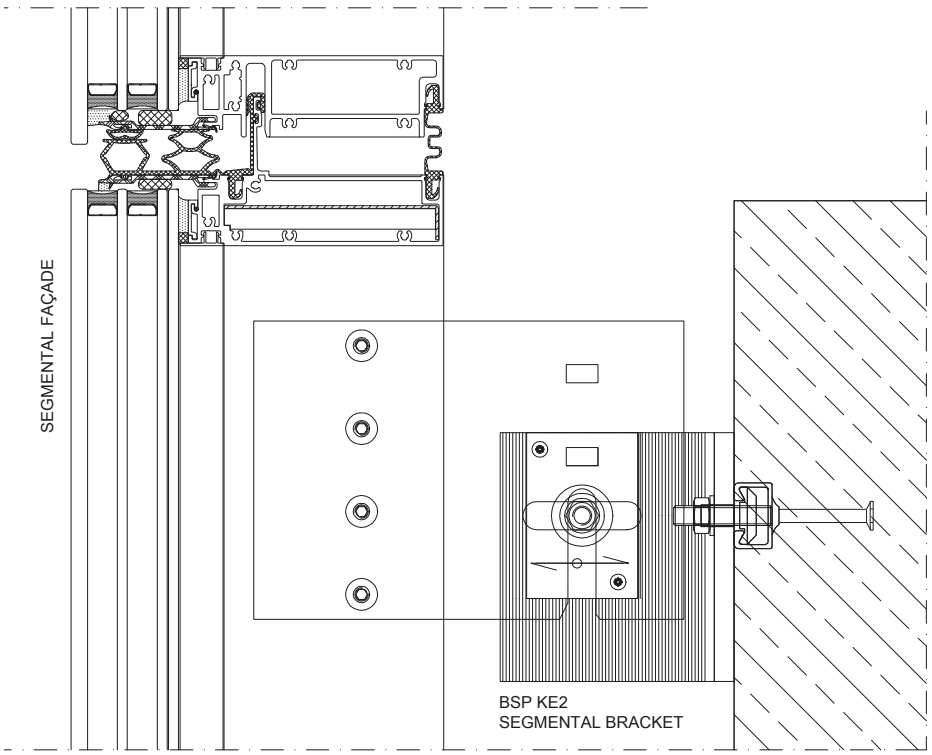
KE2 SEGMENTAL BRACKET

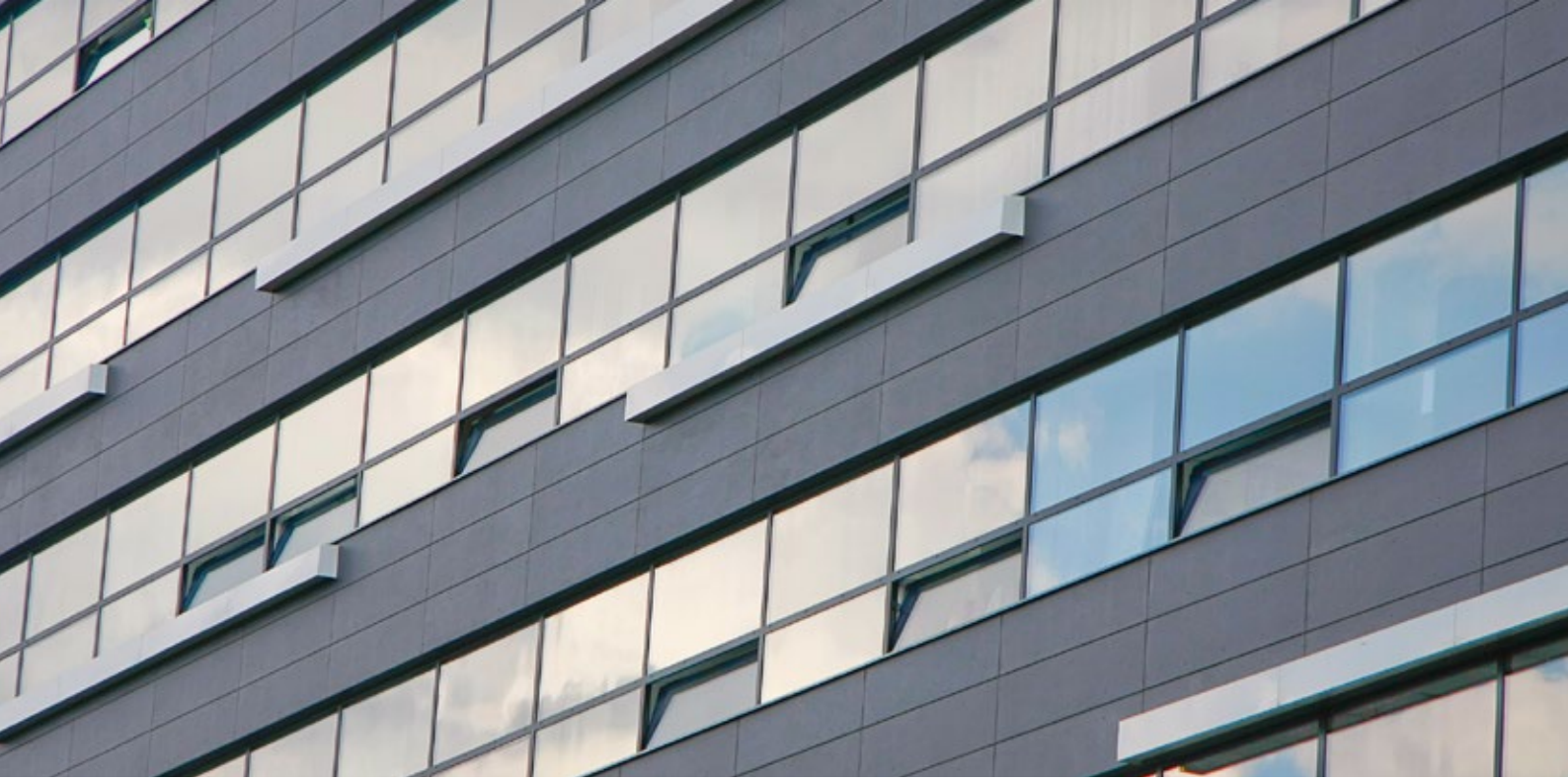


Segmental brackets fixed on the face of the floor slab

If there is a floor slab with a wider spandrel wall or installation from above is impossible (no space – no raised floor), brackets are installed on the face of the floor slab. There is a certain difficulty during installation that is performed outside of a building without any scaffolding. During the stage of floor slab pouring, mounting rails are used to facilitate the process as much as possible. The rails must be taken into account when designing reinforcement and formwork. Due to hindered access during installation and the following adjustment, the use of **segmental brackets** is an optimal solution that saves both time and money.

PATENT PENDING	
№	P.419385





VENTILATED FAÇADES

Ventilated façade is a specific method of finishing external walls. The method consists in fixing flat or non-planar elements to the substructure. An important technical condition is to ensure ventilation between the panel and wool. This is the reason to which the façade owes its name. Ventilation is used to equalise temperature and humidity on both sides of the suspended elements. In addition, ventilated façades provide many positivefeatures that are unavailable for traditional wall finishing.

The advantages of ventilated façades:

ACOUSTICS

As the element that is the first one reached by an acoustic wave is displaced, sounds are dispersed, meaning sound absorption of the wall is increased.

THERMAL PROPERTIES

In addition to wool providing better thermal properties of a partition, which is natural, ventilated façades demonstrate an increased resistance to heating up by the sun and cooling down by the wind, unlike traditional façades. Same as before, the main advantage of using ventilated façades is separating the first layer of lining from the wool, in terms of their thermal properties.

VENTILATION

Wool combined with ventilation provides better air exchange, and as such, improved evacuation of moisture. Unlike ventilated façades, traditional façades may stay damp too long and fail to maintain the assumed parameters during heavy rain.

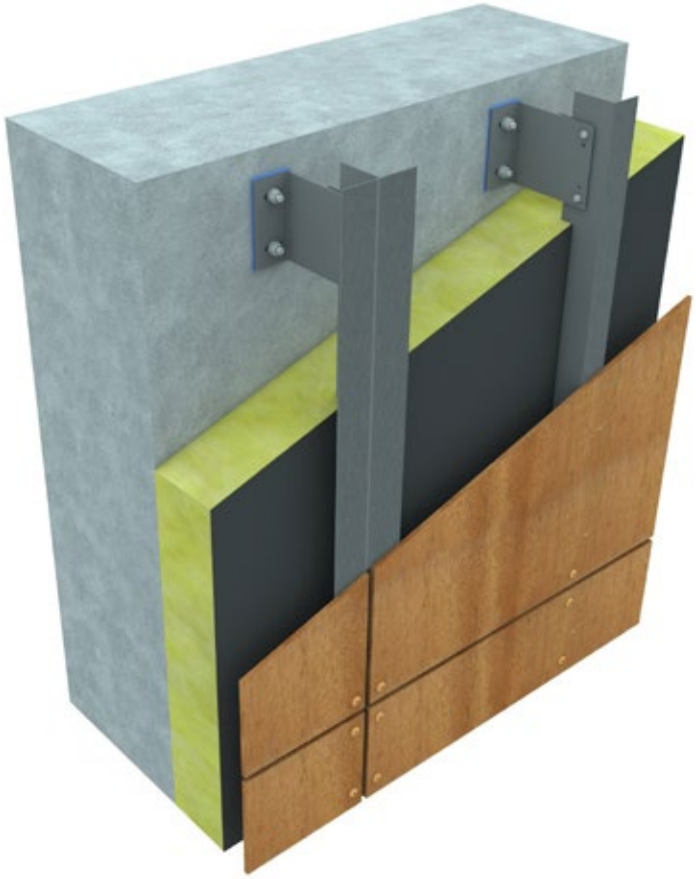
FIRE RESISTANCE

Unlike traditional façades with Styrofoam, ventilated façades can be made entirely of non-inflammable elements.

KW STANDARD SYSTEM

The KW aluminium substructure for ventilated cladding systems consists mainly of KW1 brackets as well asKWR1 and KWR2 load-bearing profiles. It is used for fixing external cladding panels with great precision. It can be used to obtain a perfect plane for fixing the cladding panels made of fibre-cement, HPL, composite, architectural concrete, aluminium panels, louvres and many others.

Brackets transfer loads between load-bearing profiles and the building structure. The bracket can be adjusted for wall unevenness within ±20 mm, without the need for additional levelling plates. The aluminium substructure system mainly comprisesL-profiles for intermediate fixings and T-profiles on joints of cladding elements. Another advantage of the BSP substructure is its specially shaped, grooved external surface that considerably improves the durability of the connection between the elements of the substructure and the external cladding.

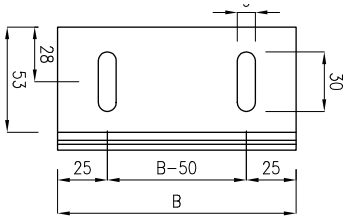


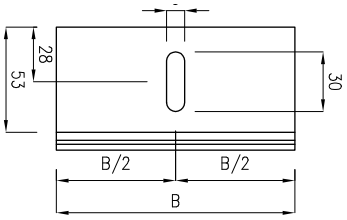
PATENT	
№	002105429
№	002218008

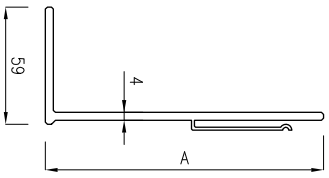
The advantages of the BSP extruded aluminium brackets for ventilated façades:

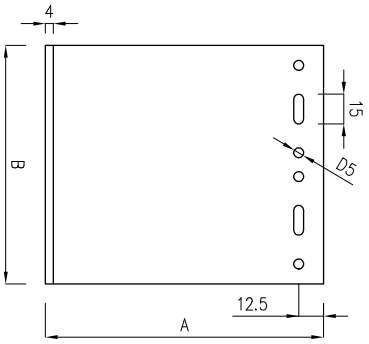
- Improved load capacity of brackets resulting in lower cost of substructure.
- Patented foot at the bottom of the bracket that considerably increases mechanical strength.
- Lack of assembly stresses and scratching typical for bent brackets.
- High weather resistance, especially when compared to steel brackets that are susceptible to corrosion.
- Relatively low mass that has a substantial impact on the reduction of transport cost.
- Drilling new holes and cutting without the need for corrosion protection.
- Optional brackets can be delivered as anodised or powder coated.

KW1 BRACKET









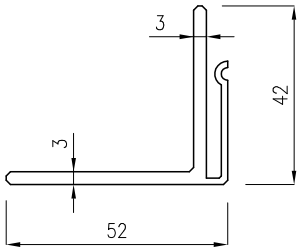
Bracket	A	B
KW1/42-150	42	150
KW1/42-120	42	120
KW1/42-90	42	90
KW1/42-60	42	60
KW1/60-150	60	150
KW1/60-120	60	120
KW1/60-90	60	90
KW1/60-60	60	60
KW1/80-150	80	150
KW1/80-120	80	120
KW1/80-90	80	90
KW1/80-60	80	60
KW1/100-150	100	150
KW1/100-120	100	120
KW1/100-90	100	90
KW1/100-60	100	60
KW1/120-150	120	150
KW1/120-120	120	120
KW1/120-90	120	90
KW1/120-60	120	60
KW1/140-150	140	150
KW1/140-120	140	120
KW1/140-90	140	90
KW1/140-60	140	60

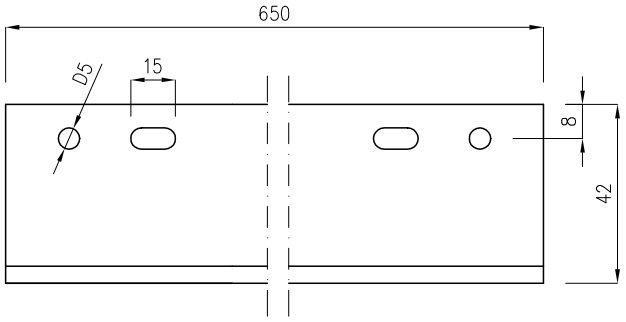
Bracket	A	B
KW1/170-150	170	150
KW1/170-120	170	120
KW1/170-90	170	90
KW1/170-60	170	60
KW1/210-150	210	150
KW1/210-120	210	120
KW1/210-90	210	90
KW1/210-60	210	60
KW1/240-150	240	150
KW1/240-120	240	120
KW1/240-90	240	90
KW1/240-60	240	60
KW1/260-150	260	150
KW1/260-120	260	120
KW1/260-90	260	90
KW1/260-60	260	60
KW1/280-150*	280	150
KW1/280-120*	280	120
KW1/280-90*	280	90
KW1/280-60*	280	60
KW1/310-150	310	150
KW1/310-120	310	120
KW1/310-90	310	90
KW1/310-60	310	60

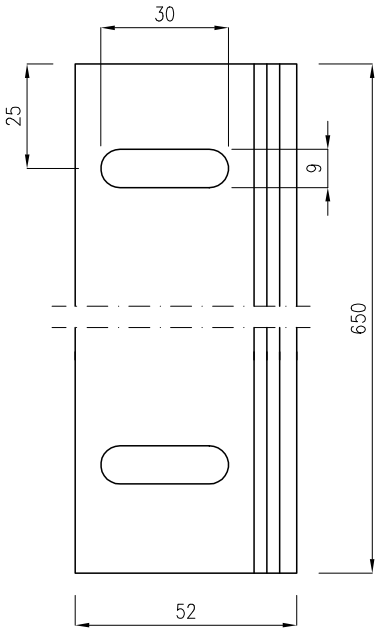
* Planned for release

The height of brackets and hole sizes are modifiable upon request.

KW1-650 BRACKET







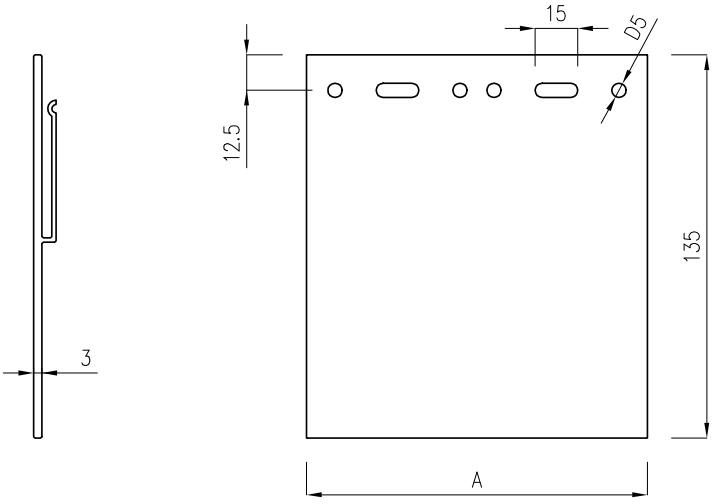
This bracket type is recommended for renovation, e.g. when a ventilated façade is installed on the existing BSP façade, without the need for removal of the current thermal insulation.

It is also used to install a ventilated façade on steel wallcassettes.

KWP1 BRACKET

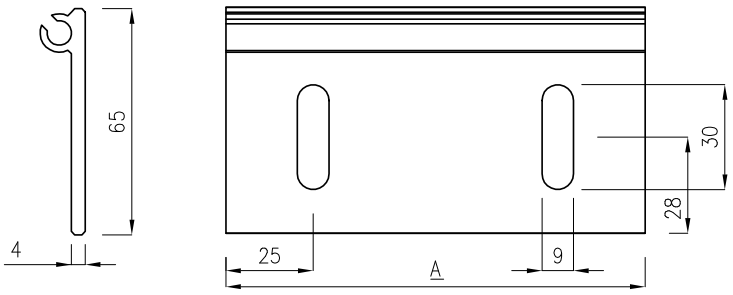
FEET	B
KWP1/135-150	150
KWP1/135-120	120
KWP1/135-90	90
KWP1/135-60	60

The KWP1/135-B extension piece can be used to obtaina uniform surface of the ventilated façade in case of agreater unevenness or at the offset in the building structure. This solution eliminates the need for brackets of different sizes, being advantageous in terms of logistics and the pace of work.



KWW1 BRACKET

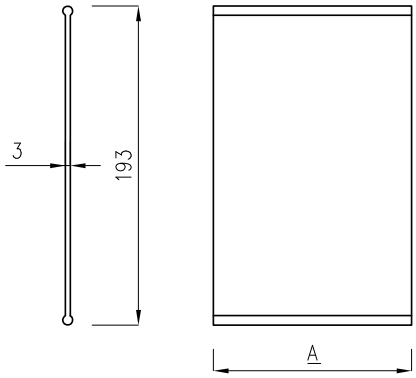
FEET	A
KWW1/65-150	150
KWW1/65-120	120
KWW1/65-90	90
KWW1/65-60	60



KWP2 BRACKET

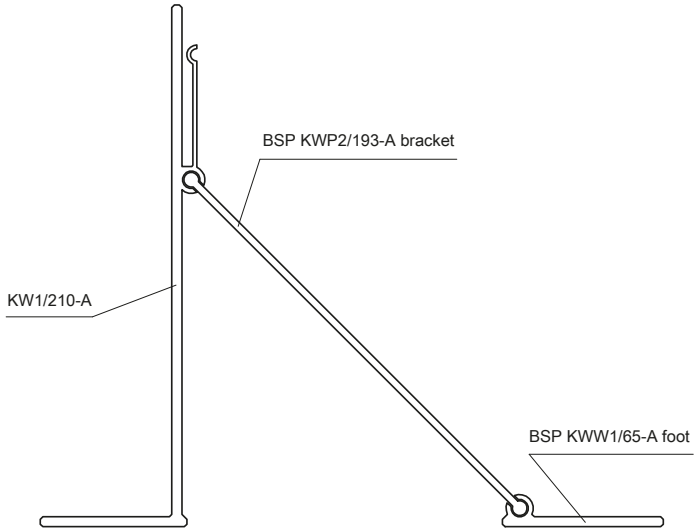
The bracket is used for bracket reinforcement if the outreach is longer, e.g. when an extension piece is used, and adaptation of greater loads, e.g. if panels are made of architectural concrete.

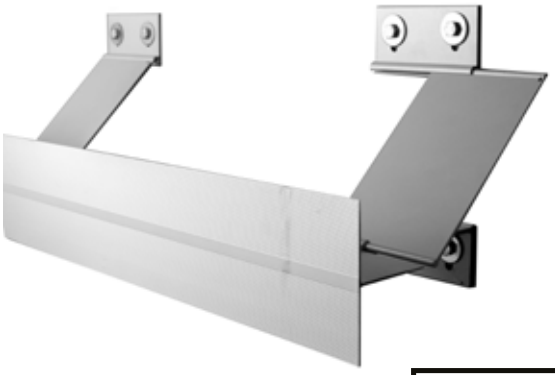
A substructure system with the KW1/210-B bracket installed horizontally also requires KWW1/65-A and KWP2/193-A elements. The same parts can be used to support the KW1/170-B bracket in horizontal arrangements.



Bracket	A
KWP2/193-150	150
KWP2/193-120	120
KWP2/193-90	90
KWP2/193-60	60

BRACKET WITH A BRACKET

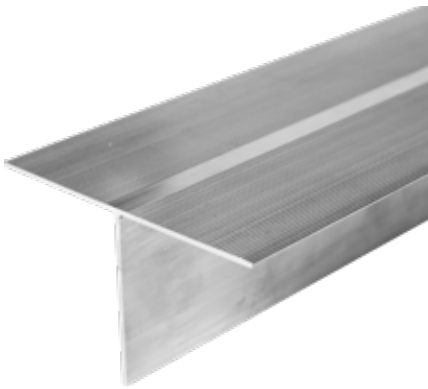




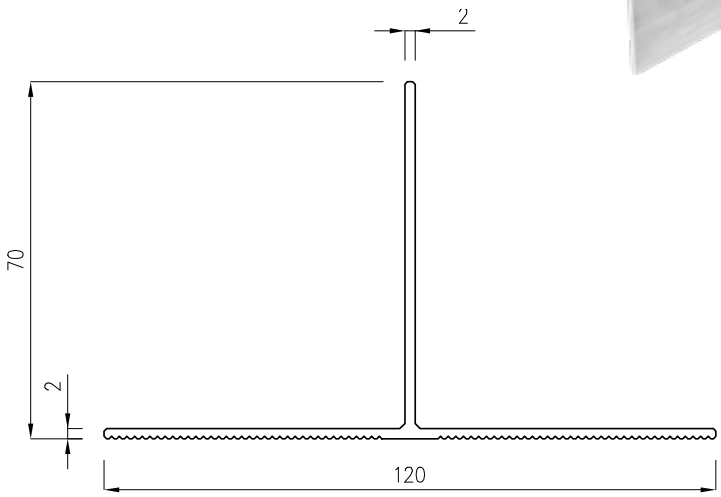
PATENT
№ 68031

This element is used for greater loads and outreach distances as well as a horizontal bracket.

KWR1 PROFILE



The subframe is designed accordingly to provide plane adjustment within 50 mm to avoid problems associated with concrete unevenness. A larger profile wall (70 mm) ensures rigidity and is suitable for a larger vertical bracket span.



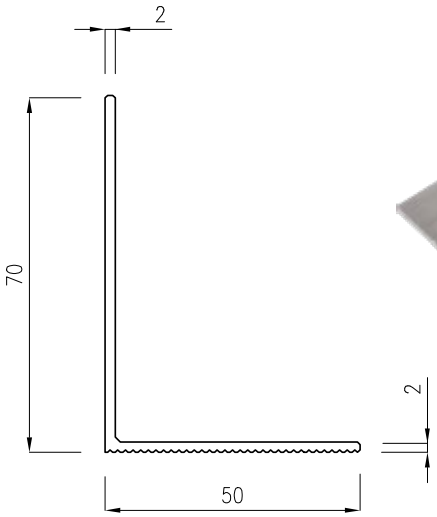
Profile	
KWR1 straight length 3100 mm	
KWR1 straight length 3600 mm	
Ix	15.580cm^4
Wx	2.785cm^3
Area	3.642cm^2
Iy	27.096 cm^4
Wy	4.516 cm^3
Mass	0.983 kg/metre

§ 225

KWR2 PROFILE

Profile	
KWR2 straight length 3100 mm	
KWR2 straight length 3600 mm	

**Customized length can be extruded on request.



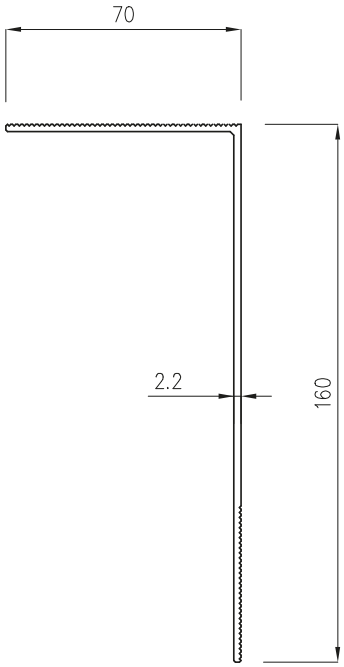
Ix	12.001 cm^4
Wx	2.480 cm^3
Area	2.305 cm^2
Iy	5.154 cm^4
Wy	1.315 cm^3
Mass	0.622 kg/metre

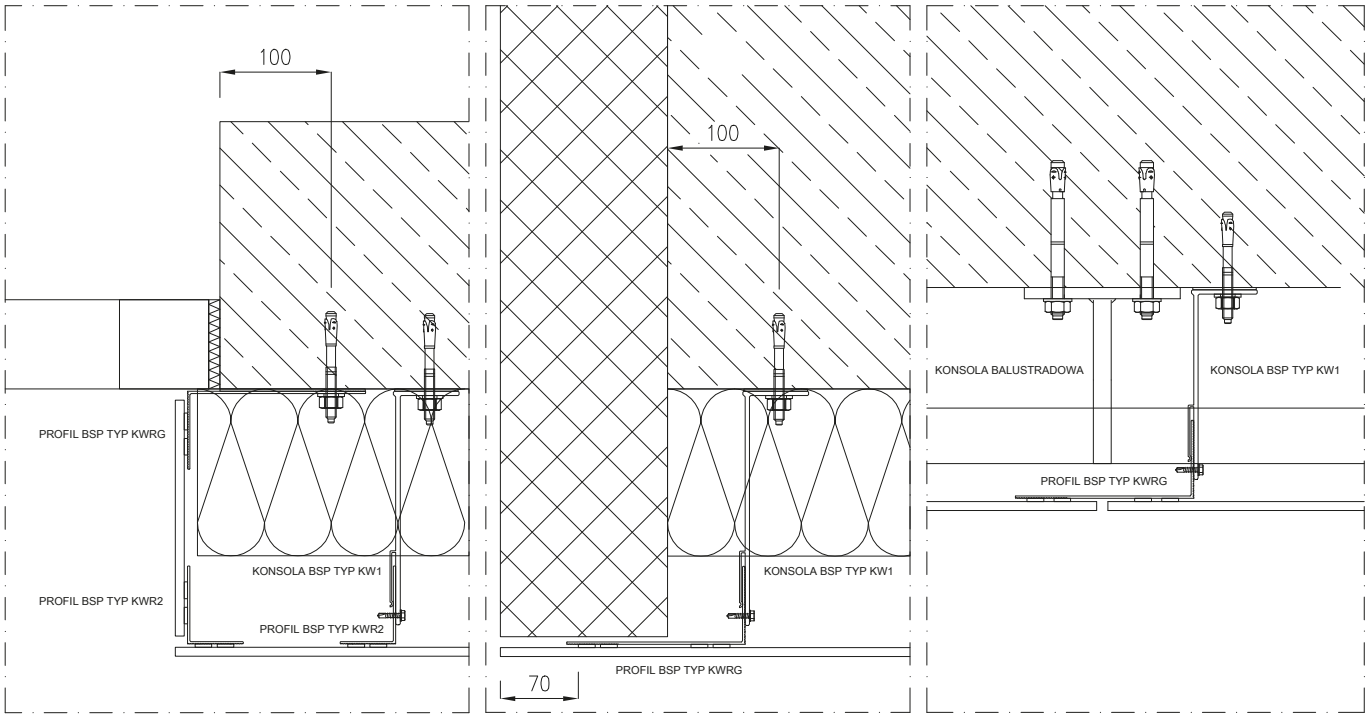
§ 225

KWRG WINDOW-RECESS PROFILE

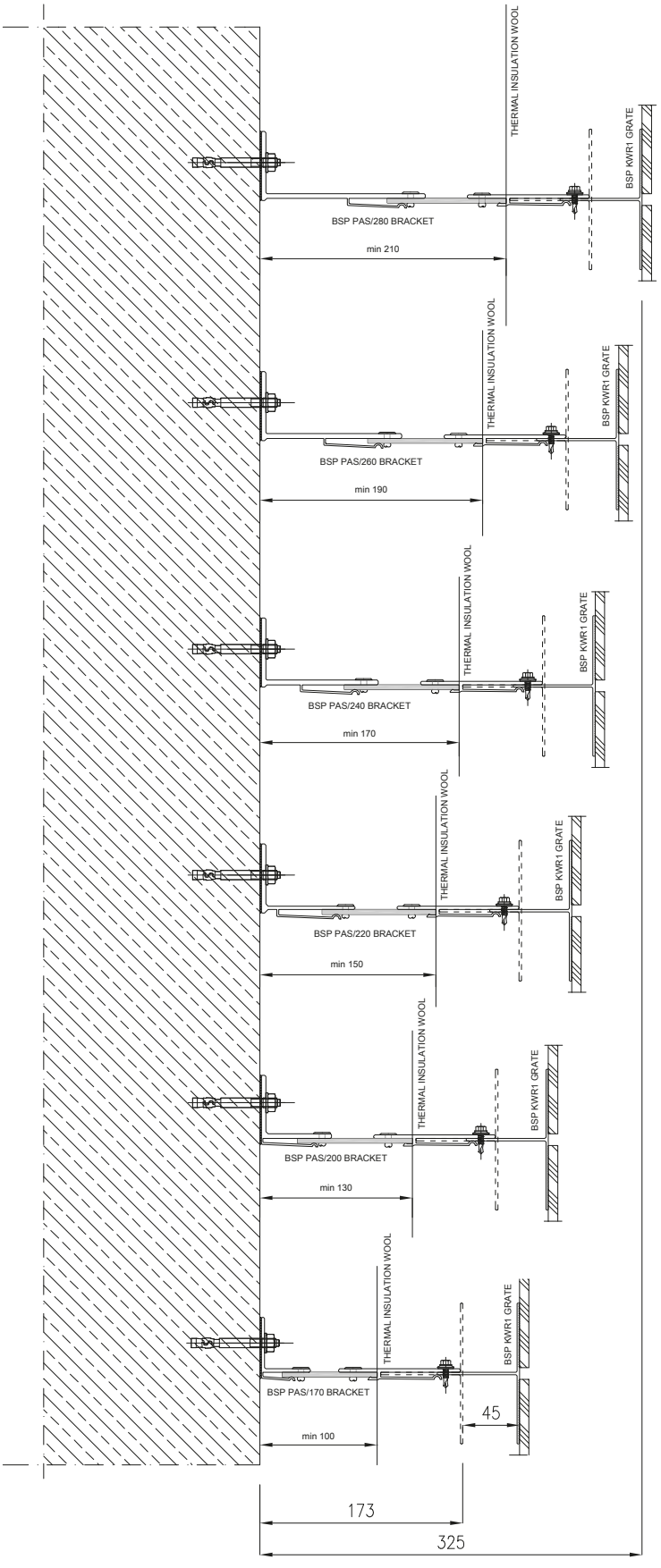
The KWRG window-recess profile is designed to stiffen window-recess panels at the contact between façade-decladding and the window reveal. The KWRG profile can also be used in areas where the fixing point of the cladding is located further from the closest anchoring point in the substructure. See the example illustrations below.

Ix	131.388 cm^4
Wx	12.695 cm^3
Area	4.819 cm^2
Iy	17.280 cm^4
Wy	2.934 cm^3
Mass	1.301 kg/metre

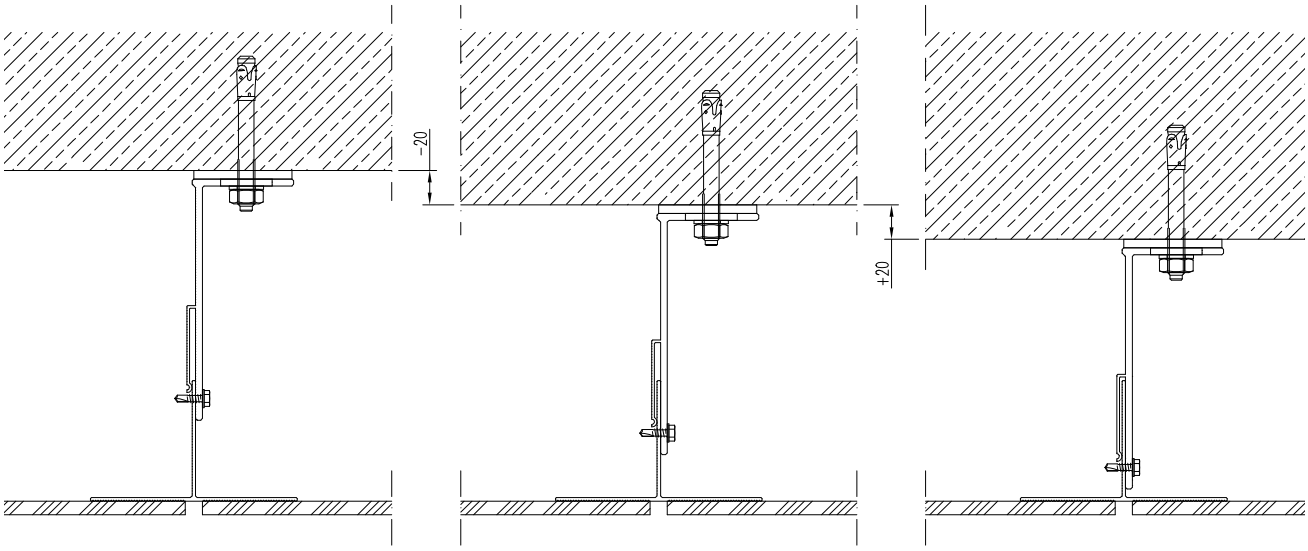




EXAMPLES OF APPLICATIONS FOR THE ALUMINIUM SUBSTRUCTURE

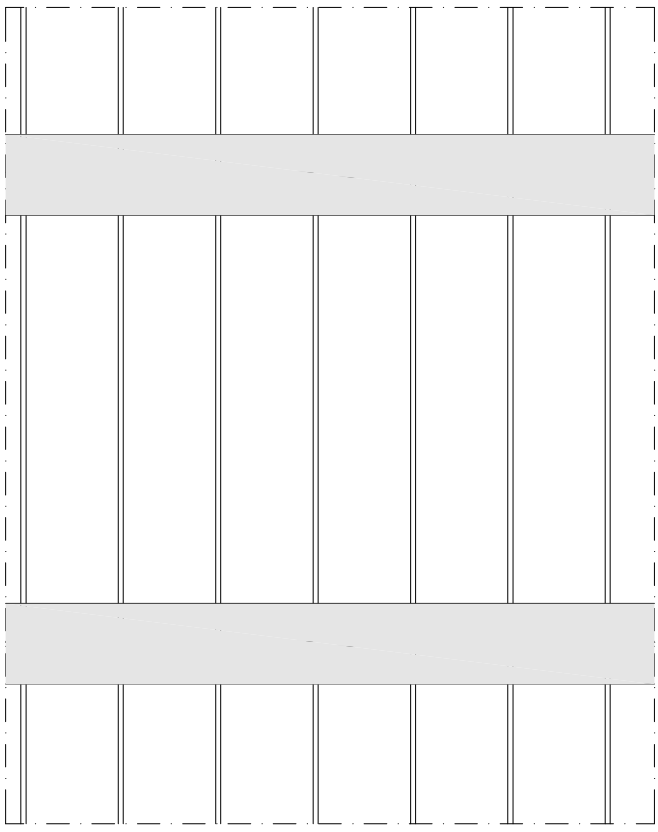


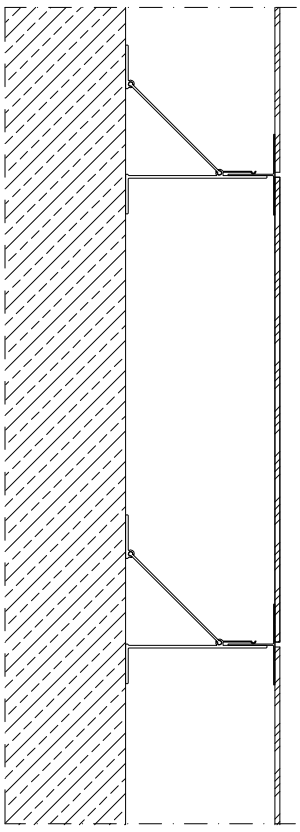
Substructure extension ranging from 173mm to 325 mm



EXAMPLES OF APPLICATIONS FOR THE HORIZONTAL BRACKETS

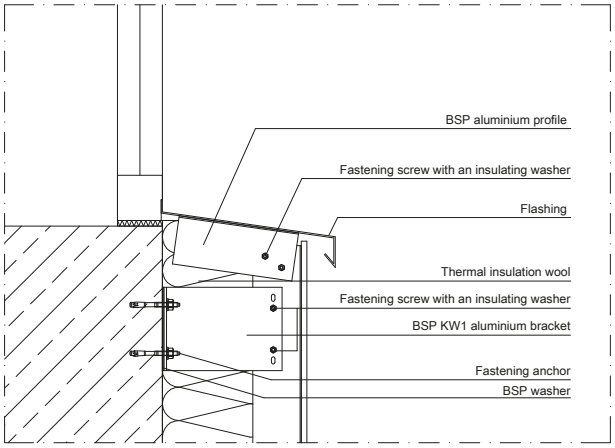
The range of bracket adjustment prevents any potential problems associated with wall tolerances (within ± 20 mm).

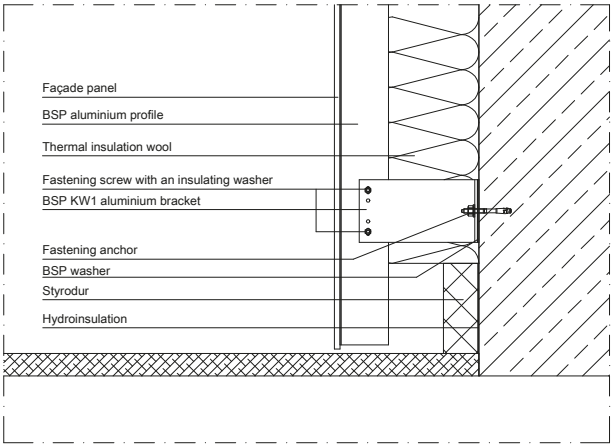


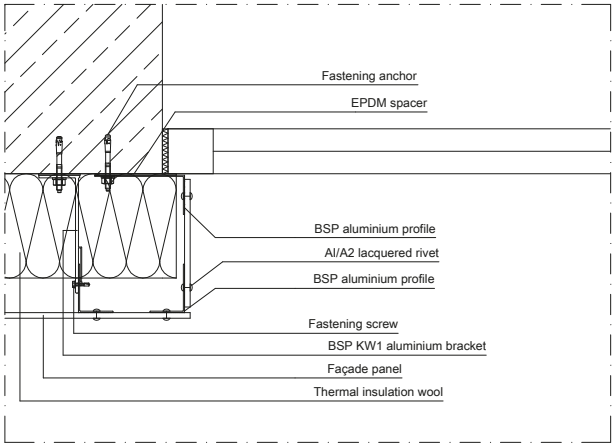


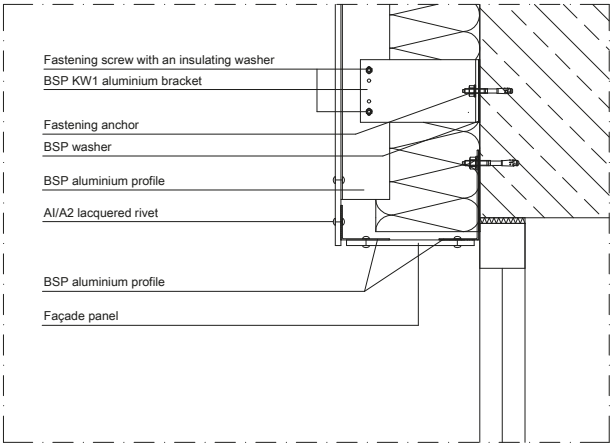
The substructure in a horizontal arrangement results in the cost-material optimisation of the façade installed using narrow panels.

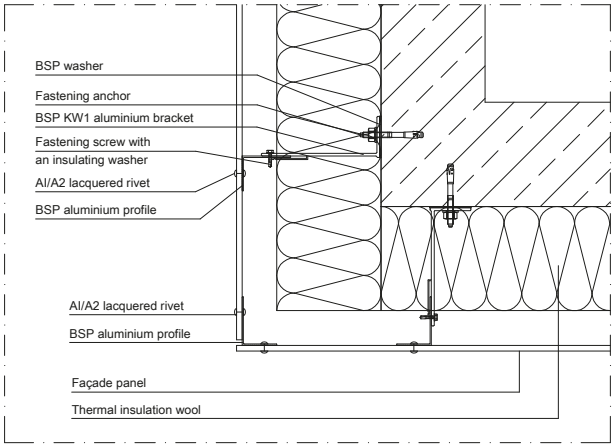
EXAMPLES OF DETAILS AFTER INSTALLATION

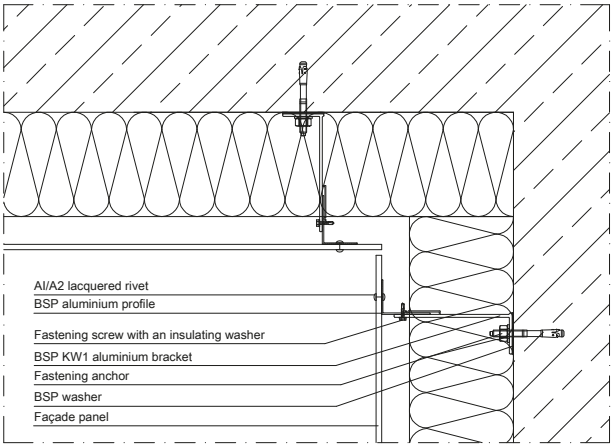


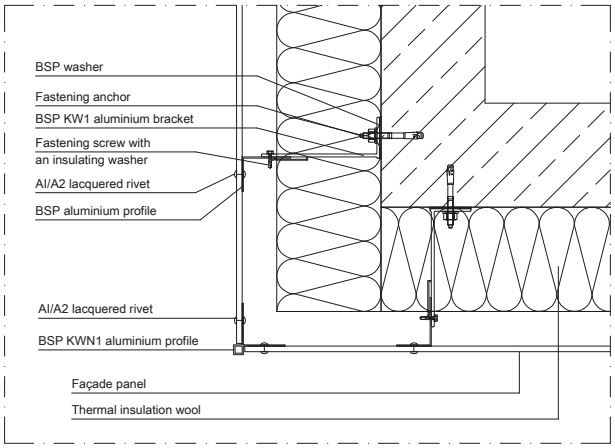


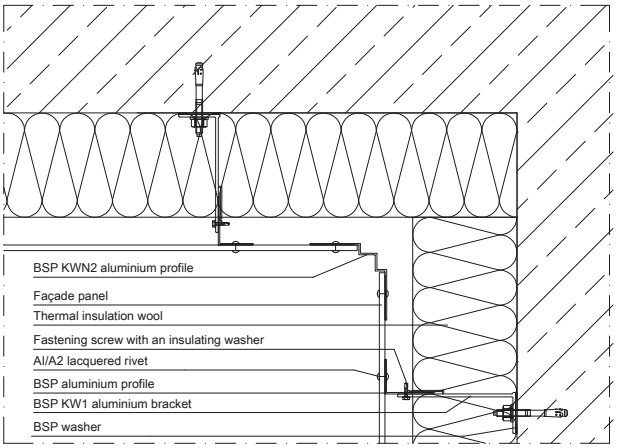












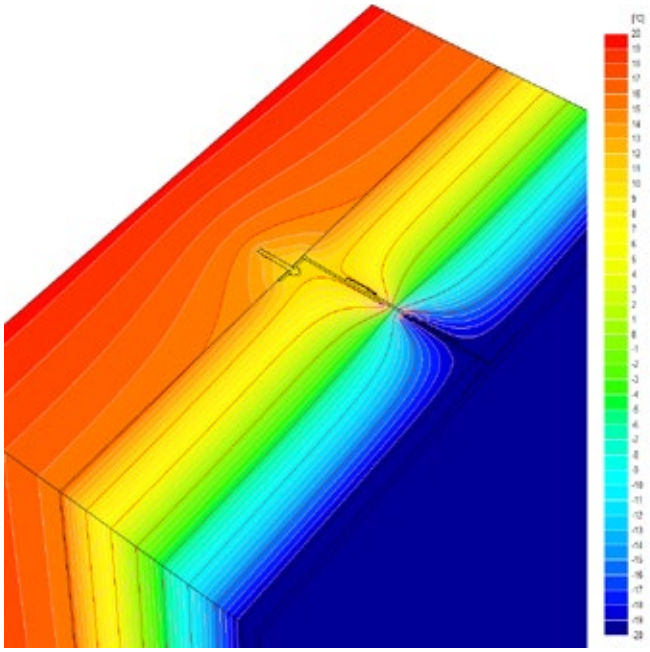
KW PAS PASSIVE SYSTEM

Heat transfer reduction

Despite many essential advantages such as excellent thermal insulation, a wide range of architectural designpossibilities, great aesthetics, fast moisture evacuation from the building, etc., the technology behind theventilated façade is also associated with an adverse effect – the thermal bridge. One of the factors causing uncontrollable heat transfer between the building interior and the external surface of the cladding is caused by substructure elements used to fix cladding panels to the building structure. The substructure is fixed to the wall with aluminium brackets. These brackets pass through individual insulation layers that are made of materials featuring relatively high thermal conductivity, and therefore they contribute to increased heat loss.

The possible consequences of thermal bridges occurring include:

- Heat loss resulting in energy loss affecting the energy balance of the building.
- Reduced temperature of the building envelope may result in water condensation and moisture of insulating andstructural materials. As a consequence, fungi and moulds harmful to health may grow.



There is a number of ways to reduce the risk of the so-called thermal bridges occurring:

- Use pads that provide thermal and corrosion insulation between a bracket foot and the building wall. BSP recommends engineered HDPE pads with low thermal conductivity.
- Using the BSP substructure reduces the number of brackets, and therefore the number of potential thermalbridges decreases as well.
- Using the passive bracket with a non-metallic element ensures that the occurrence of thermal bridges isalmost completely eliminated.

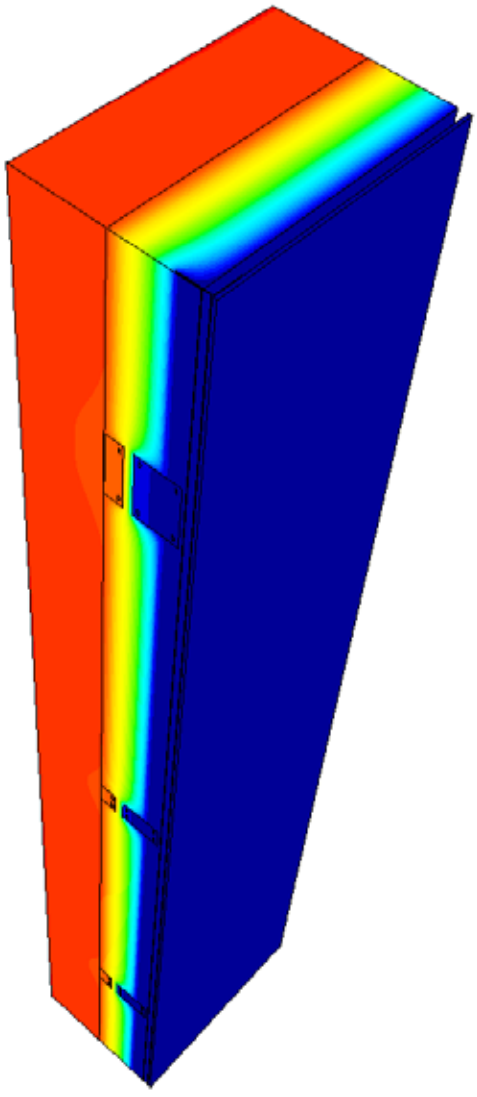
These values (given in W/m2K) for external walls are as follows:

Validity period	before 2014	from 2014	from 2017	from 2021
Max U	0.30	0.25	0.23	0.20

In order to meet stricter requirements concerning insulationparameters of building envelopes, our R&D departmenthas developed a passive bracket–this product isdedicated to architects, investors, design engineers andcontractors looking for modern, energy-efficient and innovative solutions.

The bracket has been approved by the Building ResearchInstitute, together with the BSP engineered substructurefor ventilated façades, in accordance with Article 225 of theRegulation of the Minister of Infrastructure (Journal of Laws No. 75, item 690).

The passive bracket ensures practically complete elimination of thermal bridges to meet the very high requirements for the heat transfer coefficient (Umax) with a margin that will be in compliance with regulations to become effective after 2021. It has been confirmed by thermal calculations presented on the next page.



PASSIVE SOLUTIONS

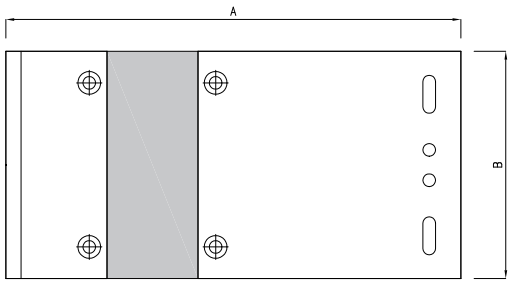
§ 225

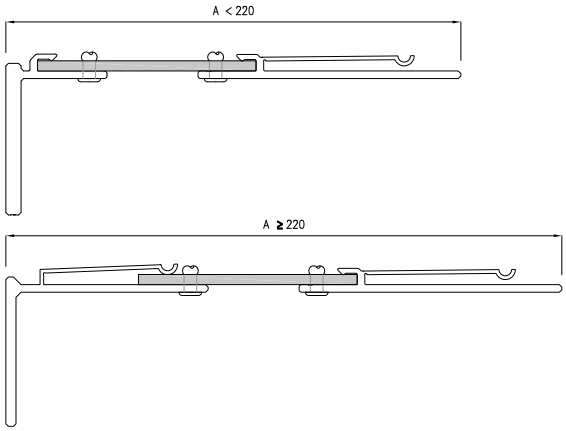
CERTIFIED COMPONENT

KW1 PAS PASSIVE BRACKET

Passive bracket	A	B
KW1 PAS 170-150 FIX/LOS	170	150
KW1 PAS 170-120 FIX/LOS	170	120
KW1 PAS 170-90 FIX/LOS	170	90
KW1 PAS 170-60 FIX/LOS	170	60
KW1 PAS 200-150 FIX/LOS	200	150
KW1 PAS 200-120 FIX/LOS	200	120
KW1 PAS 200-90 FIX/LOS	200	90
KW1 PAS 200-60 FIX/LOS	200	60
KW1 PAS 220-150 FIX/LOS	220	150
KW1 PAS 220-120 FIX/LOS	220	120
KW1 PAS 220-90 FIX/LOS	220	90
KW1 PAS 220-60 FIX/LOS	220	60
KW1 PAS 240-150 FIX/LOS	240	150
KW1 PAS 240-120 FIX/LOS	240	120
KW1 PAS 240-90 FIX/LOS	240	90
KW1 PAS 240-60 FIX/LOS	240	60
KW1 PAS 260-150 FIX/LOS	260	150
KW1 PAS 260-120 FIX/LOS	260	120
KW1 PAS 260-90 FIX/LOS	260	90
KW1 PAS 260-60 FIX/LOS	260	60
KW1 PAS 280-150 FIX/LOS	280	150
KW1 PAS 280-120 FIX/LOS	280	120
KW1 PAS 280-90 FIX/LOS	280	90
KW1 PAS 280-60 FIX/LOS	280	60

PATENT
№ 226726





PASSIVE SOLUTIONS

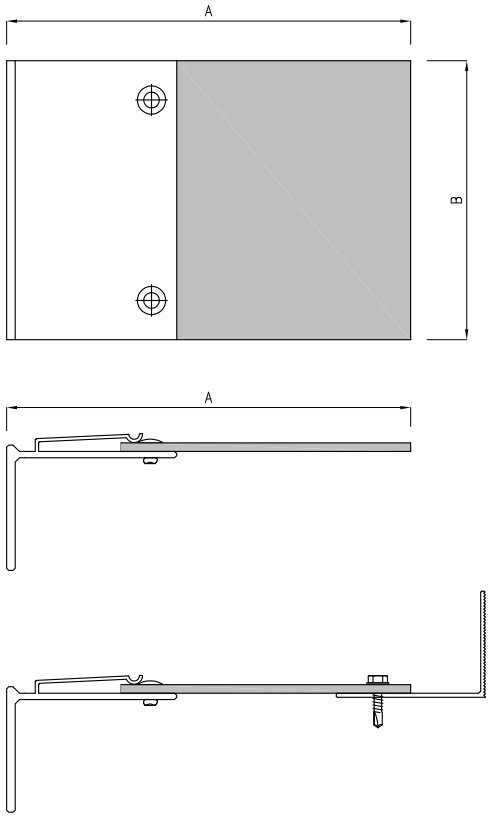
§ 225

KW2 PAS PASSIVE BRACKET

Passive bracket	A	B
KW2 PAS 170-150 FIX/LOS	170	150
KW2 PAS 170-120 FIX/LOS	170	120
KW2 PAS 170-90 FIX/LOS	170	90
KW2 PAS 170-60 FIX/LOS	170	60
KW2 PAS 200-150 FIX/LOS	200	150
KW2 PAS 200-120 FIX/LOS	200	120
KW2 PAS 200-90 FIX/LOS	200	90
KW2 PAS 200-60 FIX/LOS	200	60
KW2 PAS 220-150 FIX/LOS	220	150
KW2 PAS 220-120 FIX/LOS	220	120
KW2 PAS 220-90 FIX/LOS	220	90
KW2 PAS 220-60 FIX/LOS	220	60
KW2 PAS 240-150 FIX/LOS	240	150
KW2 PAS 240-120 FIX/LOS	240	120
KW2 PAS 240-90 FIX/LOS	240	90
KW2 PAS 240-60 FIX/LOS	240	60
KW2 PAS 260-150 FIX/LOS	260	150
KW2 PAS 260-120 FIX/LOS	260	120
KW2 PAS 260-90 FIX/LOS	260	90
KW2 PAS 260-60 FIX/LOS	260	60
KW2 PAS 280-150 FIX/LOS	280	150
KW2 PAS 280-120 FIX/LOS	280	120
KW2 PAS 280-90 FIX/LOS	280	90
KW2 PAS 280-60 FIX/LOS	280	60

PASSIVE SOLUTIONS

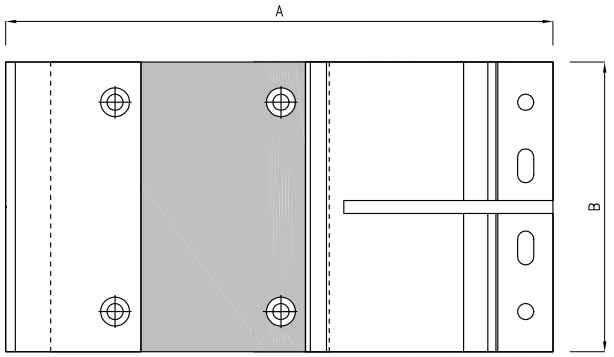
The offer of KW2 PAS brackets complements therange of passive brackets. These brackets are notequipped with aluminium extension pieces. The solution can be applied if it is not required to facilitatevertical alignment of the façade being fixed and theoutreach distance is small.

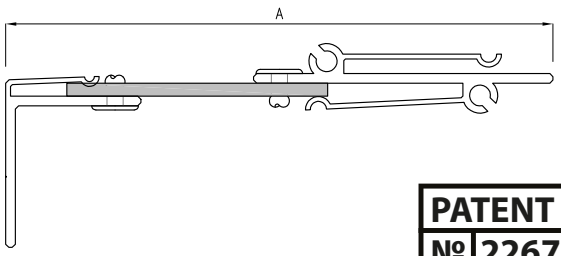


KW3 PAS PASSIVE BRACKET

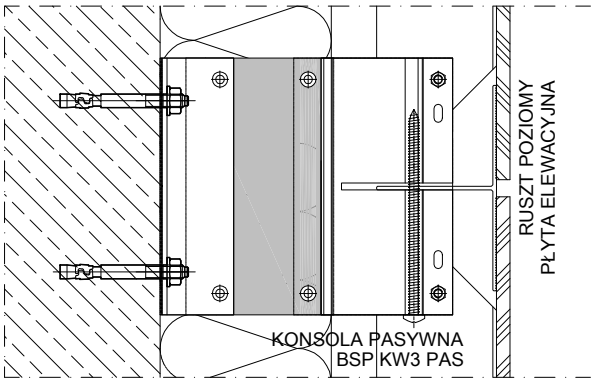
KW3 PAS brackets feature a design similar to standard KW1 PAS brackets, but the aluminium end of the bracket is additionally equipped with a screw socket and features a cut portion to accommodate a profile. This is a solution for installing the subframe horizontally when the brackets are installed vertically.

Passive bracket	A	B
KW3 PAS 170-150 FIX/LOS	170	150
KW3 PAS 170-120 FIX/LOS	170	120
KW3 PAS 170-90 FIX/LOS	170	90
KW3 PAS 170-60 FIX/LOS	170	60
KW3 PAS 200-150 FIX/LOS	200	150
KW3 PAS 200-120 FIX/LOS	200	120
KW3 PAS 200-90 FIX/LOS	200	90
KW3 PAS 200-60 FIX/LOS	200	60
KW3 PAS 220-150 FIX/LOS	220	150
KW3 PAS 220-120 FIX/LOS	220	120
KW3 PAS 220-90 FIX/LOS	220	90
KW3 PAS 220-60 FIX/LOS	220	60
KW3 PAS 240-150 FIX/LOS	240	150
KW3 PAS 240-120 FIX/LOS	240	120
KW3 PAS 240-90 FIX/LOS	240	90
KW3 PAS 240-60 FIX/LOS	240	60
KW3 PAS 260-150 FIX/LOS	260	150
KW3 PAS 260-120 FIX/LOS	260	120
KW3 PAS 260-90 FIX/LOS	260	90
KW3 PAS 260-60 FIX/LOS	260	60
KW3 PAS 280-150 FIX/LOS	280	150
KW3 PAS 280-120 FIX/LOS	280	120
KW3 PAS 280-90 FIX/LOS	280	90
KW3 PAS 280-60 FIX/LOS	280	60





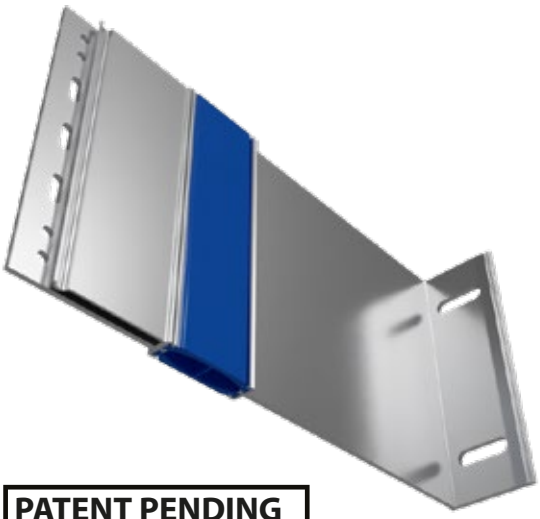
PATENT
№ 226726



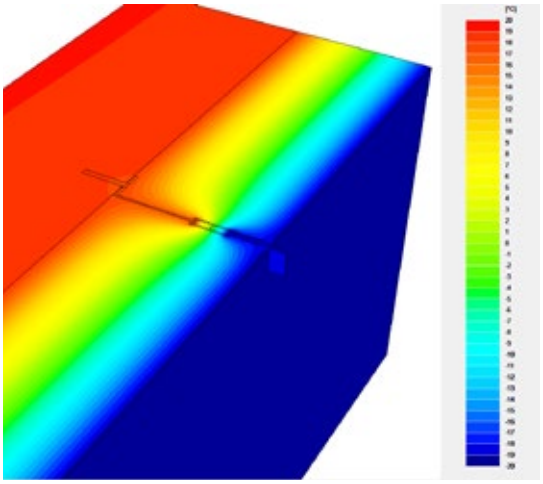
KW4 PAS PASSIVE BRACKET

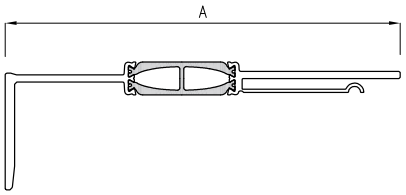
The **BSP KW4 PAS** system is the latest system of passive substructures released by BSP Bracket System Polska Sp. z o.o. It works in a very similar way to the **BSP KW1 PAS**system. The system too makes use of brackets with a plastic spacer, but features largely improved and optimised design of the bracket, the method of joining each individual element, and the materials used to manufacture it.The main idea behind the newly designed system was to come up with a cheaper product, which ensures equally satisfactory parameters. As a result, we have made a cheaper product with improved thermal insulation and static parameters. The product has already undergone a number of corrosion test, strength tests, and fire tests, which confirmed its suitability for use on external façades.

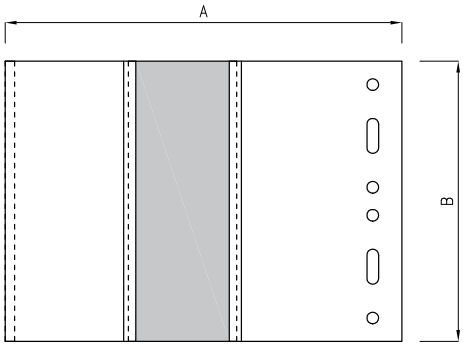
Feel free to contact us by phone or email, or by visiting our website, to find more details about the product.



PATENT PENDING
№ P.425083



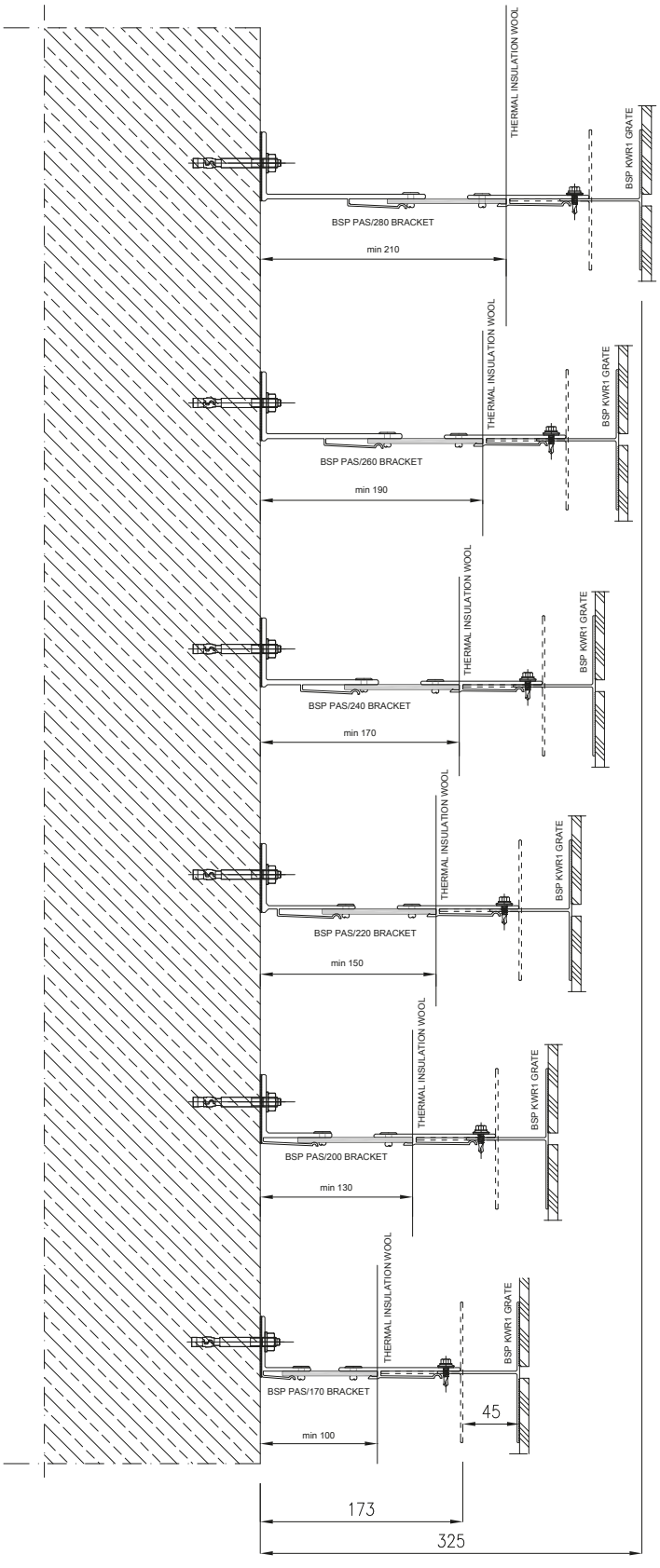




Bracket	A	B
BSP passive bracket type KW4 PAS 170-150	170	150
BSP passive bracket type KW4 PAS 170-120	170	120
BSP passive bracket type KW4 PAS 170-90	170	90
BSP passive bracket type KW4 PAS 170-60	170	60
BSP passive bracket type KW4 PAS 200-150	200	150
BSP passive bracket type KW4 PAS 200-120	200	120
BSP passive bracket type KW4 PAS 200-90	200	90
BSP passive bracket type KW4 PAS 200-60	200	60
BSP passive bracket type KW4 PAS 220-150	220	150
BSP passive bracket type KW4 PAS 220-120	220	120
BSP passive bracket type KW4 PAS 220-90	220	90
BSP passive bracket type KW4 PAS 220-60	220	60
BSP passive bracket type KW4 PAS 240-150	240	150
BSP passive bracket type KW4 PAS 240-120	240	120
BSP passive bracket type KW4 PAS 240-90	240	90
BSP passive bracket type KW4 PAS 240-60	240	60
BSP passive bracket type KW4 PAS 260-150	260	150
BSP passive bracket type KW4 PAS 260-120	260	120
BSP passive bracket type KW4 PAS 260-90	260	90
BSP passive bracket type KW4 PAS 260-60	260	60
BSP passive bracket type KW4 PAS 280-150	280	150
BSP passive bracket type KW4 PAS 280-120	280	120
BSP passive bracket type KW4 PAS 280-90	280	90
BSP passive bracket type KW4 PAS 280-60	280	60

PASSIVE SOLUTIONS

EXAMPLES OF APPLICATIONS FOR THE PASSIVE BRACKETS



Substructure extension ranging from 173mm to 325 mm

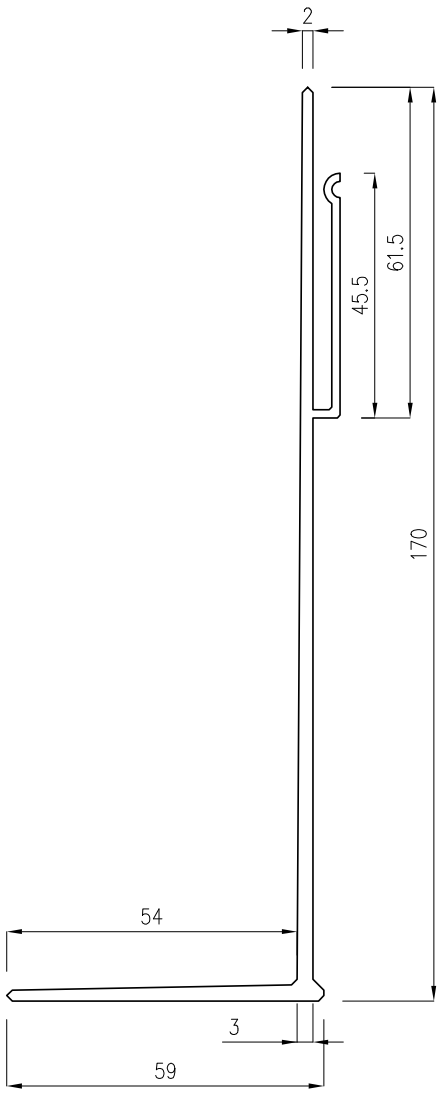
ECO BRACKET SYSTEM

Through in-depth research and analyses, BSP has developed a new cost-effective engineered solution with-an extruded aluminium substructure designed for fixing façade cladding panels. The ECO BRACKET range consists of brackets with 170 mm outreach, available in five lengths, and made using extruded load-bearing profiles. Variable wall thickness of the brackets is intended to maximise load capacity and optimise material consumption.

NOTE: BSP recommends ECO BRACKETS for buildings that are up to 12 m high.

KW1 EB BRACKET

ECO BRACKET	A	B
KW1 EB/170-150 FIX/LOS	170	150
KW1 EB/170-120 FIX/LOS	170	120
KW1 EB/170-90 FIX/LOS	170	90
KW1 EB/170-60 FIX/LOS	170	60
KW1 EB/170-40 FIX/LOS	170	40



ECO BRACKET KWR9 PROFILE

While developing the ECO BRACKET system, we applied solutions proven in the BSP substructure design,including grooved surface of profiles to facilitate water and moisture drainage from the space between thecladding panel and the subframe. Now, the range also includes an asymmetrical T-shaped profile – a unique solution to facilitate panel installation.

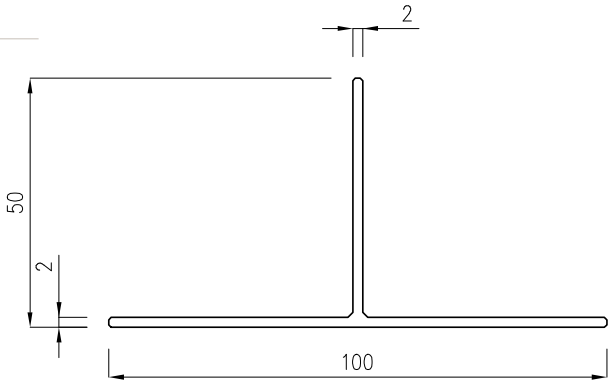
Load-bearing profiles made of extruded aluminium feature an optimum wall thickness and can be used in allplaces where the aluminium structure is not required to transfer considerable loads.

NOTE! BSP recommends ECO BRACKET PROFILES for buildings that are up to 25 m high.

Profile

ECO BRACKET KWR9 straight
length 3100 mm

Ix	8.421 cm^4
Wx	1.773 cm^3
Area	2.627 cm^2
Iy	13.179 cm^4
Wy	2.636 cm^3
Mass	0.712 kg/metre

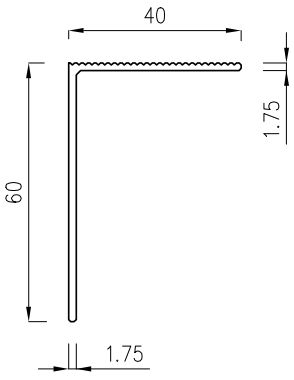


ECO BRACKET KWR10 PROFILE

Profile

ECO BRACKET KWR10
straight length 3100 mm

Ix	6.354 cm^4
Wx	1.561 cm^3
Area	1.654 cm^2
Iy	2.266 cm^4
Wy	0.712 cm^3
Mass	0.448 kg/metre

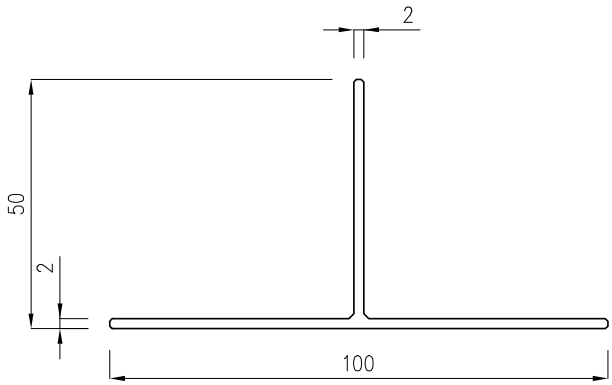


KWR3 PROFILE

Profile

KWR3 straight length 3000 mm

Ix	5.864 cm^4
Wx	1.432 cm^3
Area	2.963 cm^2
Iy	16.546 cm^4
Wy	3.309 cm^3
Mass	0.803 kg/metre

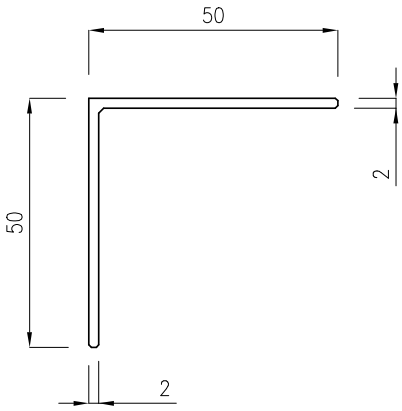


KWR4 PROFILE

Profile

KWR4 straight length 3000 mm

Ix	4.908 cm^4
Wx	1.335 cm^3
Area	1.960 cm^2
Iy	4.908 cm^4
Wy	1.335 cm^3
Mass	0.531 kg/ metre

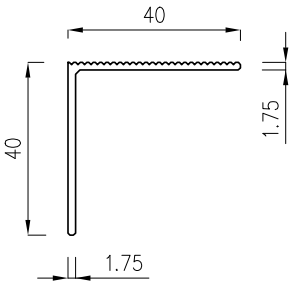


ECO BRACKET KWR7 PROFILE

Profile

KWR7 straight length 3100 mm

Ix	2.092cm4
Wx	0.724cm3
Area	1.304cm2
Iy	2.027cm4
Wy	0.679cm3
Mass	0.353 kg/metre

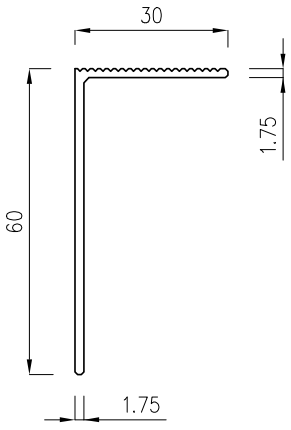


ECO BRACKET KWR11 PROFILE

Profile

KWR11 straight length 3100 mm

Ix	5.767 cm^4
Wx	1.488 cm^3
Area	1.497 cm^2
Iy	1.003 cm^4
Wy	0.407 cm^3
Mass	0.406 kg/metre

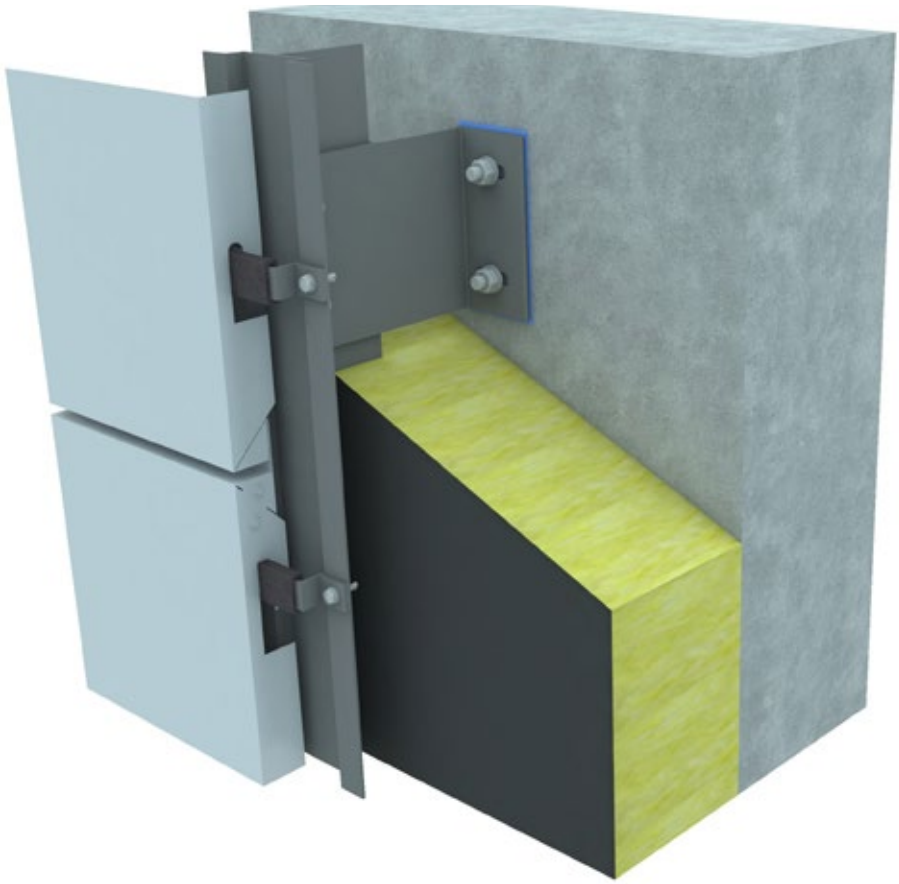


KWRY HANGING SYSTEM

The system consists of two size versions of the Y-type profile: KWRY50 and KWRY80, and a dedicated hanging element with a gasket used to hang composite panels or cassettes made of metal sheets.

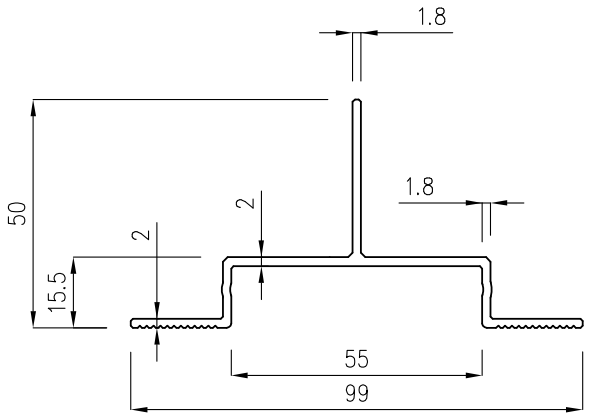
The aluminium substructure manufactured by BSP consists of fixing brackets and the main profile. Both brackets and profiles have been designed only for the ventilated façade. This feature is distinctive among other competitors on the market.

The KWRY profile, commonly referred to as the "Y-type", combines the advantage of the omega shape, i.e. a deep joint so expected from composite panels, and a single foot used for fixing to the KW bracket. With its design, the Y-type profile is rigid. When combined with robust KW brackets, a lower number of supports is needed.



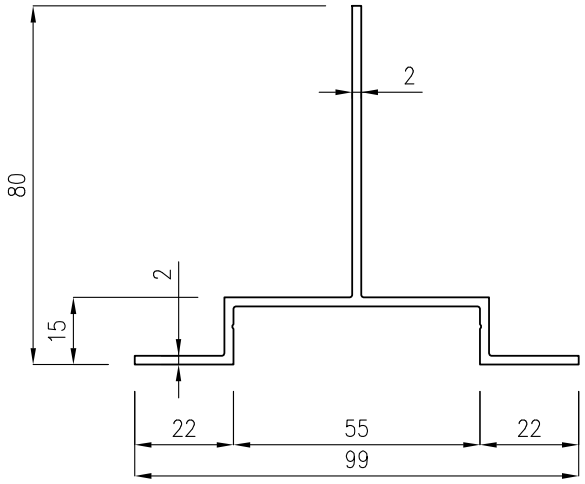
KWRY50 PROFILE

Ix	4.3421 cm⁴
Wx	1.195 cm³
Area	3.024 cm²
Iy	18.992 cm⁴
Wy	3.837 cm³
Mass	0.819 kg/metre



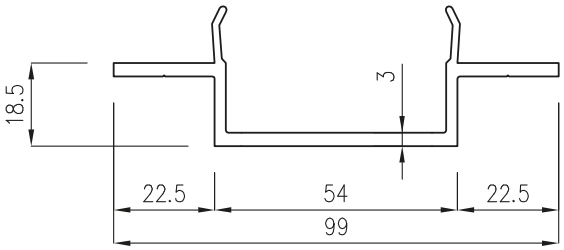
KWRY80 PROFILE

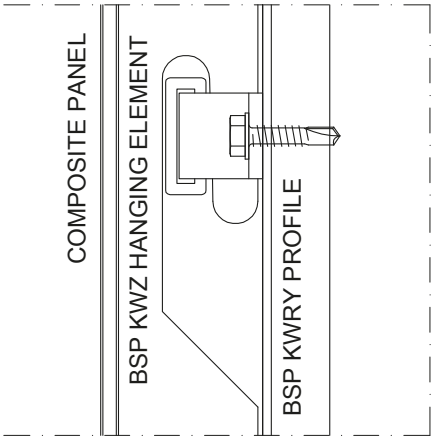
Ix	18.639 cm⁴
Wx	3.197 cm³
Area	3.800 cm²
Iy	20.392 cm⁴
Wy	4.120 cm³
Mass	1.025 kg/metre



§ 225

KWZ HANGING ELEMENT

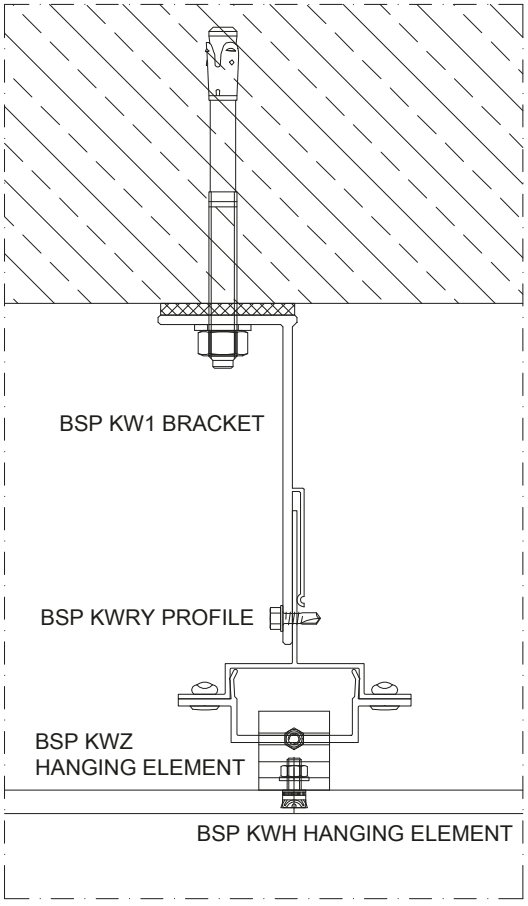


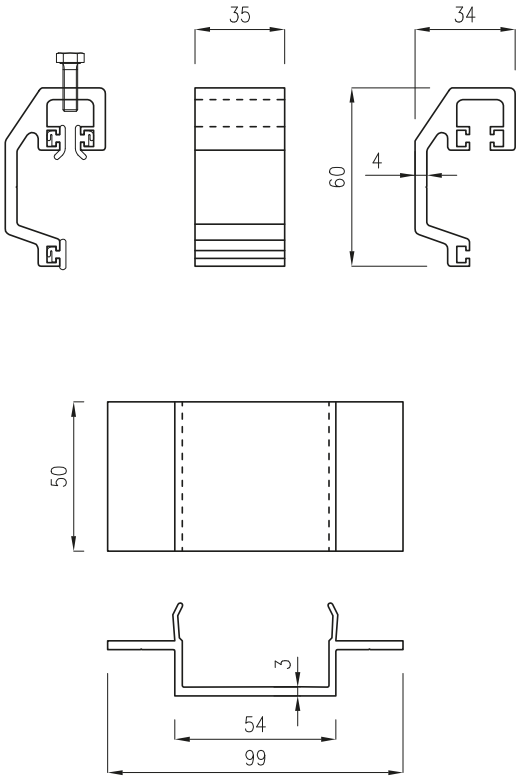


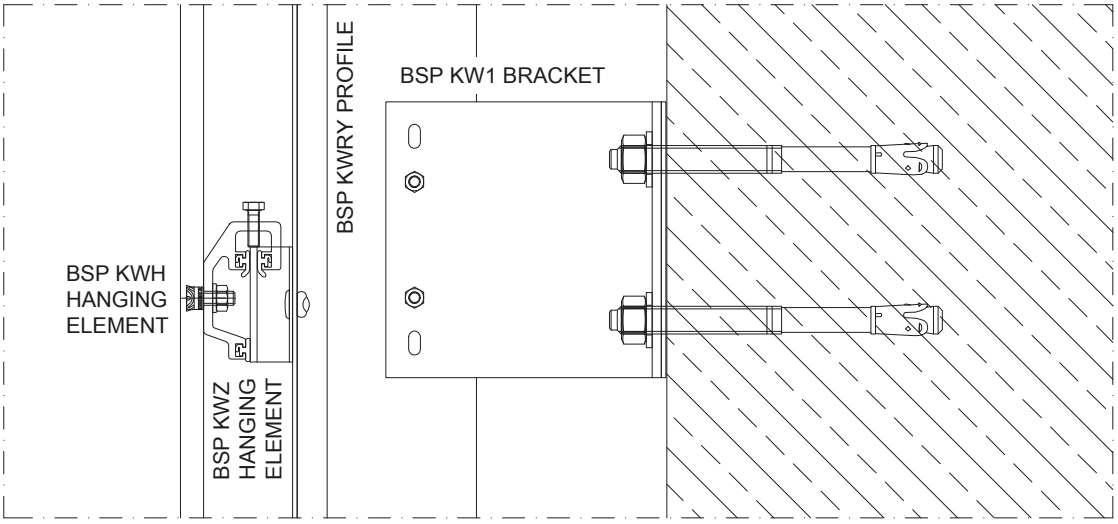
§ 225

KWH HANGING SYSTEM

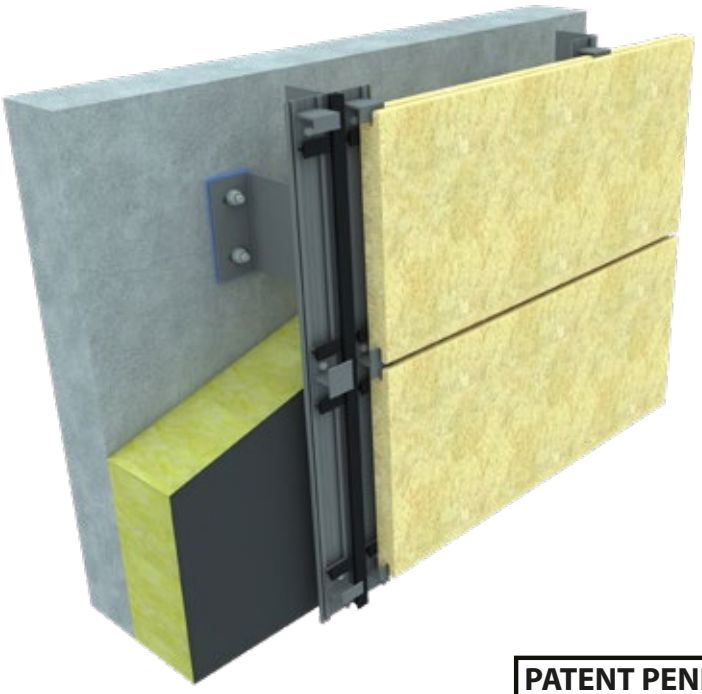
The KHW hanging system is used for the concealed fixing of external façade panels with undercut anchors. The system features a high load capacity to make it possible to fix heavy panels, e.g. stone or architectural concrete panels.

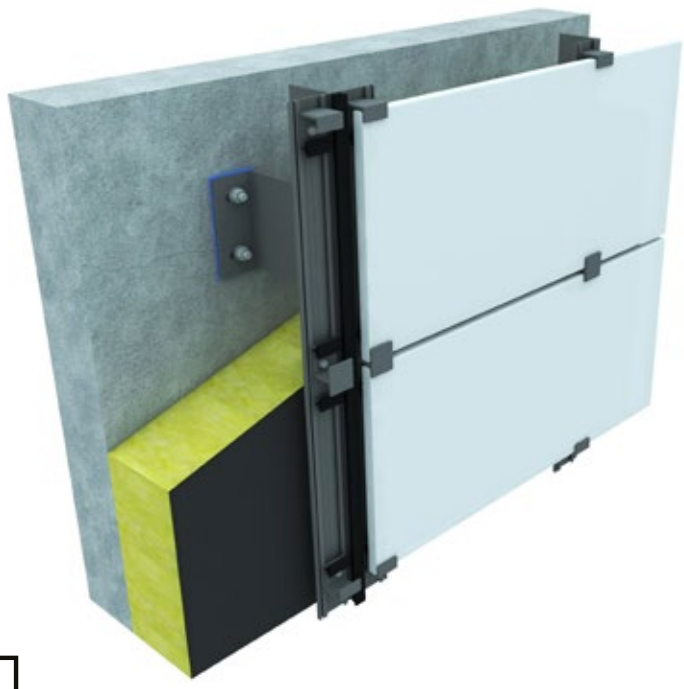






KCS HANGING SYSTEM





PATENT PENDING
№ P.418939

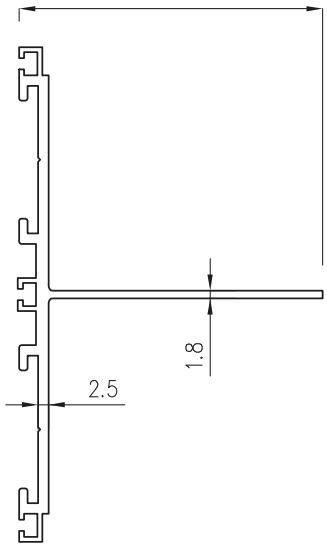
The BSP KCS substructure system has been developed for ventilated façades based on ceramic, stone and glazed panels. The system can be used to fix panels of different thickness with the adjustment gasket. In addition, a specially designed guide rail in vertical profiles facilitates the fixing of hanging elements and provides horizontal alignment.

SUBSTRUCTURE SYSTEM FOR CERAMIC AND STONE CLADDING

Hanging element

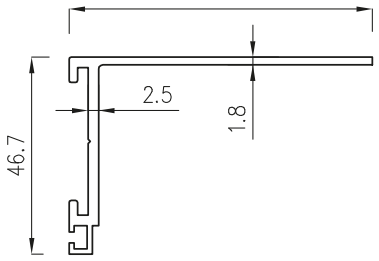
End-piece for ceramics and stone KC1 Intermediate piece for ceramics and stone KC2

KCT



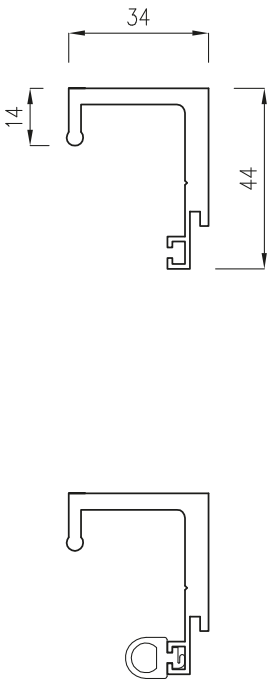
Ix	15.309 cm⁴
Wx	2.573 cm³
Area	5.134 cm²
Iy	43.667 cm⁴
Wy	7.439 cm³
Mass	1.386 kg/ metre

KCL

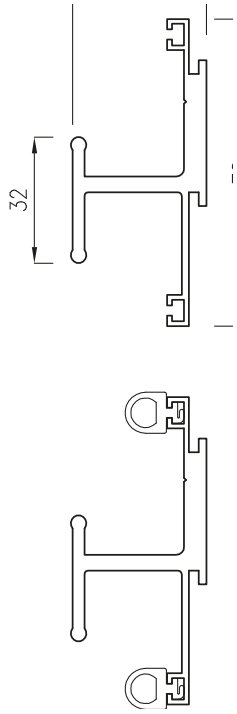


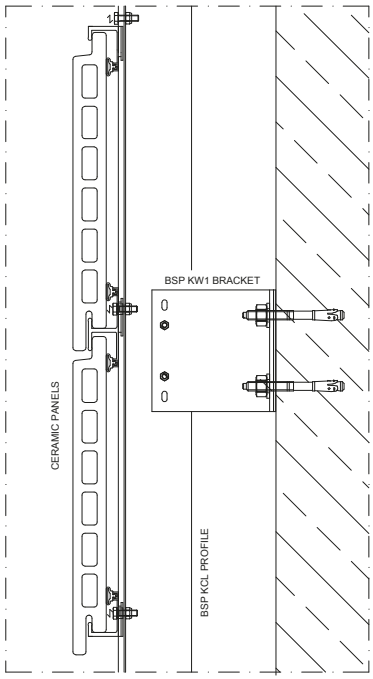
Ix	12.288 cm⁴
Wx	2.349 cm³
Area	2.699 cm²
Iy	6.472 cm⁴
Wy	1.932 cm³
Mass	0.729 kg/ metre

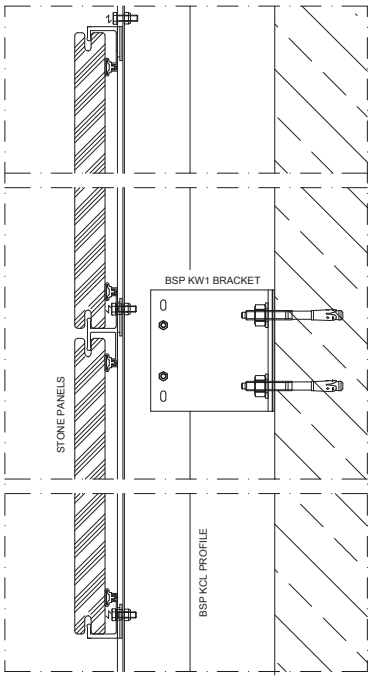
KC1

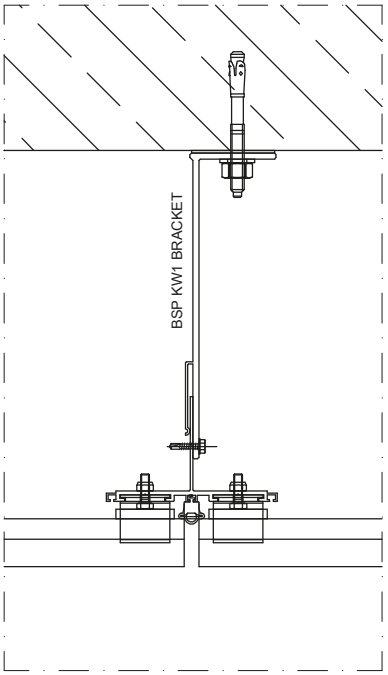


KC2



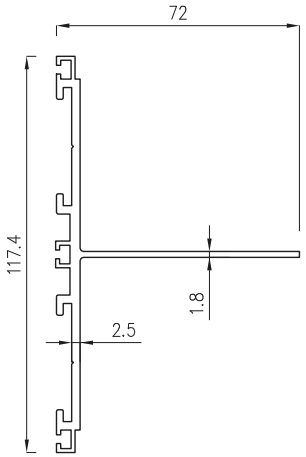




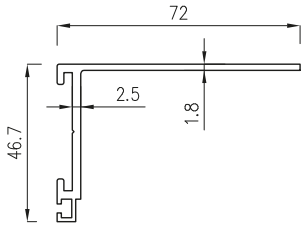


SUBSTRUCTURE SYSTEM FOR GLAZED CLADDING

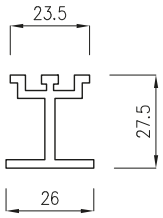
KCT



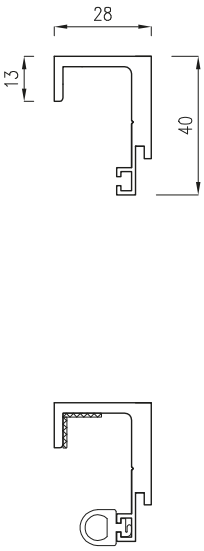
KCL



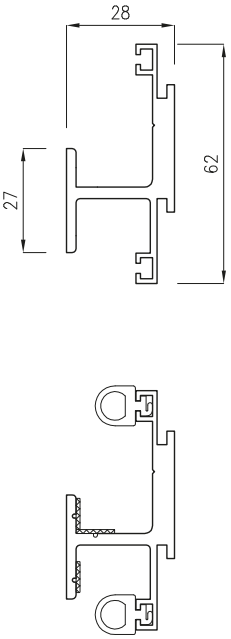
KC5



KC3



KC4



Engineered profile

T-shaped profile – KCT

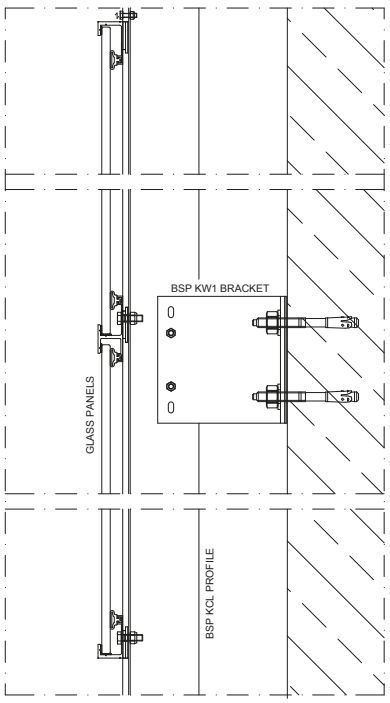
L-shaped profile – KCL

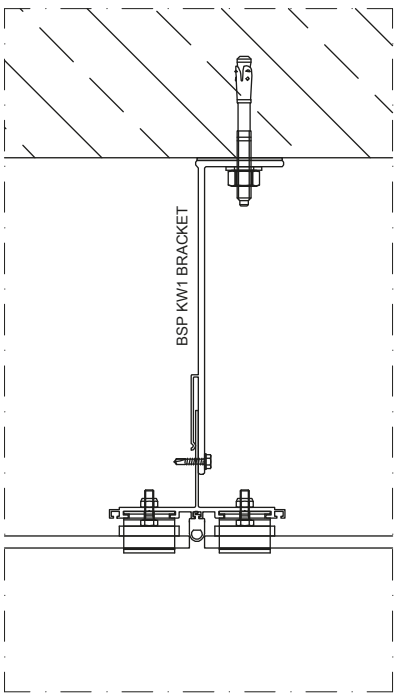
Hanging element

End-piece for glazing KC3

Intermediate piece for glazing KC4

Intermediate vertical piece for glazing KC5

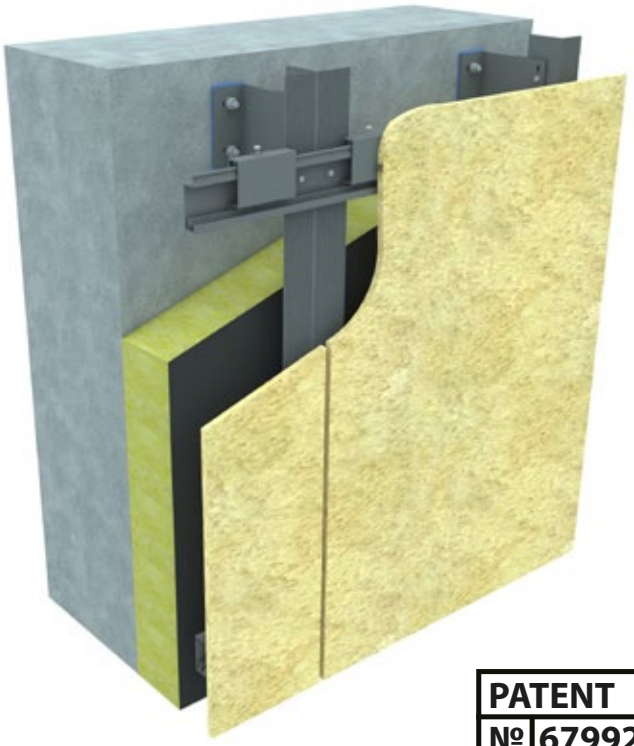




KWRW and KWRZ HANGING SYSTEMS

The BSP hanging system is suitable for precise fixing of GRC, fibre-cement and other types of cladding panels – used both inside rooms and on external ventilated façades. The hanging system can be adjusted vertically within 10 mm. Vertical adjustment is performed with an adjustingscrew and a nut set in a dedicated guide channel. The installer is aided by marks that indicate pre-drilling spots on the profile.

Another advantage of the BSP hanging system is problem-free detachment and re-attachmentof the panels, without risking any damage to the panel or the substructure.



PATENT
№ 67992

The system is available for installation in two configurations:

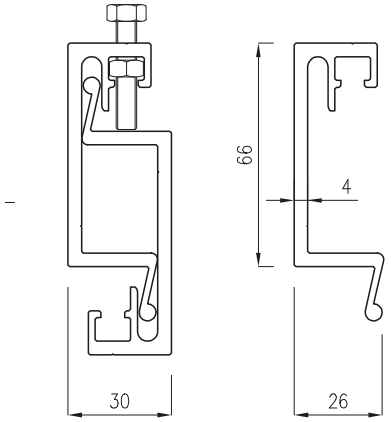
- When it is not required to remove wall unevenness and use insulation, the KWRW load-bearing profile is fixed directly to the wall. As for the hanging element, it is fixed directly to the backside of the cladding panel (with adhesive or undercut anchors).
- If the wall requires thermal insulation, additional vertical load-bearing profiles are used, fixed to the wall with KW1 brackets. The profiles are used to install the KWRW and KWRZ horizontal load-bearing profiles, which are later used to hang cladding panels.

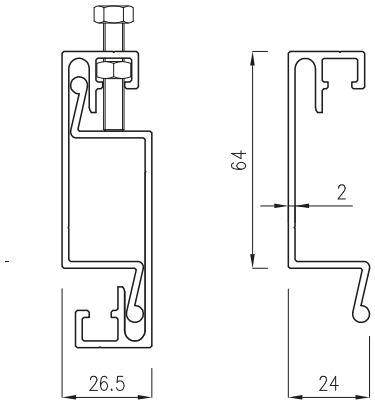
KWRZ

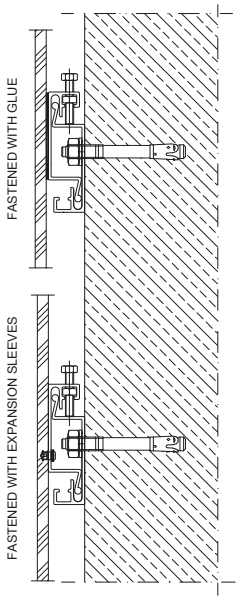
Ix	40.294 cm^4
Wx	8.270 cm^3
Area	5.781 cm^2
Iy	4.539 cm^4
Wy	2.753 cm^3
Mass	1.561 kg/ metre

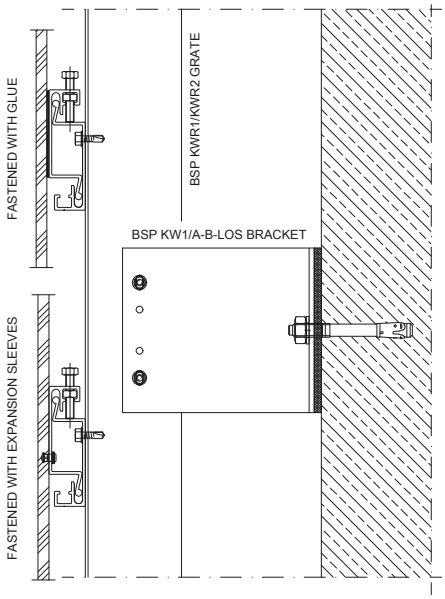
KWRW

Ix	23.223 cm^4
Wx	4.971 cm^3
Area	3.154 cm^2
Iy	2.251 cm^4
Wy	1.522 cm^3
Mass	0.852 kg/ metre









FTF FLOOR SYSTEM

PATENT
№ 68697

The BSP FTF system (also known as the storey system or the so-called *floor-to-floor*) has been designed to minimise the number of fixing points between thefaçade and the wall of a building.

The essence of the BSP FTF system is the increased installation span of brackets, mostly between individual storeys. The brackets are fixed to building's structural members, most frequently to the front face of the floor slab.

The high-strength parameters of the K1 and K2 brackets meet strict requirements relating to load capacityand rigidity of support elements that can transfer considerable stresses caused by the arrangement of fixingpoints on only one level of individual floor slabs.

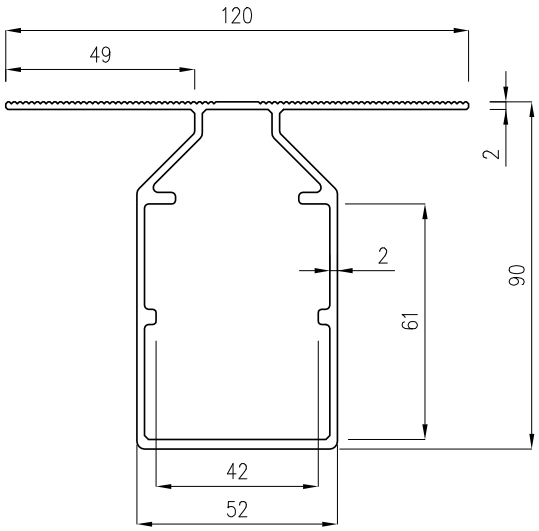
The KWR6 vertical load-bearing profiles in the BSP FTF system are structurally reinforced to ensure safe transfer of increased loads caused by wind, wherein the maximum deflection of the profile will not exceed the critical value. An undoubted advantage of the KWR6 load-bearing profiles is their specially-shaped grooved exterior surfacethat considerably improves joint durability at the contact with the external cladding.

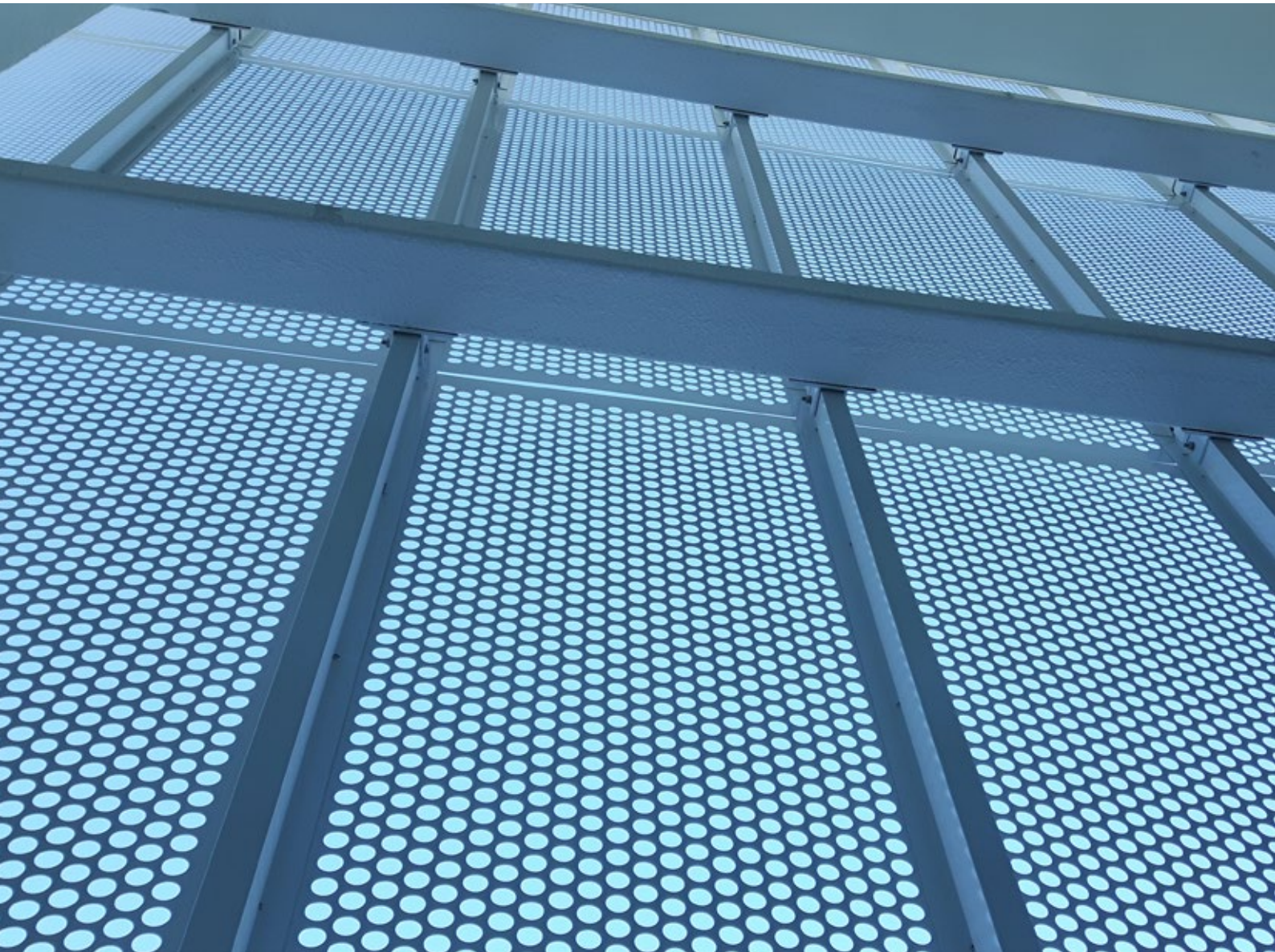
The advantages of the BSP FTF system:

- Less fixing brackets and therefore considerably reduced occurrence of the phenomenon of point freezing, i.e. the so-called thermal bridge.
- Reduced number of brackets means shorter installation of the substructure.
- Brackets are fixed to the building's load-bearing members, mostly those made of reinforced concrete, whichfacilitates installation and allows the use of standard anchors instead of expensive chemical anchoring.

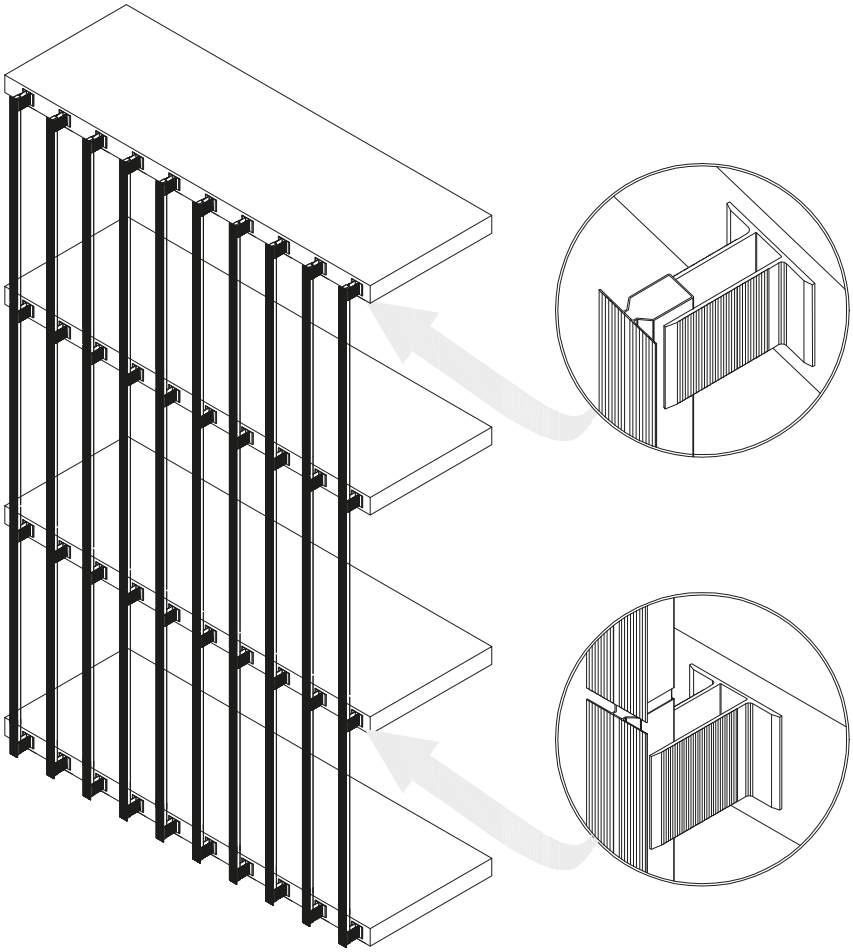
KWR6 PROFILE

Ix	95.865cm^4
Wx	17.540cm^3
Area	8.536cm^2
Iy	58.829cm^4
Wy	9.805cm^3
Mass	2.305 kg/ metre

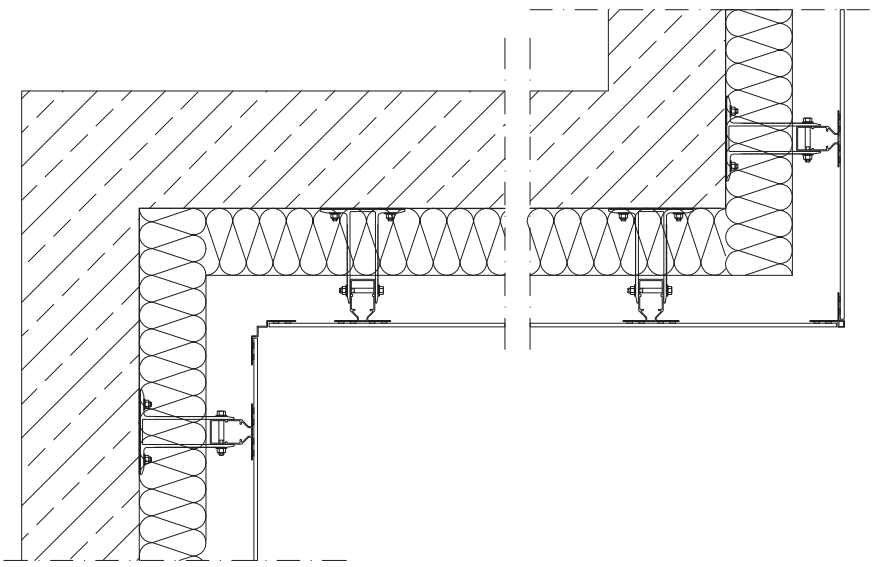


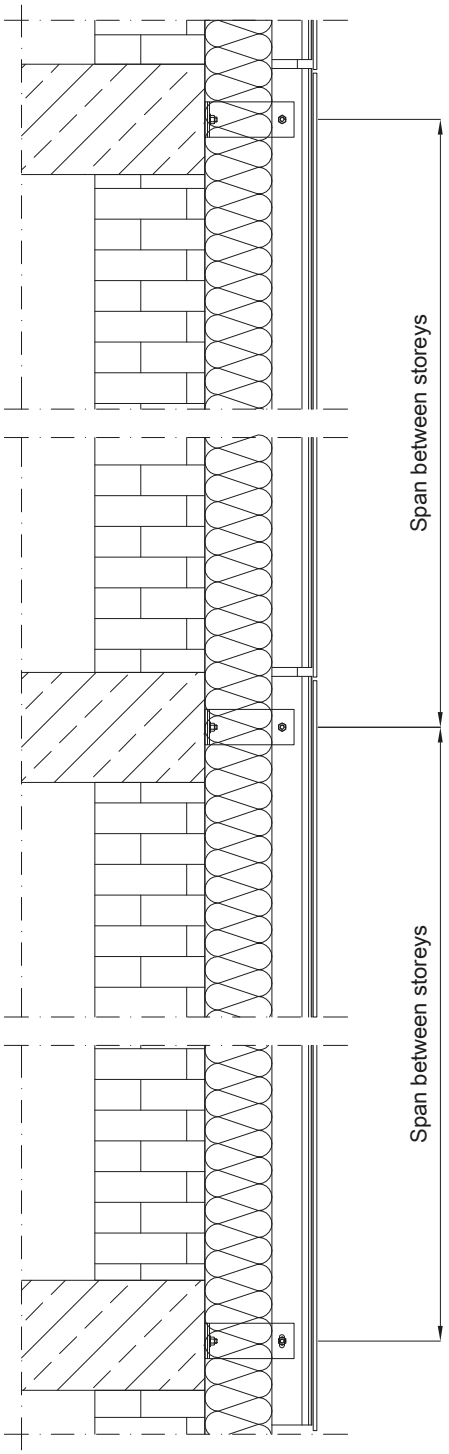


CROSS-SECTIONS AND MODELS



3D models





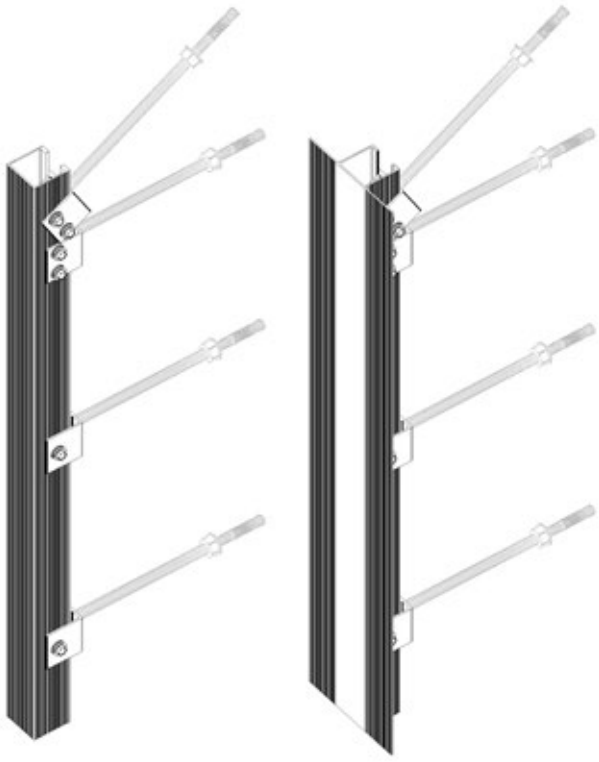
KWE SYSTEM

The BSP System has designed the BSP KWE innovative system of rod-based substructures for the purpose of thermal efficiency improvement of the existing buildings currently carried out on a large scale.

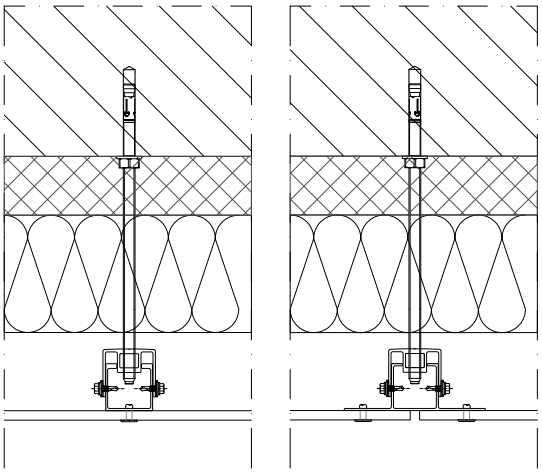
The system can be anchored directly in the structure of a building, without the need to remove and add fragments of the existing thermal insulation. Consequently, it makes installing a new layer of the façade a lot quicker and easier. The BSP KWE system can also be applied when installing the standard ventilated façade and suspended ceilings in new buildings.

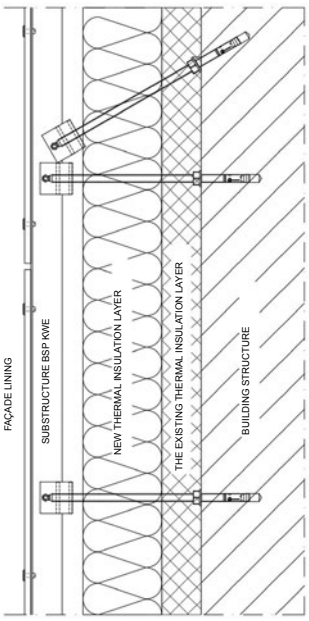
Furthermore, the rod-based system is a passive solution, which demonstrates a very low point heat transfer coefficient, unlike the standard bracket-based substructures, while the linear heat transfer coefficient resulting from inserting the profile into a layer of thermal insulation is completely eliminated.

Some of the additional advantages of the system include using the same elements, regardless of outreach, which is virtually unlimited, and also the coaxial action of the pressure force and wind suction in relation to the anchorage force, which has an advantageous effect on its strength.

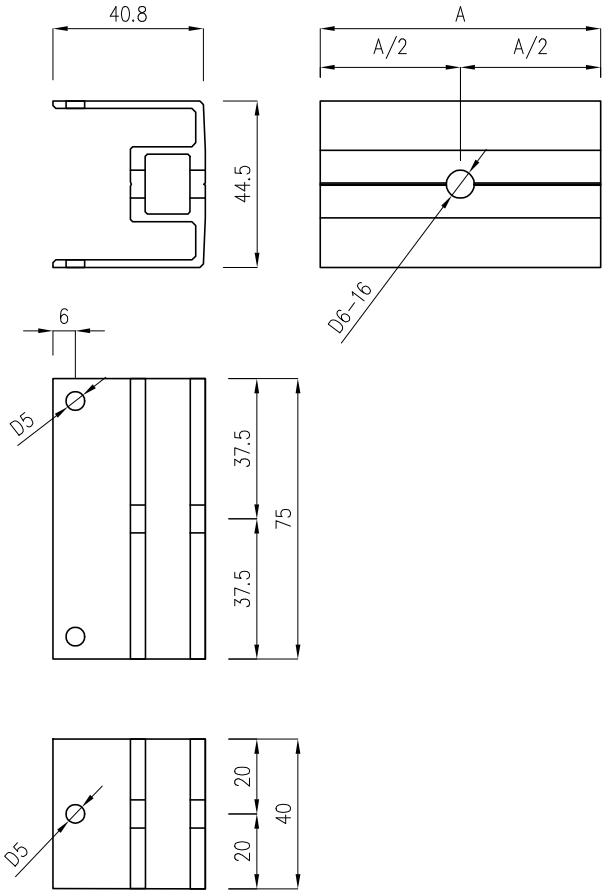


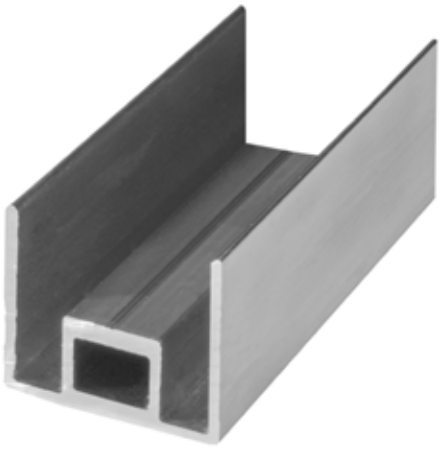
PATENT PENDING
№ P.425139





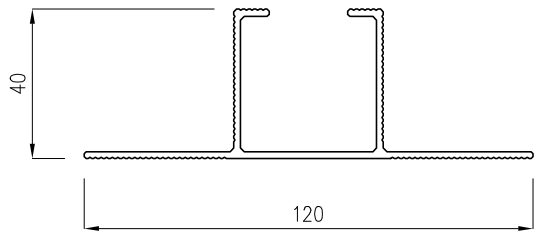
KWE BRACKET





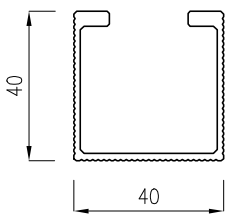
Name	A
BSP KWE 75 FIX bracket	75
BSP KWE 40 LOS bracket	40

KWRWP PROFILE



Profile			
KWRP straight			
length 3100 mm			
Jx	7.230cm^4	Jy	29.680cm^4
Wx	2.493cm^3	Wy	4.945 cm^3
A	3.680 cm^2	Weight	0.944kg/m

KWRC PROFILE

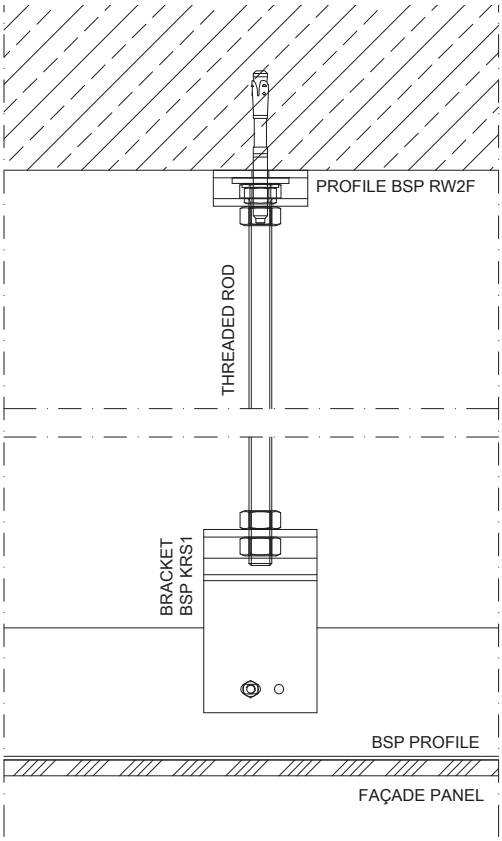


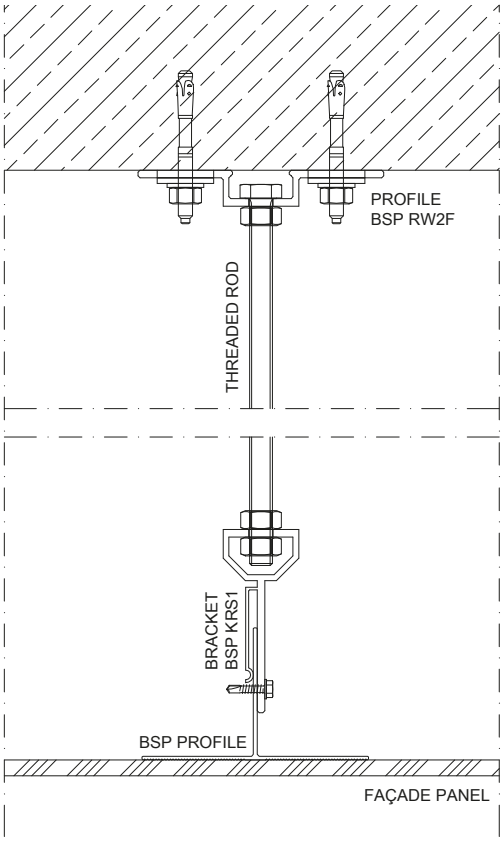
Profile			
KWRC straight			
length 3100 mm			
Jx	6.200 cm^4	Jy	6.770 cm^4
Wx	2.981 cm^3	Wy	3.385 cm^3
A	2.590 cm^2	Weight	0.699 kg/m

KRS SYSTEM

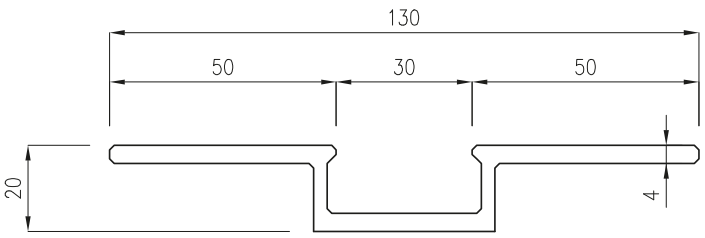
The BSP aluminium substructure in the KRS system is perfect for installation of suspended ceilings. See below for drawings of fixing the suspended ceiling panels using profiles installed on the ceiling with threaded rods. The presented system can be used for both short and long suspensions exceeding 2 m.

PASSIVE SOLUTIONS



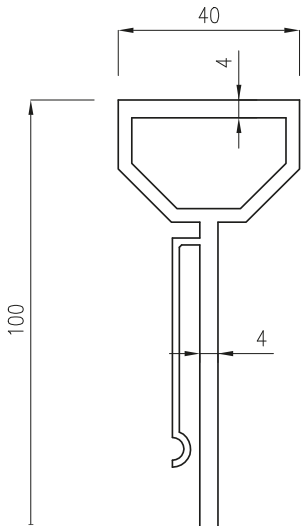


RW2F PROFILE



PATENT PENDING
№ P.419119

KRS1 BRACKET



INTERNAL LININGS

More and more often, architects and investors design cladding panels inside buildings. For this purpose, BSP has developed a few systems for internal installation. Whether panels are installed on old plastered or newly-constructed walls, it is possible to use systemsensuring plane adjustment. Depending on the weight of a panel, it is possible to mix various systems or use only one.

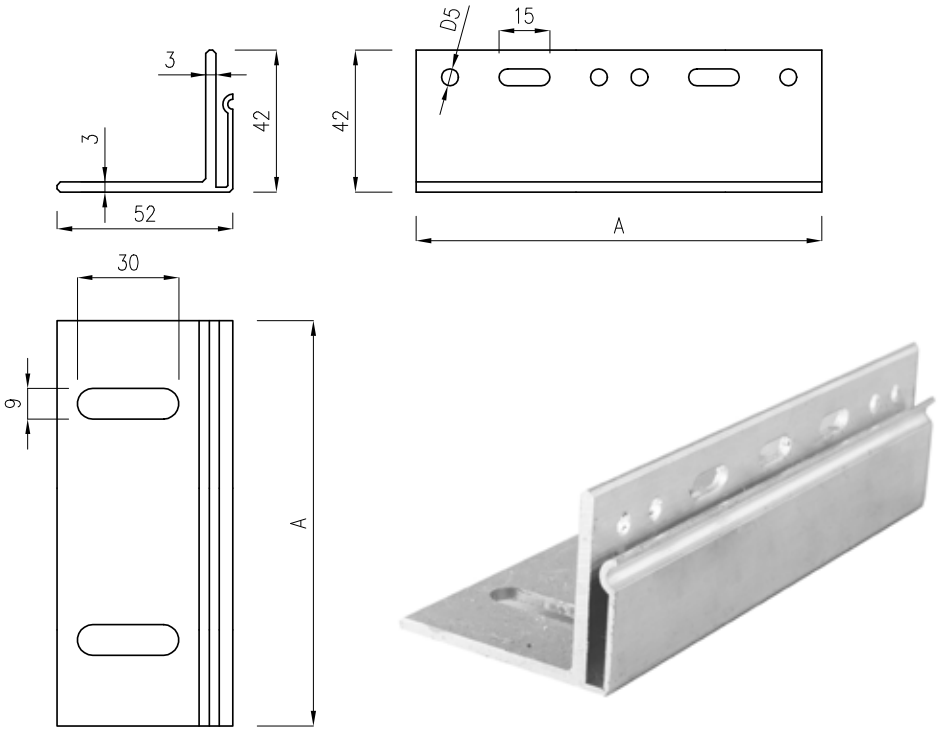
The BSP offer includes three internal fixing systems:

1. KW1 system – 40 mm bracket + a profile with 38 mm outreach. (KWR5 L-piece and KWR8 T-piece)

2. Omega system with different outreach values installed directly on the wall.

3. The KWRW system is fixed directly on gypsum plasterboards or to the substructure.

KW1 BRACKET



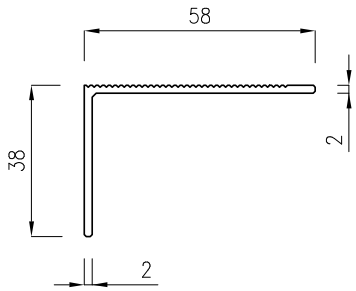
The KW1/40-A bracket with the KWR5 and KWR8 profiles is used to fix internal panels in places where additional thermal insulation is not required.

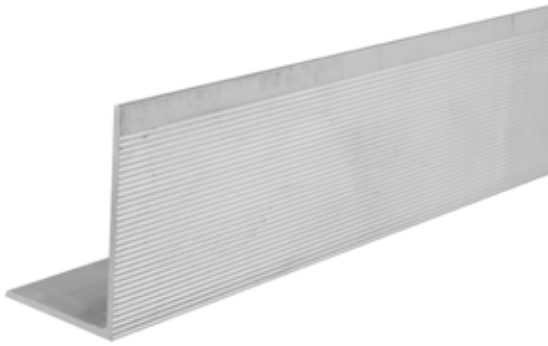
The bracket with a profile provides outreach adjustment within 45 to 90 mm. With this solution, the panels can be fixed with rivets or assembly adhesive.

Bracket	A
KW1 40-150	150
KW1 40-120	120
KW1 40-90	90
KW1 40-60	60

KWR5 PROFILE

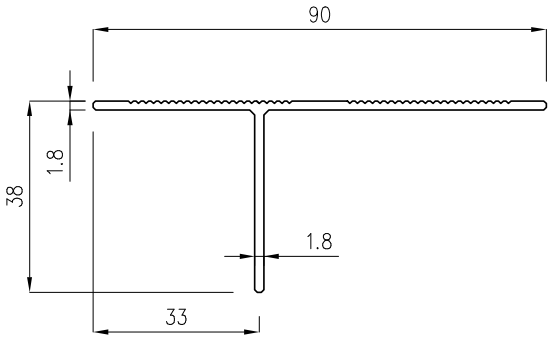
Ix	2.305 cm⁴
Wx	0.785 cm³
Area	1.794 cm²
Iy	6.454 cm⁴
Wy	1.607 cm³
Mass	0.486 kg/metre

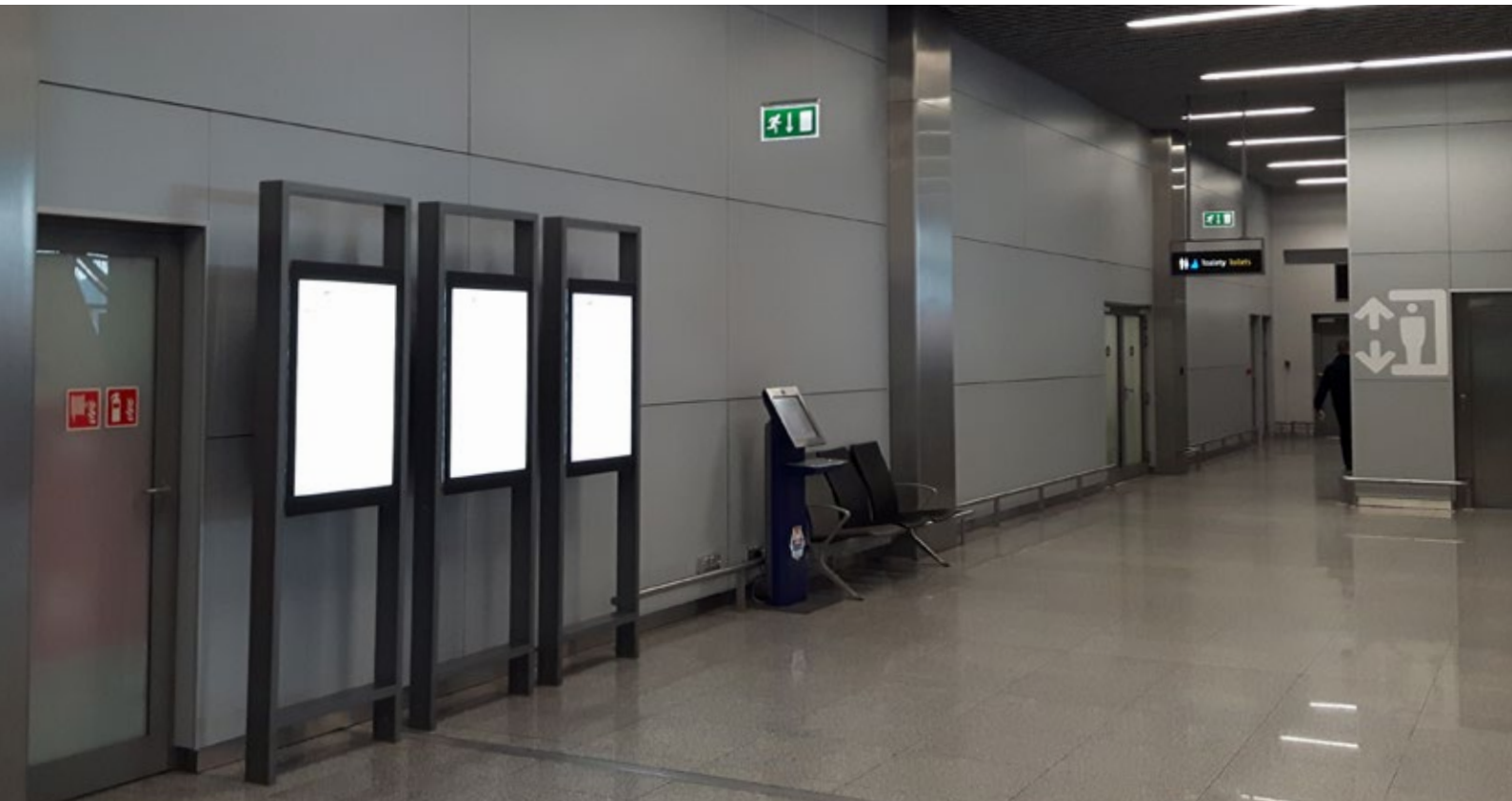




KWR8 PROFILE

Ix	2.325 cm⁴
Wx	0.741 cm³
Area	2.164 cm²
Iy	10.879 cm⁴
Wy	2.236 cm³
Mass	0.587 kg/metre



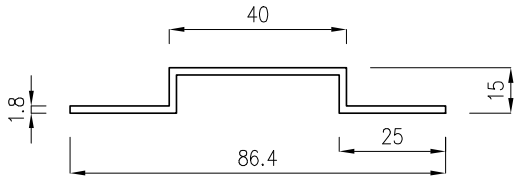


OMEGA RW2 PROFILE

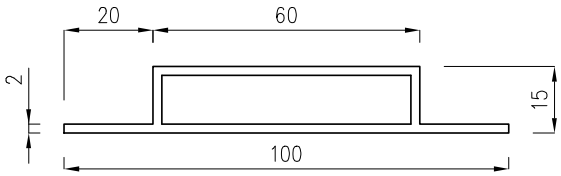
The RW2 profile cannot be adjusted. If deviations of wall construction are sufficiently negligible so that an adjustable subframe is not required, the panels can be fixed directly to the RW2 main profile.

Omega profile	A	B	C	Thk
RW2A	40	15	25	1.8
RW2B	60	15	20	2.0
RW2C	50	50	23	2.5/2.0
RW2D	30	25	15	2.0
RW2E	50	30	25	2.0

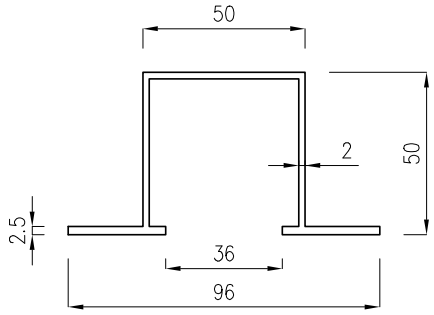
RW2A



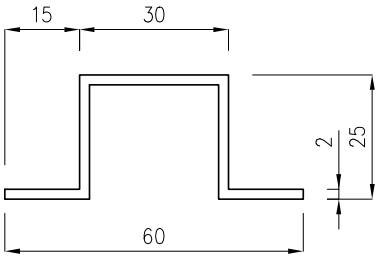
RW2B



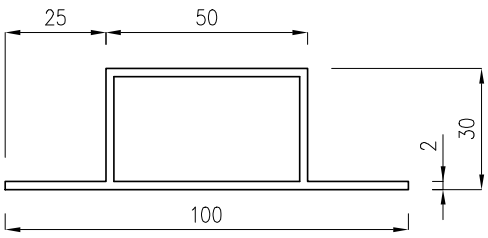
RW2C



RW2D



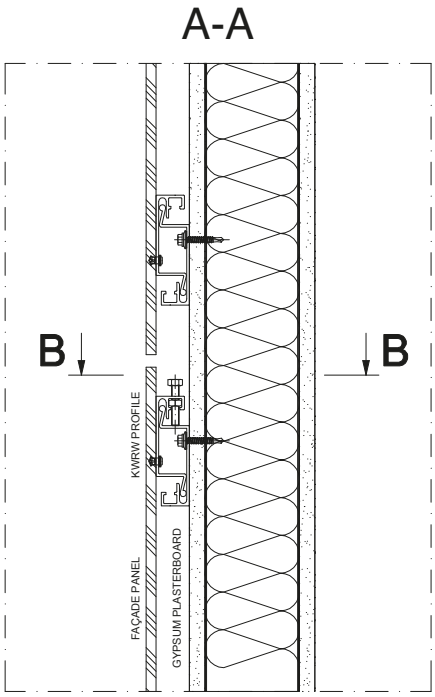
RW2E

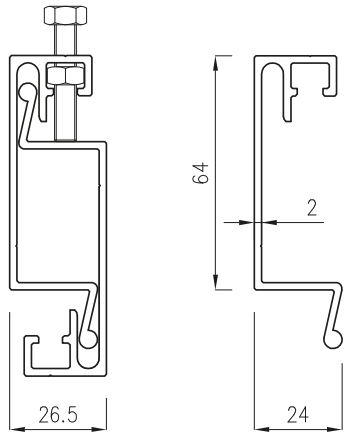


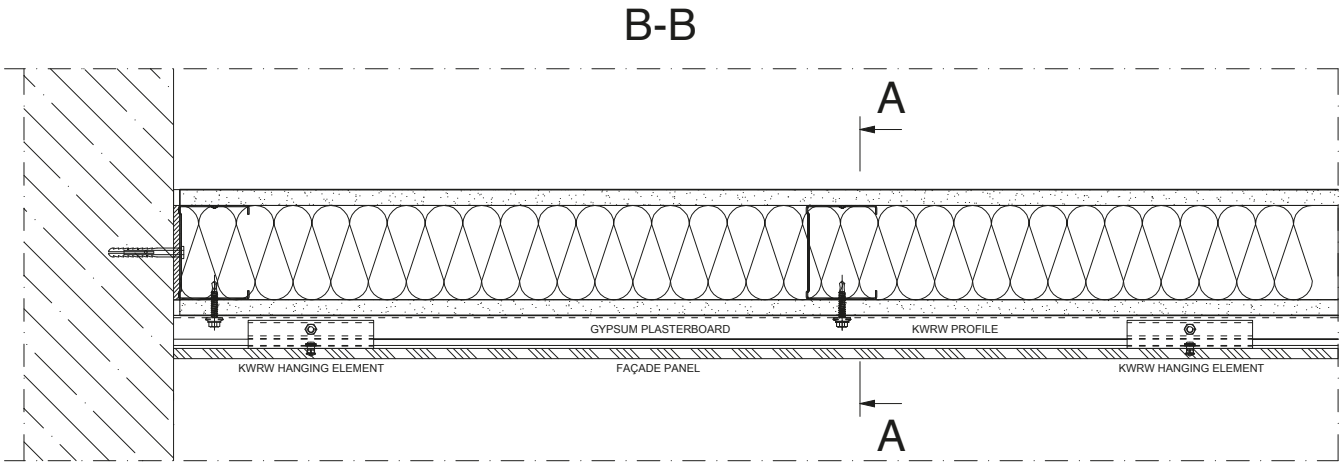
KWRW PROFILE

The KWRW profile is fixed directly to gypsum plasterboard walls or the wooden frame. It can be used to fix all types and sizes of panels without being restricted to the presence of the supporting wall structure. The installation of continuous elements to the wall inplaces of vertical structures stiffens the frame and provides very good support for the hanging element. The element can be fixed to panels with special anchors or adhesive systems. Suspended panels can be freely slid and removed to facilitate the installation. The panel can be fixed in place with a concealed screw. The system is used in shopping centres, offices, training facilities and at airports.

PATENT
№ 67992





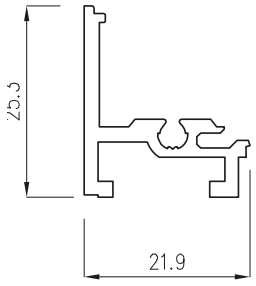


OTHER

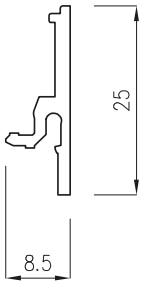
THE KRP BALCONY PARTITION SYSTEM

The system, comprised of KRP1 and KRP2 aluminium profiles, is used to fix balcony partitions – both with HPLand glass filling. It can be used to fix the panel in an individually-designed stiffening structure in an aesthetic manner, without visible screws or rivets, using the snap fastener principle. Aluminium elements are optimised in terms of shape and mass, which results in a low cost and easy installation.

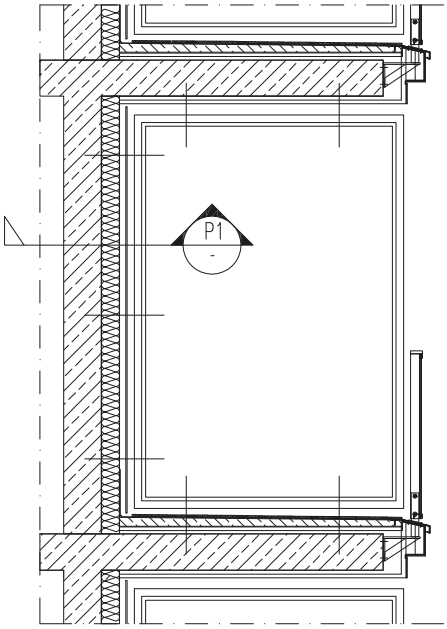
KRP1 PROFILE



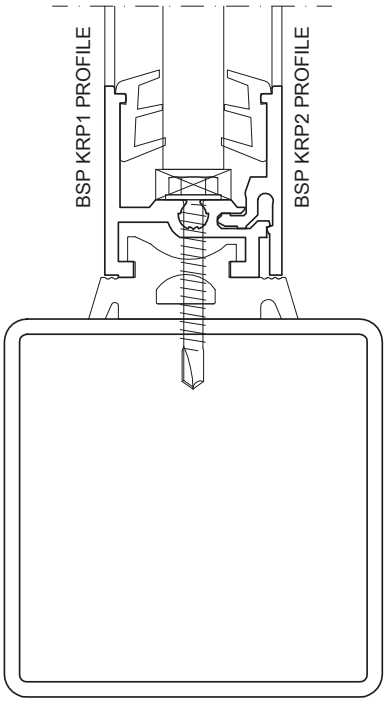
KRP2 PROFILE



VIEW OF THE BALCONY PARTITION

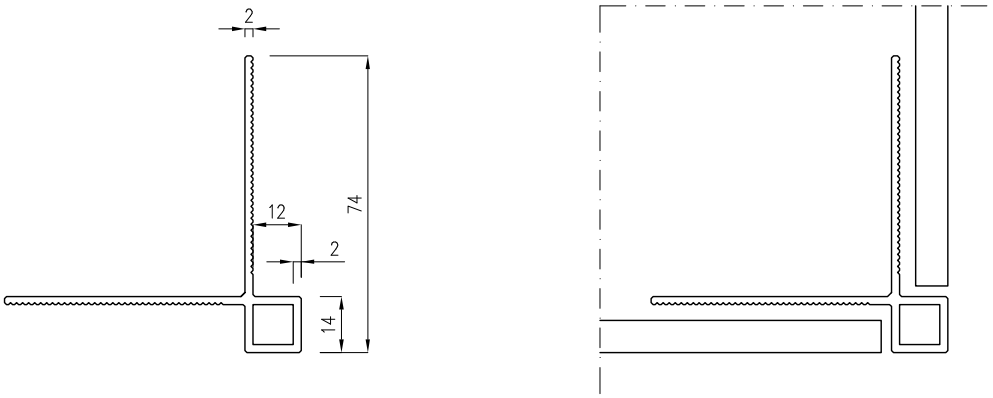


P1 CROSS-SECTION

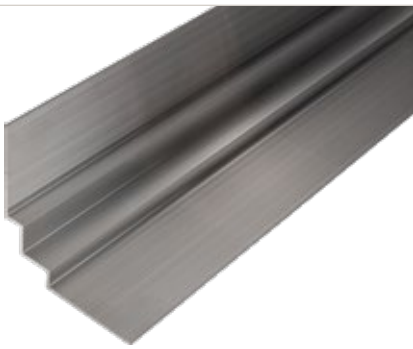


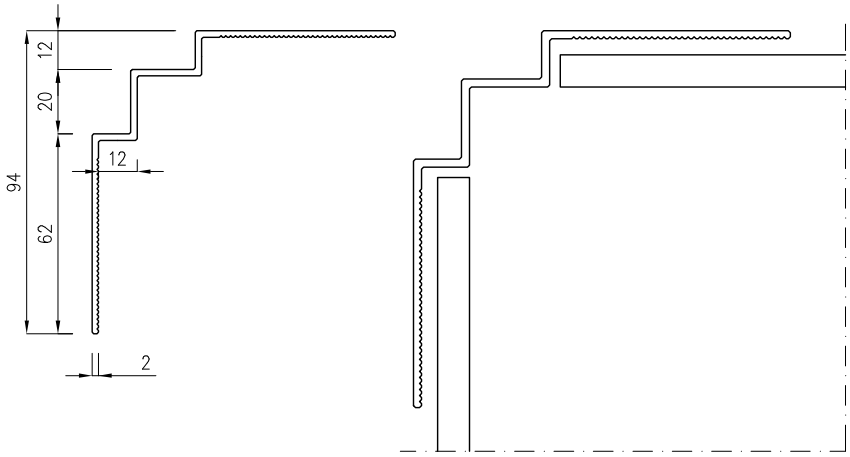
KWN1 PROFILE **Outward corner profile**

In all places requiring high aesthetic value of the corners, decorative profiles are used to conceal expansion joints.

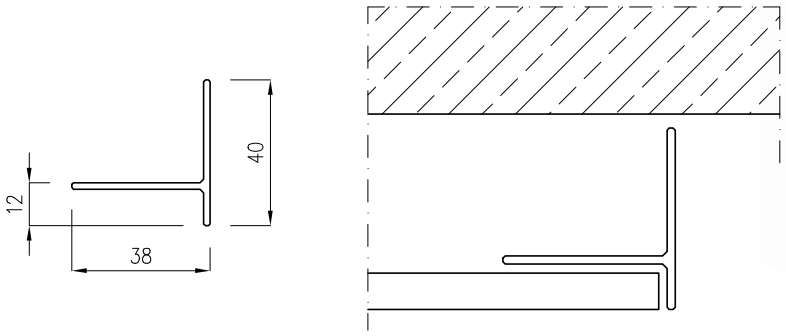


KWN2 PROFILE **Inward corner profile**

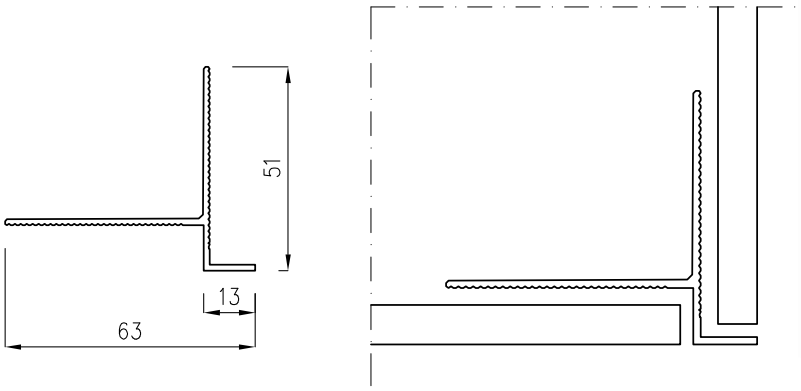


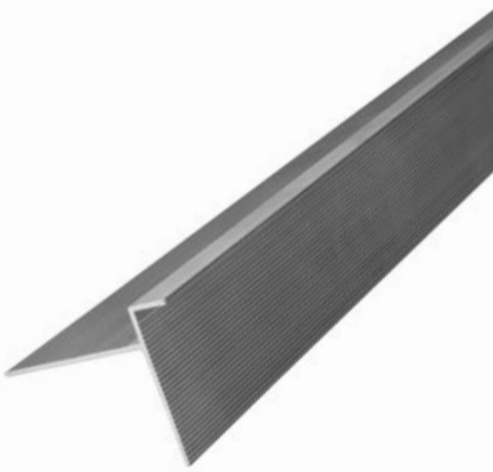


KWN5 PROFILE **Closing profile**

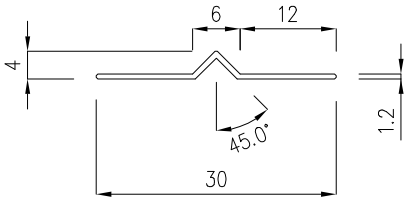


KWN6 PROFILE **Joint profile**

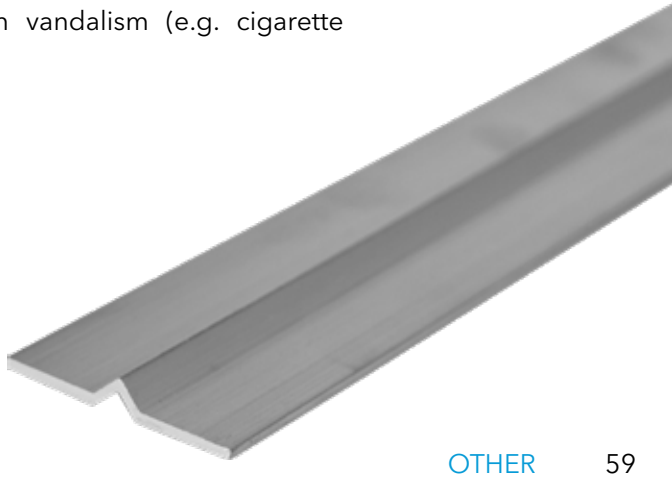




KWF1 PROFILE **Joint profile**



The joint profile is used to conceal joints in open-access space of public locations, as protection from vandalism (e.g. cigarette butts).



THE SOLAR SYSTEM

The system manufactured by **Sol Terra** is dedicated to mounting photovoltaic cells or solar collectors on building walls as an external ventilated façade. The system can be used to install an independent solar element and ensure harmonic arrangement within the ventilated façade, between standard cladding panels.

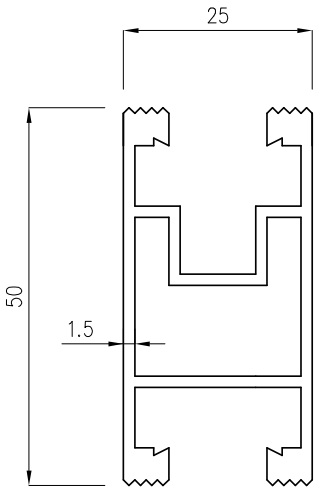
The system is suitable for secure fixing of all types of solar panels available on the market and designed forvertical operation.

The advantages of wall installation of PV cells compared to roof installation:

- Higher electricity generation, i.e. higher percentage amount of energy supplied by solar collectors comparedto energy demand, depending on number of collectors and the accumulator size.
- Provision of proper constant cooling of PV cells by the stack effect, i.e. gravity flow of air in the ventilationgap between the solar panel and the building wall.
- Better access to panels for cleaning to improve efficiency.
- No risk of snow accumulation and full efficiency in winter.
- Smaller distance between the collector and the accumulator that is usually installed in the boiler room onthe ground floor.

For more information, please visit www.solterra.pl

SM21 PROFILE



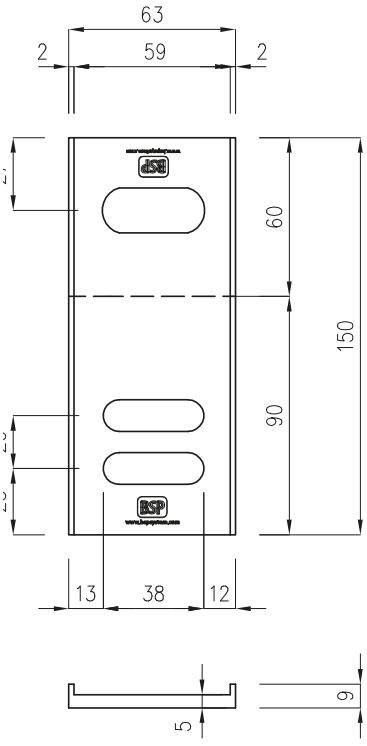
HDPE ENGINEERED PADS

The BSP engineered insulating pads are made of high-density polyethylene (HDPE) obtained by low-pressure polymerisation. This material is hard, strong and features both mechanical and chemical resistance.

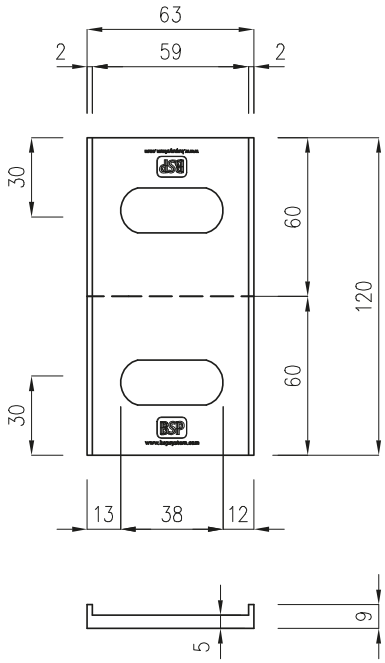
1. The plates create physical separation of two different materials, i.e. aluminium and the material used to-construct the building wall and , as such, corrosion protection is ensured as well.

2. As they are made of material with a very high thermal resistance, the plates significantly reduce the occurrenceof thermal bridges, decreasing the thermal energy demand of a building.

   The pad is adapted to a specific bracket by proper cutting with a BSP knife.



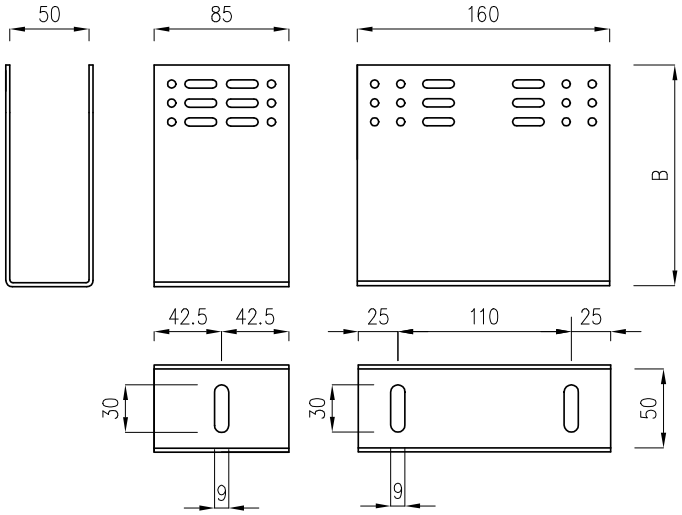
Thickness reduction to 1mm



KWD BRACKET

Additional elements of the wooden substructure

Bracket type	A	B
KWD 160-85	160	85
KWD 140-85	140	85
KWD 120-85	120	85
KWD 100-85	100	85
KWD 80-85	80	85
KWD 60-85	60	85
KWD 160-160	160	160
KWD 140-160	140	160
KWD 120-160	120	160
KWD 100-160	100	160
KWD 80-160	80	160
KWD 60-160	60	160

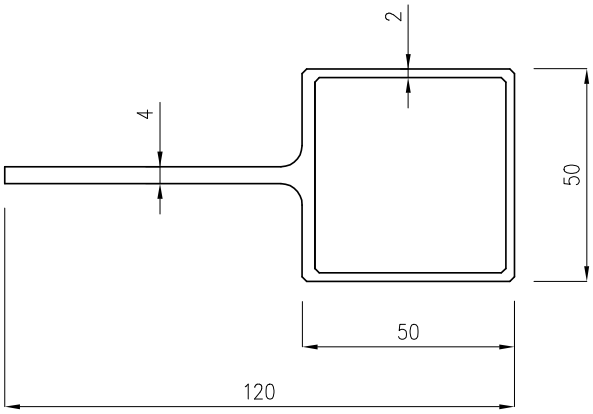


KWRK PROFILE

Special profile for fixing non-standard cladding

The system consists of the KWRK load-bearing profile with accessories used to fix stone panels or other façade cladding of non-standard thickness. For more details on accessories for fixing such cladding (hanging elements, etc.),

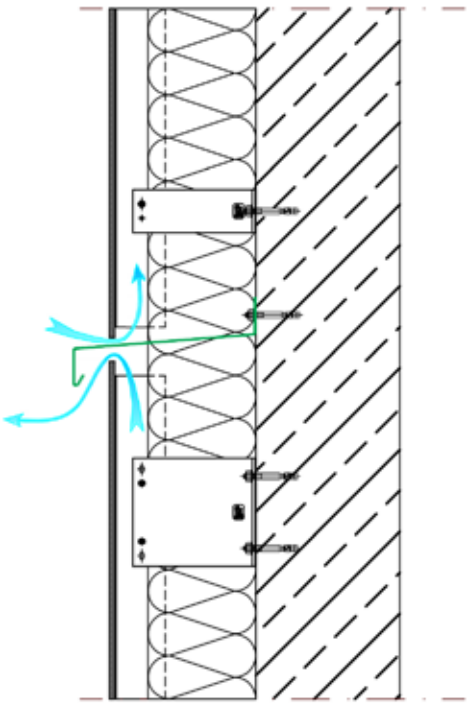
please visit www.bspsystem.com



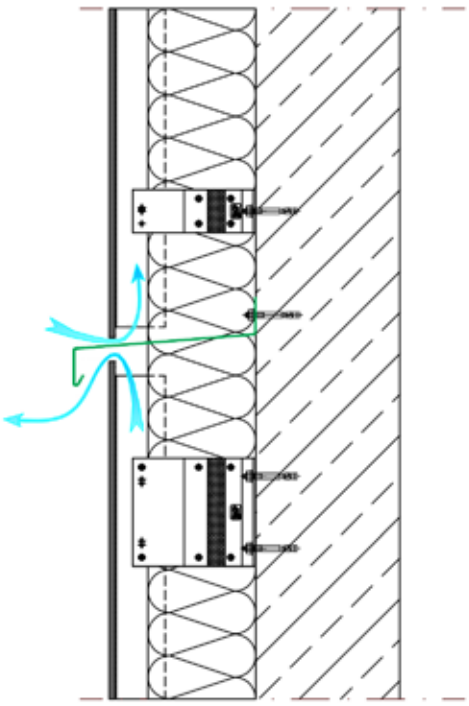
ELIMINATION OF THE STACK EFFECT DURING A FIRE

Fire division by means of flashing.

KW1 BRACKETS

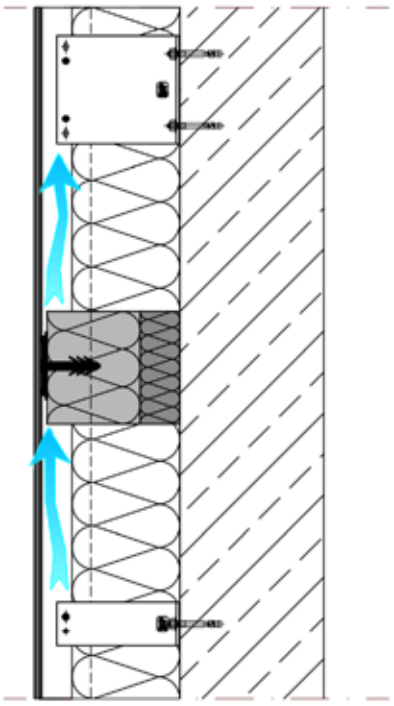


KWI PAS BRACKETS

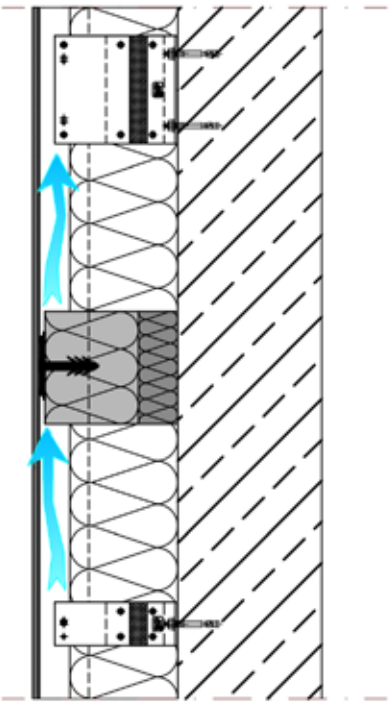


Fire division given as a wool strip with two elasticity values and a plastic spacer plug.

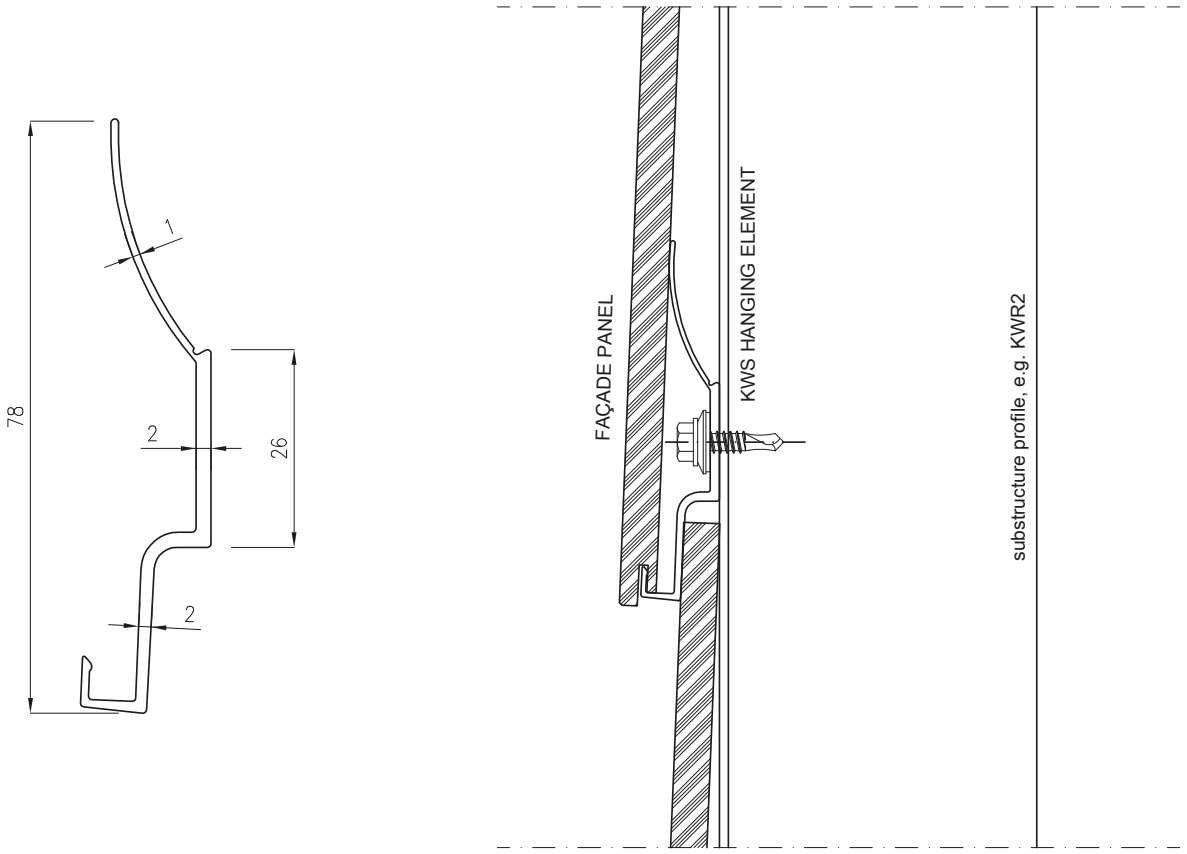
KW1 BRACKETS



KWI PAS BRACKETS



KWS HANGING ELEMENT



The KWS system has been designed for the aesthetic and reliable mounting arrangement of sliding-type façade panels in the ventilated façade technology.

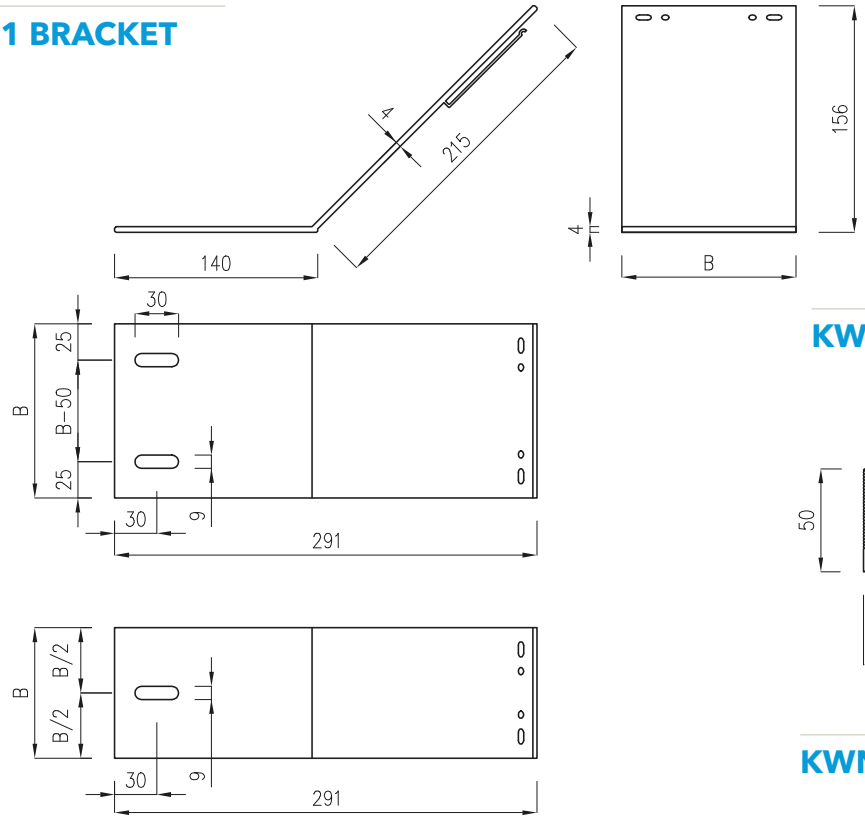
KWS is an extruded aluminium hanging element installed within the aluminium substructure. With the panel processed by milling, installation becomes practically invisible. The use of aluminium eliminates the risk of galvanic corrosion at the contact between the hanging elements and the support profile. In addition, the mechanical mounting arrangement with self-tapping screws or rivets is resistant to weather conditions.

The KWS hanging element can successfully be used to install louvres made of façade cladding.

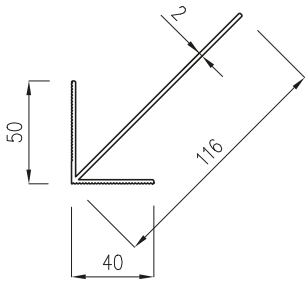
CORNER SYSTEM

The corner substructure system is used to fix cladding panels at the required distance from the panel edge in façade corners. Additionally, the KWN3 and KWN4 profiles support two cladding panels on both sides of the corner to reduce material consumption.

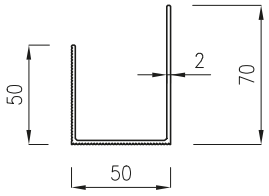
KG1 BRACKET

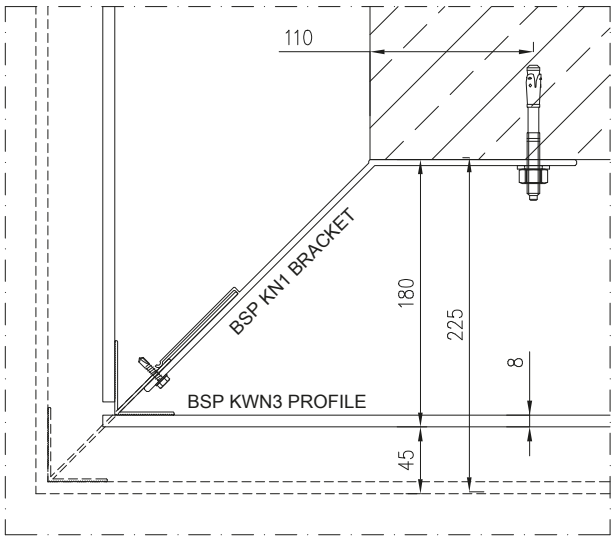


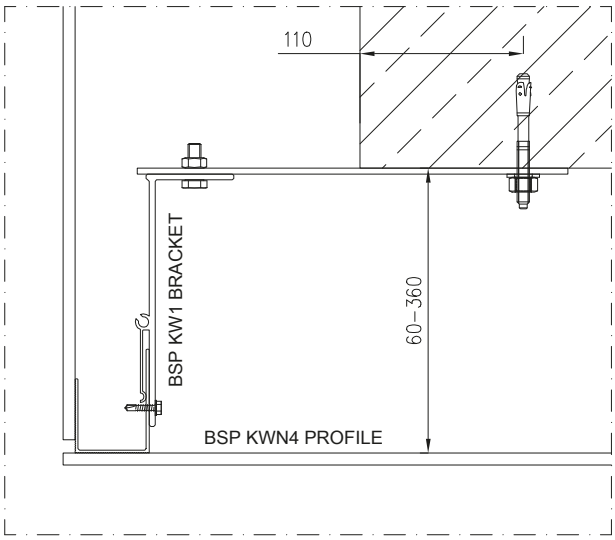
KWN3 PROFILE



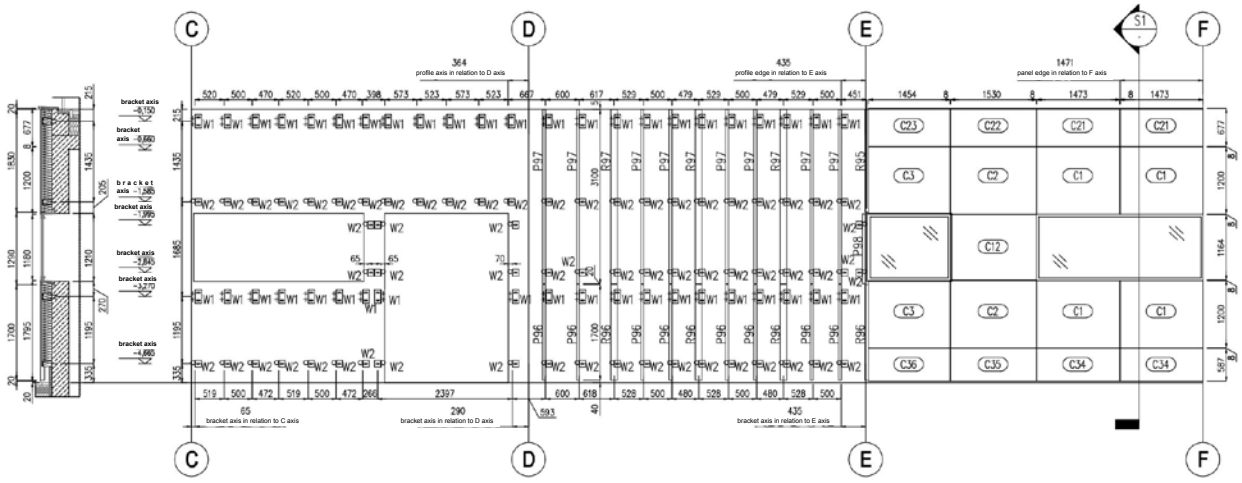
KWN4 PROFILE



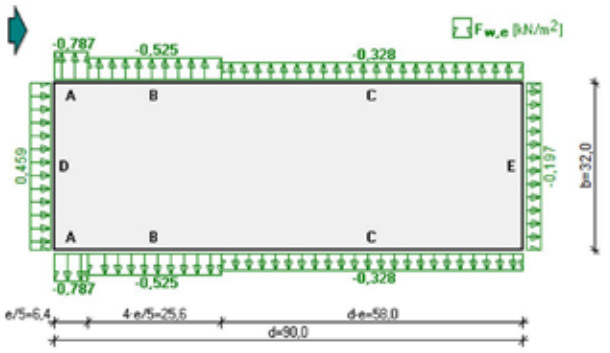




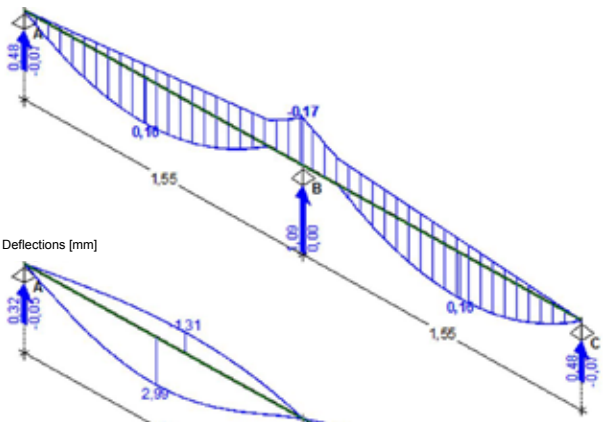
EXAMPLES AND CALCULATIONS



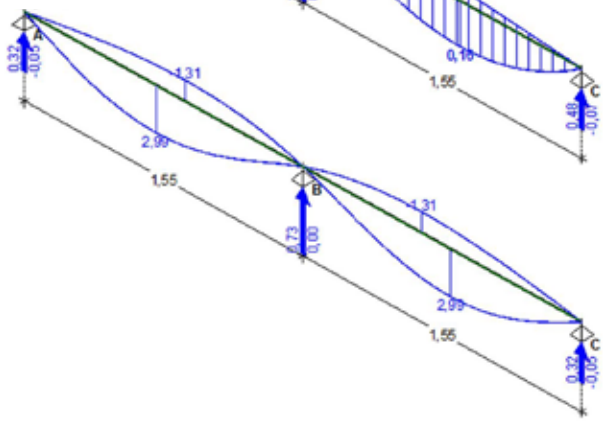
direction of wind



Bending moments [kNm]



Deflections [mm]



Side façade, area A:
- A building of the following dimensions: d = 90.0m, b = 32.0m, h = 18.0m
- Dimension e = min (b,2 h) = 32.0m
- Basic value of the basic wind speed [acc. to the National Annex (NA)]: wind load zone 1; A = 300 m above the sea level → $V_{b.0}$ = 22m/s
- Directional coefficient: C_{dir} = 1.0
- Seasonal coefficient: C_{season} = 1.00
- Basic wind velocity: $V_b = C_{dir}\ C_{season}\ V_{b.0}$ = 22.00m/s
- Referential height: z_e = h = 18.00m
- Category of terrain III → roughness coefficient:
$C_r(Z_e) = 0.8\ (18.0/10)^{0.19}$ =0.89
(according to the National Annex NA.6)
- Relief coefficient (orography): $c_o(z_e)$ = 1.00
- Average wind velocity: $v_m(z_e) = c_o(z_e) \cdot c_o(z_e) \cdot v_b$ = 19.68m/s
- Intensity of turbulence: $I_v(z_e)$ = 0.244
- Density of air: p = 1.25 kg/m³
- Peak value of velocity pressure:
$q_p(z_e) = [1+7\ I_v(z_e)]\text{-}(1/2)\ \rho \cdot v_m^2(z_e)$ = 655.9Pa = 0.656kPa
- Structural coefficient: $c_s c_d$ = 1.000
- External pressure coefficient $c_{pe} = c_{pe,10}$ = -1.2

Wind impact force affecting the external surface:

$F_{w,e} = c_s c_d\ q_p(z_e) \cdot c_{pe}$ = 1.000·0.656· (-1.2) = **-0.787kN/m²**

ADDITIONAL SERVICES

ASSISTANCE FOR DESIGNERS AND CONTRACTORS

BSP can offer the following services adapted to different customers:

FOR ARCHITECTS

- Comprehensive design engineering for ventilated façade
- Development of fixing details for façade cladding based on the selected system
- Development of non-standard design solutions
- Analysis of technical and strength related aspects of design assumptions
- Static calculations of the substructure and support elements
- Assistance during the selection of building materials (cost minimisation)
- Intermediate services in contacts with manufacturers of building materials
- Optimisation of panel cut-outs – minimisation of panel and substructure waste
- Comprehensive service

FOR GENERAL CONTRACTORS

- Comprehensive design engineering and workshop specifications of ventilated façades
- Design-related coordination with the architect
- Development of alternative design solutions
- Assistance in solving technical and design problems
- Static calculations of the substructure and support elements
- Optimised cutting of panels and profiles of the substructure
- List of materials and priced bill of quantities
- Assistance during the selection of building materials (cost minimisation)
- Intermediate services in contacts with manufacturers of building materials
- Consulting during selection of contractors
- Construction management
- Comprehensive service

FOR INSTALLERS

- Comprehensive design engineering and workshop specifications of ventilated façades
- Design-related coordination with the architect
- Development of alternative design solutions
- Assistance in solving technical and design problems
- Static calculations of the substructure and support elements
- Optimised cutting of panels and profiles of the substructure
- List of materials and priced bill of quantities
- Assistance during the selection of building materials (cost minimisation)
- Intermediate services in contacts with manufacturers of building materials
- Consulting during selection of contractors
- Construction management
- Comprehensive service

FOR MANUFACTURERS

- Development of engineered system details
- Technical support for commercial operations
- Comprehensive service

OTHER SERVICES

- Painting in any RAL colour
- Anodic treatment
- Non-standard mechanical processing
- BSP sample display cases
- Prototyping using 3D printing technology
- Infrared thermal imaging


Kaufland


Kaufland


WODNY
PARK TYCHY


PROJEKT ŁAZIENKI
gratis


DlaSpania
WSZYSTKO O CZYM ŚNISZ
NAJWIĘKSZY WYBÓR MATERACÓW W POLSCE
STYLOWE ŁÓŻKA
OKAZJA
ATRAKCYJNE CENY DLA KAŻDEGO
BODYBALANCE
GODZINY OTWARCIA

A SELECTION OF COMPLETED PROJECTS

2019

Rutkowski Development
Multi-family residential buildings at ul. Transportowa and ul. Magazynowa
Białystok

ART GLOBAL SP. Z O.O.
Primary School at ul. Lipowa
Ożarów Mazowiecki

Strabag
Educational and Sports Facility at ul. Pływacka/Kaletnicza
Pruszków

P.A.NOVA S.A.
Commercial buildings at ul. Wrocławska
Zielona Góra

Unibep
Hotel with commercial and retail services at ul. Romanowicza
Kraków

Budimex
The Sybir Memorial Museum at ul. Węglowa
Białystok

MG Building
Construction of a multi-storey commercial facility for the purpose of a car showroom at ul. Transportowców
Kielce

INPRO S.A.
The "Harmonia Oliwska" Housing Estate, stage II
Gdańsk

Pożarski Budownictwo Sp. z o.o. oraz Delta sp.j.
Environmental Education Centre
Młynarzówka

Miasto Ruda Śląska
Modernisation of the sports and entertainment arena at ul. Kłonicka
Ruda Śląska

Cordia Wrocław
Multi-family residential, commercial, and office building complex at ul. Lema, Kraków

Dom Construction
"Dolny Mokotów" apartments at ul. Sobieskiego
Warsaw

Thermal efficiency improvement of the scientific and educational facility 3.1 of the UTP University of Science and Technology in Bydgoszcz
Bydgoszcz

MPWiK w Zduńskiej Woli Spółka z o.o.
"Relaks" Recreational and Sports Centre
Zduńska Wola

Robyg
Multi-family residential building at ul. Zdrowa in the District of Wilanów
Warsaw

Budrem – Rybak Sp. z o.o. Sp. k.
Complex of educational facilities in the Chwarzno-Wiczlino District, at ul. Wiczlińska, Gdynia

Dotacja / Teamtechnik Production Technology Sp. z o.o.
Manufacturing facility with an office and social section at ul. Wrocławska
Ostrów Wielkopolski

Centrum kultury i sztuki w Koninie
Centre for Art and Culture
Konin

INPRO S.A.
The "Harmonia Oliwska" Housing Estate, stage II, buildings B and C
Gdańsk

Gurgul Piotr Gurgul
Limanowski Dom Kultury (Limanowski House of Culture)
Limanowa

Michał Śledzik VP Invest Development/ HDK INVEST
8 single-family twin residential buildings at ul. Mrągowska, Warsaw

Dombud
Construction of a Primary School and Nursery Unit in the "Gotyk" Housing Estate
Kraków

Robyg
Multi-family residential building with a retail section and garage, at ul. Zdrowia, Wilanów District, Warsaw

SHELLTER, TLC INWEST , SP. Z O.O. SP.K.
Construction of a multi-apartment residential building, building C1, in Rogowo

ZOZ w Ostrowcu Świętokrzyskim
Emergency Department
Ostrowiec Świętokrzyski

2018

Duda Development
Residential building at ul. Palacza
Poznań

Hartuna Sp. z o.o.
Sports and entertainment hall
Skaryszewy

EBUD – Przemysłówka
Swimming pool in Orunia
Gdańsk

MYONI Group z Warszawy
Building at ul. Idzikowskiego
Warsaw

S+B Plan Bau Warschau
Building at ul. Królewska
Warsaw

UNIBEP
Residential estate at ul. Cybernetyki
Warsaw

UNIBEP
NAD SKARPĄ Housing Estate
Warsaw

Inpro S.A.
THE "HARMONIA OLIWSKA" HOUSING ESTATE, STAGE II
Gdańsk

Unibep
Residential estate at ul. Renesansowa
Warsaw

Eko Invest
Gym at ul. Grójecka
Warsaw

Euro-glade
Building at ul. Erazma z Zakroczymia 2
Warsaw

Moris Polska
Swimming pool in Legionowo
Legionowo

KWK Construction
The River Tower skyscraper
Bydgoszcz

A&P Sp. z o. o.
"Scena Kultura" cinema
Knurów

Miasto Dębica
Courthouse in Dębica
Dębica

Armako
Residential building at ul. Barszczewska
Warsaw

Mostostal
Modernisation – University of Technology, building C
Warsaw

Mirbud S.A.
SPINKO Moto Plant
Zielona Góra

AGP Metro/ Miasto stołeczne Warszawa
METRO-BETON GRC
Warsaw

SKB Development
Hotel PURO building
Łódź

Mostostal Warszawa
Library building
Piotrków Trybunalski

PORR
VIZJA PARK office building
Warsaw

Metro Łazienki
Warsaw

FBI Tasbud S.A.
Residential building at ul. Bohaterów Getta
Warsaw

Allcon Osiedla
NEXO apartments
Puck

MOSTOSTAL
Mostostal Headquarters
Puławy

Allcon Budownictwo
"Gdyńskie" Housing Estate
Gdynia

ALDI TOMASZÓW
Tomaszów

Warbud/ Miasto Kraków
Modernisation of the hospital in Prokocim
Prokocim

Budynek AKME Szkoła Muzyczna (Music School)
Wrocław

Allcon Budownictwo/Allcon Osiedla
ZIELONA ALEJA Housing Estate
Gdańsk

Building at ul.Grenadierów
Warsaw

NDI
Sports Centre of the Polish Naval Academy
Gdynia

UNIBEP
"Fort Służew" Housing Estate
Warsaw

Tadexim
Sewage-Treatment Plant in Józefów
Józefów

JANKI Shopping Centre, stage 2
Janki

CFE Polska
Riverview Housing Estate, buildings A-E
Gdańsk

Robyg Development
Forum WOLA Housing Estate
Warsaw

BUDIMEX
DAIMLER 4 Office Building
Warsaw

OKĘCIE AIRPORT
Warsaw

UNIBEP
CYBERNETYKI Housing Estate – Stage III
Warsaw

TK-Bud
"Trefl" Factory in Kraków
Kraków

Consortium of companies Leader: EBUD-Przemysłówka Sp. z o.o. Partner: TB INVEST Sp. z o.o. Sp. k.
School at ul. Jabłonowa, Gdańsk

ERBUD
Modernisation of a hospital building
Kraków

CFE Polska
Riverview Housing Estate, buildings F and H
Gdańsk

School in Pruszków
Pruszków

Kaufland Tychy
Tychy

P.P.U. Redox
ISKRA Housing Estate
Warsaw

Mostsotal
"Browary Warszawskie" office and residential building
Warsaw

Stowarzyszenie Współnota Polska
"Aura Sky" Housing Estate, stage II
Warsaw

UNIBEP
"Portova" Housing Estate
Gdynia

UNIBEP
"Aura Sky" Housing Estate, stage II
Warsaw

Mirbud
Kaufland Wrocław
Wrocław

Invest Komfort
"Silva" Housing Estate
Gdynia

City Villa
Villa Piano residential building
Zawady near Warsaw

ALU-WIZ WOJCIECHOWSCY
Hotel buildings at the northern headland of Granary Island
Gdańsk

2017

P.B.SIGMA S.C.
ORLEX Office Building
Gościcina

GRAL SP. Z O. O.
Pivexin Technology in Nędza
Nędza

China State Construstion Engineering Corp. Ltd
School building
Oran, Algeria

Erbud S.A.
"Arkadia" Shopping Centre
Warsaw

Strabag S.A.
Military University of Technology
Warsaw

Unibep
Residential building at ul. Kapelanów II
Warsaw

Skanska S.A.
Archives building
Białystok

SKANKSA S.A.
SWIMMING POOL IN BIAŁYSTOK
Białystok

BUDREM -RYBAK Sp. z o.o.
Residential building at ul. Malczewskiego
Sopot

WODPOL Sp. z o.o.
Kindergarten in Żywiec
Żywiec

SKANSKA
SPARK Office Building
Warsaw

Euro-pol Grunt Sp. z o.o.
Single-family building
Złotniki

CIROKO Sp. z o.o.
Sports Hall
Szczecin

MAL-BUD
Residential building at ul. Radiowa
Warsaw

PORR
DEO PLAZA Residential Building
Gdańsk

Mostostal Zabrze
C.H. GEMINI Park Tychy (Shopping Centre)
Tychy

Unibep
SASKA Housing Estate
Warsaw

ALLCON BUDOWNICTWO Sp. z o.o.
Residential building at ul. Malczewskiego
Gdańsk

Jakon Sp. z o.o.
Housing estate at ul. Biskupińska
Poznań

Various
McDonald's Restaurant in Stargard Szczeciński, Piaseczno, and Komorniki
Stargard Szczeciński, Paseczno, Komorniki

Robyg S.A.
VILLA NOBILE Residential Building
Warsaw

P.K.O.B. Wegner Sp. z o.o.
Office and storage building
Komorniki

PBM Południe S.A.
PORT PRASKI Housing Estate
Warsaw

P.H.U. Konsbud- Bielsko Sp. z o.o.
“Apartamenty Złota” Residential Building
Katowice

PCTNTB
Rzeszów

EastWave Building Company Sp. z o.o.
DIAMOND BUSINESS PARK URSUS
Warsaw

Private Investor
Housing estate at ul. Trakt Lubelski
Warsaw

SPS Construction Sp. z o.o.
“Aura” Residential Building
Gdańsk

UNIBEP
Mozaika Mokotów IV Housing Estate
Warsaw

RAGENT
TREND commercial building
Rzeszów

PORR Polska Construction S.A.
Hotel at ul. Twarda
Warsaw

BUDREM RYBAK
Swimming pool in Gdańsk
Gdańsk

CFE Polska
“Bulwary Książęce” Residential Building
Wrocław

SKANSKA
Instytut Kultury Miejskiej KUNSZT WODNY (Institute of Urban Culture)
Gdańsk

STOLLAR
Building at ul. Radwańskiego
Kraków

BUDIMEX
Housing estate at ul. Grzybowska 85
Warsaw

UNIBEP
APARTHOTEL
Warsaw

M3 Partner
Investment at ul. J. Dielta
Kraków

AMWIN
Deco-Sun production and storage facility
Kostrzyń

MARSTONE
Warsaw University of Technology
Warsaw

Firma Handlowo Usługowo Produkcyjna Jamag
Office building for own purposes of the plant
Krypkowice

ALUWER
Private investment
Białystok

PORR
NOWY SPICHLERZ
Gdańsk

Mostostal Warszawa
NOVA ATMOSFERA
Warsaw

SKANKSA S.A.
“Jaśminowy Mokotów” Housing Estate
Warsaw

Rogowski Development
“Zielony Nugat” Residential Building
Warsaw

WAGSTYL
Music School Building
Słubice

Przedsiębiorstwo Budowlane Unimax
“Kolorowy Gocław” Housing Estate
Warsaw

BSP BracketSystem® Polska

Our partners:

EQUITONE Fibre cement facade materials
Cembrit
[fibre C] BY RIEDER
TRESPA®
FUNDERMAX®
ABET LAMINATI
FORMICA®
Sol Terra
SOUDAL
SWISSPEARL®
GEZE
fischer innovative solutions
SFS intec
ESSVE®
Bostik smart adhesives
KOELNER
ROCKWOOL
ALUCOBOND® Façade fascination.
LAMINAM®

BSP Bracket System Polska Sp. z o.o.

ul. Prochowa 35 lok. 31
04-388 Warszawa
+48 243 09 70, +48 22 428 22 63

e-mail: Info@bspsystem.com
www.bspsystem.com

INNOWACYJNA GOSPODARKA
NARODOWA STRATEGIA SPÓJNOŚCI

PASSIVE SOLUTIONS

§ 225

European Union
European Regional Development Fund