



FACADE SUBSTRUCTURES

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## FACADE SUBSTRUCTURES

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A photograph of a modern multi-story building with a facade of ventilated curtain walls (VCWs). The building features horizontal bands of dark-framed windows and light-colored panels. The perspective is from a low angle, looking up at the building. In the foreground, a paved plaza and a few people sitting at outdoor tables are visible.

## FOREWORD

Ventilated curtain walls (VCWs) have been established in the construction industry in Germany and Europe for decades. Over this time they have proven their worth as rugged construction systems requiring very little maintenance. Moreover, ventilated curtain walls enable architects to create a wide range of fascinating designs.

GIP GmbH is a manufacturer of metal substructure systems for VCWs and an experienced consulting partner in all technical matters relating to the design, planning and realisation of ventilated curtain walls.

This document provides a brief description of the basic planning considerations for working with the VCW construction system and the components and substructure systems supplied by GIP GmbH.

Detailed drawings of the substructure systems and texts for invitations to tender etc. are available to download from our website: [www.gip-fassade.com](http://www.gip-fassade.com).



## 1. THE VCW SYSTEM

### General

A ventilated curtain wall (VCW) is a facade system composed of multiple layers, in which the supporting external wall is provided with a facing that offers protection against the weather. The facing can be made from a wide variety of materials: ceramic, metal, fibre cement, composite panels, natural stone etc. The sub-structure attaches this facing to the solid outer wall while leaving a gap between the two.

### Mechanism

Wind and thermal effects due to warming create a circulation of air in the ventilation space. This circulation transports away the moisture in the ventilation space caused by diffusion of water vapour or driving rain.

Separating the supporting and enclosing functions of the wall from the functions of weather protection and thermal insulation with an intermediate ventilation zone is a highly effective design in terms of physical aspects of the structure. Depending on the materials used, it can be employed in buildings of any height and any function.

### Areas of use

VCW opens up many possibilities for innovative architectonic design and also provides the building with an aesthetic, structurally safe and essentially maintenance-free facade.

New buildings are fitted with exterior cladding that meets the applicable structural requirements. For buildings undergoing refurbishment or modernisation, the architectonic improvements go hand-in-hand with a significant reduction in operating and maintenance costs.

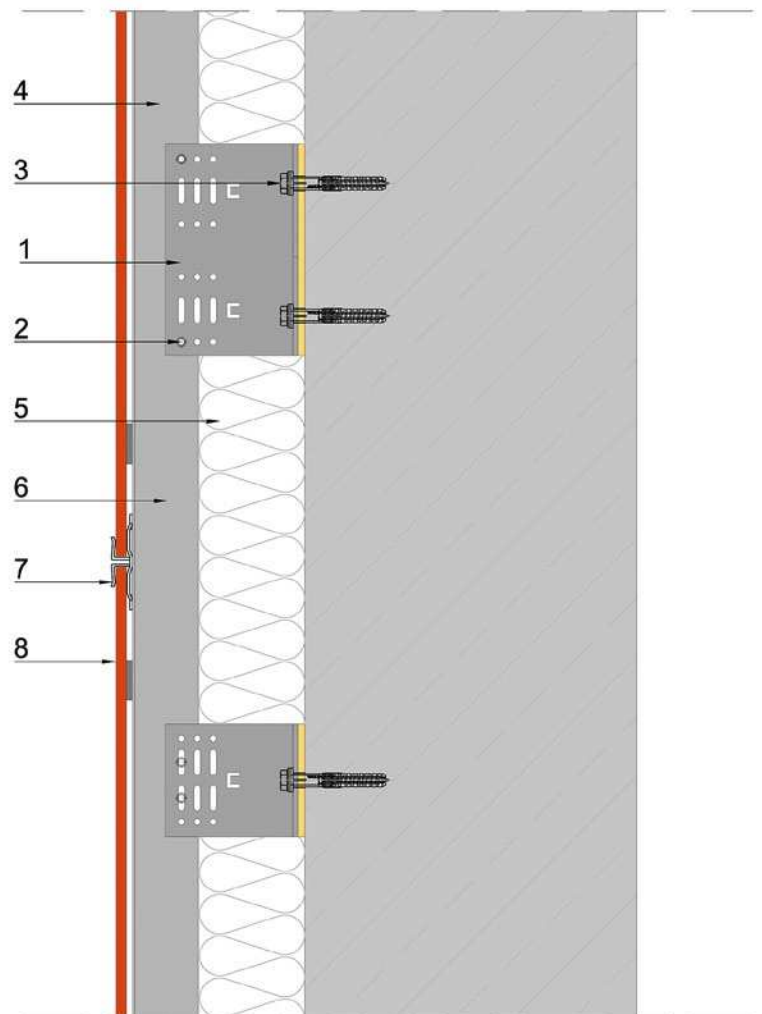
VCW fulfils all the requirements of modern facade construction – from prestigious administrative buildings and attractive production facilities to large residential houses.



## 2. STRUCTURAL COMPONENTS OF THE VCW FACADE SYSTEM

The typical structure of the facade system is shown below.

- 1\_ Wall brackets
- 2\_ Facade anchors
- 3\_ Facade fastener anchors
- 4\_ Vertical profiles
- 5\_ Thermal insulation
- 6\_ Ventilated substructures
- 7\_ Fastening elements  
for the cladding  
(rivets, ceramic clips,  
polymer adhesives or similar)
- 8\_ Cladding panels  
(ceramic, metal,  
fibre cement, composite)



## Anchoring

Facade anchors approved by the building authorities must be used to anchor the VCW to the supporting external wall. The optimum anchors are selected for use in each project based on considerations such as the materials used in the construction of the supporting external wall and the prevailing loads. For VCWs, the most commonly used anchors are plastic anchors with galvanised screws.

**Generally, a distinction is made between the following types of anchor:**



Expansion anchor (friction)



Expanding mortar-filled anchor



Bonded anchor



Plastic anchor with galvanised screw

## Insulation

### Suitable insulation materials:

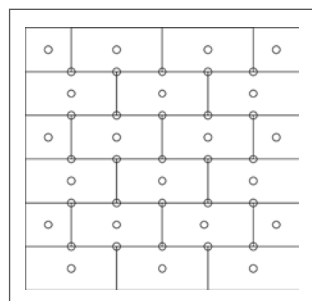
Only mineral wool materials may be used for the insulation of VCW. These must comply with DIN 18516 and hence be non-flammable and absorb very little moisture. Standard insulation thicknesses in Central Europe are in the range 120–200 mm, or even higher where thermal insulation requirements are greater.

### Installation:

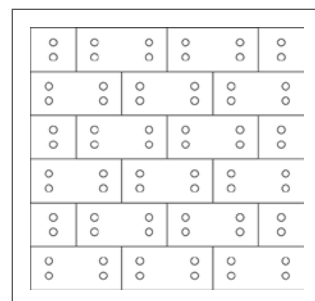
The insulation materials must be stored dry and then laid and joined together in a single layer on the supporting wall. The insulation panels must be installed in such a way that there is no gap between the surface of the wall and the insulating layer. This ensures that no current of cold outdoor air can circulate behind the insulation. The joints between the insulation panels must be pushed firmly together to ensure a tight seal. Connections to the substructure, e.g. brackets, must be installed with no gaps. The fleece lamination must always be to the outside.

### Fastening:

Mineral wool insulation panels are always fixed in place mechanically. They are fastened using insulation brackets, which have a limiter to ensure the insulating material retains its full thickness at the fastening point.



Fastening principle: Type 1



Fastening principle: Type 2



## Substructure

The substructure transmits the load of the cladding itself and the wind load to the enclosing external wall. Metal substructures are generally used as these can compensate for tolerances in the shell construction. Most systems consist of a two-part construction, which is fastened to the supporting external wall using anchors. This base construction is aligned plumb and flush and acts as a support for installing a variety of facade cladding materials.

The substructure system must be designed in such a way that materials used can expand due to temperature changes without creating stresses in the structure. For example, when using aluminium profiles with a length of approx. 3m, an expansion of 5mm must be taken into account (temperature range -20° C to 80° C).

These solutions are implemented using fixed and sliding point designs.

**The bracket used has the following functions:**

- **Acts as a fix point** for screwing the profiles into position in the round hole – the profile is fixed, transmission of *own weight* and *wind loads*
- **Acts as a sliding point** for screwing the profiles into position in the slot hole – the profile slides in the slot holes, transmission of *wind loads* only



Design example with two-part substructure



Fixed point design



Sliding point design



### 3. PLANNING A VCW

When designing a VCW, as in all construction projects, proper planning and execution determine the quality of the finished facade. Although damage to ventilated curtain walls is extremely rare compared with other systems, and is usually due to incorrect execution, careful planning that considers all the basic conditions applicable to the specific object is required.

In Germany, a range of regulations, which are continuously updated give planners and installation companies the necessary security in the areas of invitations to tender, execution and billing.

Technical regulations for VCWs:

**Eurocode 9: Design of aluminium supporting structures**

**Part 1-1: General rules;**

**German version EN 1999-1-1:2007 + A1:2009**

**DIN EN 1991-1-1/NA (12-2010)**

**DIN EN 1991-1-1/NA/A1 (05-2015)**

Some of the key factors and basic planning considerations are explained in greater detail below.

## Calculation of the thermal transmission rating/ Consideration of thermal transmission

In addition to considering its primary energy consumption, a building's thermal insulation certificate also includes the calculation of the heat energy loss through its external walls.

In the case of VCWs, there has been growing interest in the thermal bridge effect of the bracket design over recent years. These energy losses are taken into account by the so-called thermal bridge loss coefficient per bracket.

There are several conceivable approaches to reducing the energy losses caused by brackets.

On the one hand, the use of alternative materials or a reduction in the penetration cross-section of the holder through the insulation layer has a positive effect on the overall energy balance. On the other hand, the use of rod-shaped brackets or altering the bracket geometry using punch-outs of the penetration cross-section can also achieve favourable effects.

In addition, reducing the contact area between the bracket and the wall as well as the average number of brackets used per square metre helps to optimise the energy balance.

Increasing the thickness of insulation offers another option for reducing thermal bridge point losses through the substructure.

## German Energy Saving Regulation (EnEV)

### Principles of EnEV

EnEV is the continuation of the German Thermal Insulation Regulation (WSchV). The version "EnEV 2016" is the regulation currently valid in Germany for energy-saving thermal insulation and energy-saving plant technology in buildings. It is used in the calculation of heat and energy requirements and sets the limit values for the maximum energy requirement of a building.

The regulation aims to reduce the annual primary energy consumption Q<sub>P</sub>. The calculations are performed using a reference procedure which compares the building to a model building with the same geometry, dimensions and technical equipment which uses the values specified by EnEV. The insulation of the building envelope surfaces is certified based on the requirements of EnEV, Appendix 2. The limit values for thermal transmittance specified in this document must be implemented for all components of the building envelope.

In addition, buildings must comply with a limit value for the specific transmission heat loss over the enclosing surface. The limit value is dependent on the building type. Energy certification also requires new buildings to be certified for insulation against summer heat. Compliance with the minimum thermal insulation requirements in accordance with DIN 4108-2 is mandatory.





## Calculation method of EnEV

Whether and how the certification process in accordance with EnEV must be performed depends, among other things, on whether the structure is a new building or an existing one which is being altered.

New buildings with normal indoor temperatures ( $> 19^{\circ}\text{C}$ ) must be certified compliant with the maximum values of the annual primary energy requirement as well as the specific transmission heat loss stated in EnEV. For new buildings with low indoor temperatures ( $< 19^{\circ}\text{C}$ ) or small building volumes ( $< 100\text{ m}^3$ ), lower requirements and simplified certification procedures apply. In the area of insulating the building against summer heat, it is essential to document compliance with solar gain values.

Alterations to existing buildings (old buildings) must be certified using either the required thermal transmittance coefficients (construction method) or the maximum values of the annual primary energy requirement for the whole building (balance method), depending on the extent of the measures. These may be up to 40 percent higher than the limits for new buildings. In the case of extensions of heated floor space greater than  $50\text{ m}^2$ , the requirements for new buildings apply to the new part of the building.

## EnEV 2014

EnEV 2016 replaced the previous regulation introduced in 2014 and has introduced more stringent standards. In addition, EnEV 2016 requires a further improvement of around 25 percent in the thermal insulation of building envelopes in new buildings from 1 January 2016. The benchmark is the specific transmission heat loss ( $H't$ ) of the new building measured in  $\text{W}/(\text{m}^2\text{ K})$  over the enclosing surface.

The EU directive defines a “nearly zero energy building” as one with a defined, very high overall level of energy efficiency. Its energy requirements should be either virtually zero or very low and primarily supplied using energy from renewable sources – including renewable energy generated on-site or nearby.

At the political level, the draft of the German Building Energy Act (GEG), envisages a future merger of the currently valid regulations EnEG, EEWärmeG and EnEV. This process aims to standardise the regulations and remedy the discrepancies and contradictions that exist between them.

The draft stipulates that the lowest energy house will be the standard for all new buildings from 2021.

This should already be the case for public buildings in 2019. At the same time, all the tighter energy standards introduced with EnEV 2016 will continue to apply. In future, there will be a uniform system that specifies the requirements for energy efficiency, structural thermal insulation and the use of renewable energies.

The annual primary energy requirement and the primary energy factors of the materials used as well as the transmission heat losses remain the principal values used in the energy assessment.







## Wind load

Wind load is one of the factors caused by climatic conditions, which has a variable effect on buildings. It results from the pressure distribution around a structure, which is subject to a wind flow.

It generally acts as an area load perpendicular to the contact surface and is primarily a combination of pressure and suction. The slowing of the air current creates an overpressure on the frontal surfaces exposed to the wind. In the areas of the roof and side surfaces, the air current dissipates at the edges of the building creating an underpressure (suction) at these locations. An underpressure is also generated by the wake vortex on the lee side of the building.

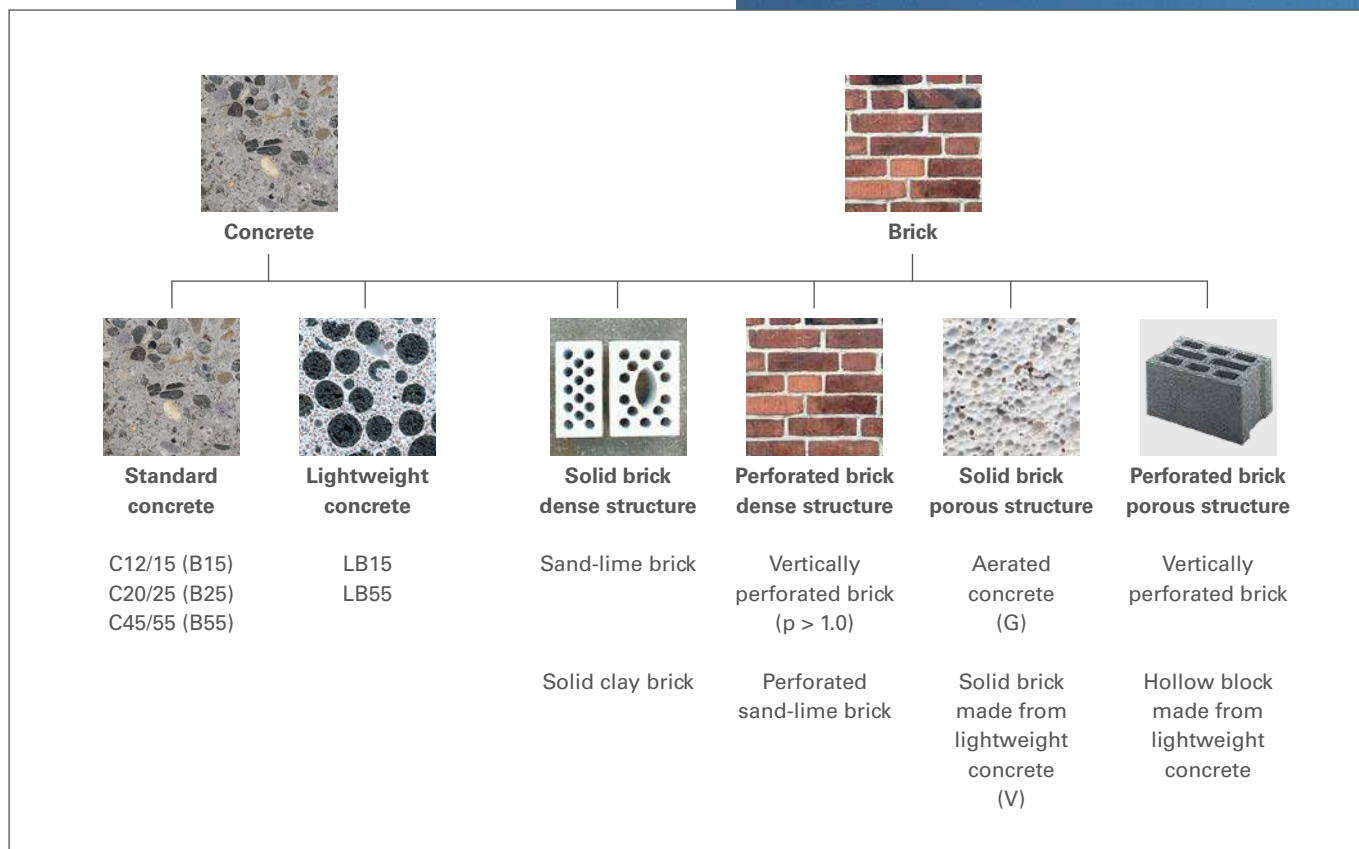
### Influencing factors:

**Locations:** The key factors influencing the extent of the wind load are those of the location with the local wind climate and the topography. The wind climate is recorded in the Eurocode 1 or DIN 1055-4 standards

using a wind zone map, which provides a time-weighted average wind speed for various geographic regions. The topography and nature of the site surrounding the building location are provided in the standards through the terrain categories.

**Building geometry:** Additional influencing factors arise from the geometry of the building or component. Wind speed at ground level is practically zero and increases with increasing distance from the ground, i.e. with the height of the building. As well as the height of the building, the geometric form influences the intensity of the forces of pressure and suction. This is taken into account using aerodynamic coefficients.

**Wind force:** The resulting wind force on a building or component is calculated as the product of the speed pressure, aerodynamic force coefficients and building surface areas.



## The most commonly used anchoring bases

### Anchoring base

As well as the basic conditions stated above, the anchoring base available for anchoring the ventilated curtain wall, i.e. the material used in the construction of the supporting external wall, is also a key planning consideration.

The selection of the type and number of anchors required depends on the load capacity and condition of the external wall. The lower the load capacity of the anchoring base, the more anchors and therefore brackets must be used in the substructure.

The following diagram provides examples of a selection of commonly used anchoring base materials:









## 4. GIP PRODUCTS AND SERVICES

Profit from our many years of experience in facade construction.

Planning not only requires thought and analysis but above all the ability to anticipate future possibilities and a sense of responsibility. It is the only way to develop integrated, future-proof solutions, which incorporate the optimum technical and efficiency standards.

We advise real estate developers and architects in every aspect of ventilated curtain walls for new build and redevelopment projects.

Our clients receive expert advice in every area of the physical aspects of the structure and static design engineering services – both in overall planning and individual questions that may arise.

Whatever materials or manufacturer you choose to create your facade, our extensive experience in the facade construction sector will help you to develop the optimum design solution for your property. Our staff will be pleased to support and advise you in every phase of your project – from the initial drafts to final installation.

### Consulting services

The early stages of planning a facade construction project always give rise to a wide range of technical questions. These are key to determining the overall appearance and, above all, the cost of the project.

The weight and format of the facade cladding, the distance to the wall and the anchoring base in the outer wall of the building all require careful, expert planning.

Our staff will give you a comprehensive overview of all the facade cladding materials used for ventilated curtain walls and their manufacturers.

We will inform you about the various properties and special features of the materials. At the same time,

we will provide an estimate of the costs taking into account all additional conditions such as location, building characteristics, type of fastening, thermal insulation etc.

Our architects and engineers will work with you to develop a proposal for your property. This will provide the optimum solution to meet your design, durability and cost specifications.

You will receive competent advice from us in the following areas:

- General advice on VCW facade systems (design, advantages, areas of application, materials, calculation models etc.)
- Inspection and drafting of main technical details
- Preliminary static studies
- Construction regulations
- Detailed information regarding the physical aspects of the structure and fire prevention measures
- Procurement
- On request, we can also organise training courses and offer support for our partners through our broad and well-established network of contacts in the sector

### Planning services

In the execution planning phase, we implement the technical engineering aspects of the design wishes stated by the architect or real estate developer.

This takes account of architectural and usage specifications as well as legal regulations relating to the physical aspects of the structure and its design.

We develop supporting structure solutions, which comply with the static design and physical requirements of the structure while preserving the appearance of the design concept.



Our integrated, construction solutions utilise every opportunity to optimise efficiency.

The know-how accumulated by our engineers through many years of practical experience on construction sites is also a valuable resource in planning, advising clients and developing structural building designs. They understand the damage risks, limits and characteristics of construction designs and materials.

We provide the following specific services:

- Final architectural drawings presenting the main technical details
- Definition of special components
- Elevation of the facade cladding
- Static design of the facade (facade cladding, substructure, special components)
- Assembly plans for the substructure
- Calculation of quantities/Production of bills of materials

## Building physics

The stricter standards for energy consumption in buildings introduced by EnEV 2016 mean that thermal transmittance values of facade superstructures play a key role in the energy efficient design of buildings.

Improved thermal insulation of the facade means that thermal bridge points have a greater impact on energy efficiency and must be taken into account during the planning process.

Providing certified data for the thermal bridge effects in a specific building ensures compliance with thermal insulation standards for the facade.

We provide this information using two- and three-dimensional simulations, which investigate the impact of the thermal transmission of structural details on the physical properties of the building. Based on the results of these simulations, we offer support in planning decisions and advise you on the best way to implement the required thermal insulation measures.

Services:

- Calculation of linear and point thermal bridges in accordance with DIN EN ISO 10211
- Calculation and certification of thermal bridge points in VCW systems and special constructions (2-D and 3-D simulations)
- Equivalence certificate in accordance with DIN 4108, Supplementary Sheet 2

## Construction site management

Throughout the construction project, members of our technical field service team will be available to advise you and your staff either on-site or in your offices.

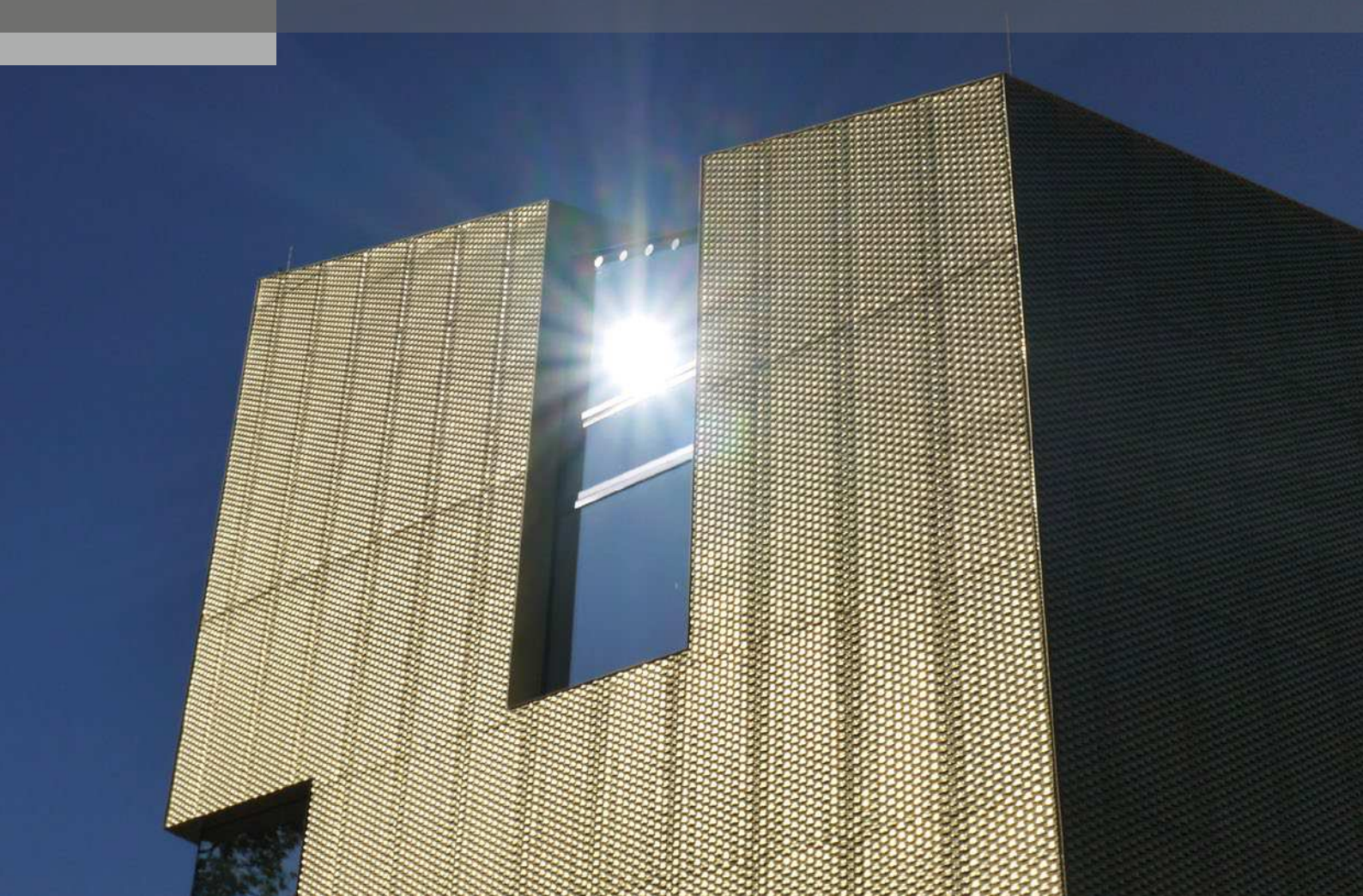
Even in the preliminary and detailed planning phases, we can therefore develop and discuss any special solutions that may be required for the project directly on-site.

During construction, our staff will be pleased to supervise building work to ensure that the plans are executed correctly and to a high standard of quality.

They can assess unexpected problems that may arise in the construction phase, e.g. due to deviations from the planning documentation, and quickly find solutions.

We provide the following specific services:

- Site visits for technical clarification
- Organisation of anchor extraction tests
- Support in schedule planning and monitoring
- Installation instructions (installation monitoring)
- Training for contracted companies
- Quality control during construction
- Finding solutions for problems arising during construction



## 5. PRODUCTS GIP

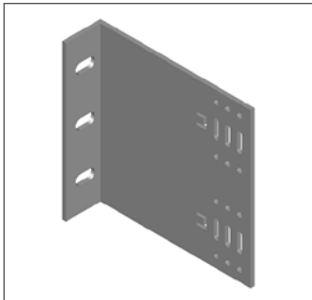
GIP GmbH offers substructure systems for all widely used facade cladding materials made of metal (aluminium, stainless steel or Galvalume®) and glass fibre reinforced plastics. In addition, we are able to develop customised and special designs at short notice.

Our planning services benefit from the many years of experience we have accumulated in building ventilated curtain walls. As well as technical engineering expertise, we also incorporate our deep practical understanding of real-world installation requirements into our designs.

## VECO® wall brackets

VECO® substructure systems offer standardised solutions for fastening all widely used facade cladding materials. Each standard system is then supplemented by custom-made components specific to the project.

VECO® (Ventilated Construction) is a brand of GIP GmbH.



### » VECO-A-LS

For lightweight cladding materials on closed external walls

VECO-A system brackets are made from an aluminium alloy of the type EN-AW-6063T66 and are supplied in a variety of sizes to meet the specific static and structural requirements of the project.

Alternatively, the bracket can also be made from 1.4404 or 1.4571 stainless steel alloys.

The brackets can be used universally as fixed point or sliding point fastenings.

Using the corresponding components, the length of the bracket is also infinitely adjustable and can therefore be adapted to the tolerances of the external wall of the building.

The system is used as a vertical mounting system for facade claddings of light to medium weight.

#### Article:

**VECO-A-L3-85-** 040/060/080/100/120/140/160/180/200/220/240

Bracket d = 3 mm, aluminium h = 85 mm

**VECO-A-L4-85-** 180/200/220/240/260/280

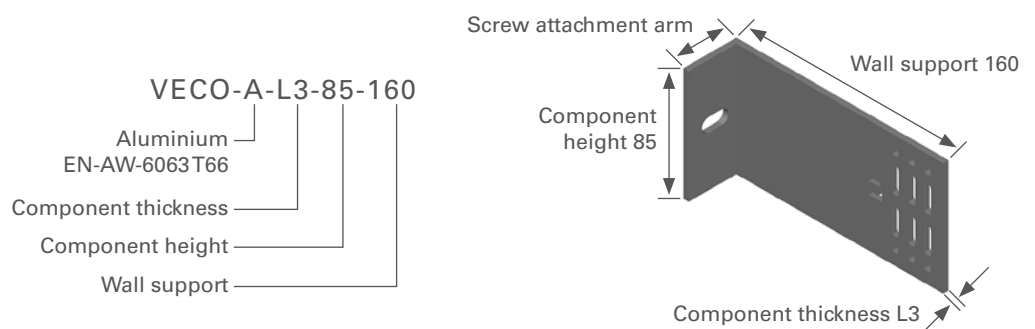
Bracket d = 4 mm, aluminium h = 85 mm

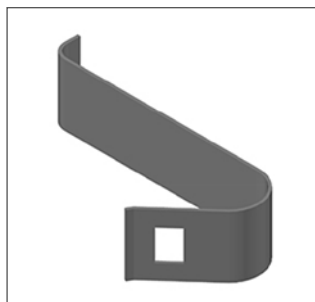
**VECO-A-L3-160-** 040/060/080/100/120/140/160/180/200/220/240

Bracket d = 3 mm, aluminium h = 160 mm

**VECO-A-L4-160-** 180/200/220/240/260/280

Bracket d = 4 mm, aluminium h = 160 mm





## » Spring clip for bracket

The components are made of spring steel 1.4310 and used to aid installation.

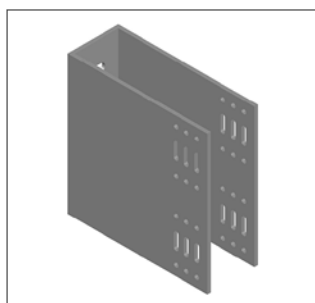
Article:

**VECO-ZB-Feder3**

Spring clip for bracket 3 mm

**VECO-ZB-Feder4**

Spring clip for bracket 4 mm



## » VECO-A-HS

For heavy cladding materials, spanning storeys

VECO-A system brackets are made from an aluminium alloy of the type EN AW-5754 AlMg3 and are supplied in a variety of sizes to meet the specific static and structural requirements of the project.

Alternatively, the bracket can also be made from 1.4404 or 1.4571 stainless steel alloys.

The brackets can be used universally as fixed point or sliding point fastenings.

The system is used as a vertical mounting system primarily for heavy facade cladding materials and spanning structures of storey height.

Article:

**VECO-A-H3-85-** 40/60/80/100/120/140/160/180/200/220/240, clear span 50/100

- Dimensions in mm: Component height – wall support – clear span  
U-Bracket d = 3 mm, aluminium, h = 85 mm, clear span 50/100
- Further sizes available on request

**VECO-A-H3-160-** 40/60/80/100/120/140/160/180/200/220/240, clear span 50/100

- Dimensions in mm: Component height – wall support – clear span  
U-Bracket d = 3 mm, aluminium, h = 160 mm, clear span 50/100
- Further sizes available on request

VECO-A-H3-85-160-50

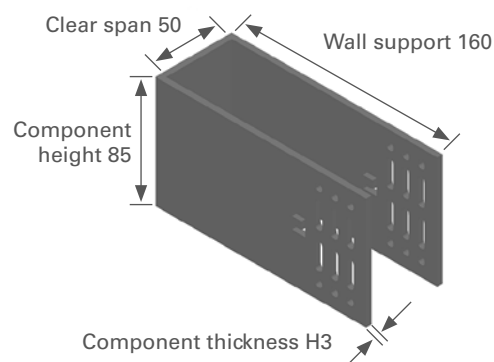
Aluminium  
EN-AW-5754 AlMg<sup>3</sup>

Component thickness

Component height

Wall support

Clear span







## » VECO-E-Flex

For buildings with high thermal insulation requirements

The VECO-E-Flex system bracket is made from a stainless steel alloy of the type 1.4404 and supplied in a variety of sizes to meet the specific static and structural requirements of the project.

The system has a much lower thermal conductivity than aluminium. Consequently, it is used in vertical substructures which require the minimum possible thermal bridge.

Article:

**VECO-E-Flex-85-** 160/180/200/220/240/260/280

Bracket d = 1,5 mm, stainless steel h = 85 mm



## » VECO-G-LS

Horizontal system for lightweight cladding materials

The components of the VECO-G system are made from of EN 10327-compliant Galvalume® and supplied in a variety of sizes to suit the specific building. Galvalume® is a special material consisting of sheet steel (thickness = 1.5 mm) with an anti-corrosion layer of aluminium (55 %), zinc (43.4 %) and silicon (1.6 %) with a coating mass of 185 g/m².

The wall brackets of the VECO-G system can be used as both fixed point and sliding point fastenings.

The high thermal stability of the materials used in the VECO-G system makes it particularly suitable for buildings with high fire safety requirements.

It is used as a horizontal system primarily for lightweight facade claddings such as trapezoid panels.

Article:

**VECO-G-LS-** 060/080/100/120/140/160/180/200

Bracket, Galvalume®

**VECO-ZB-G-001**

Ribbed washer, Galvalume®

## Substructures with no thermal bridges

Advantages:

- High energy efficiency
- No thermal bridge points
- Thinner insulating materials
- Slimmer facade designs
- Conserves resources
- Optimises costs
- Easy to install



### » VECO-Isotherm

The VECO-Isotherm system is an assembled rod bracket component comprising a stainless steel rod sleeve, an anchor with connection thread and an adaptor for fixed and sliding point casements. It offers a very low thermal bridge point loss coefficient due to the high quality and small cross-section of the materials used.

The system is constructed exclusively from non-combustible materials and is therefore suitable for use in buildings which are compliant with Fire Protection Standard A1.

Article:

#### **VECO-SDF-KB-10Vx60/M8x13-E**

Facade anchor with connection thread for Isotherm anchor with A4 stainless steel screw

#### **VECO-Isotherm-FP-**

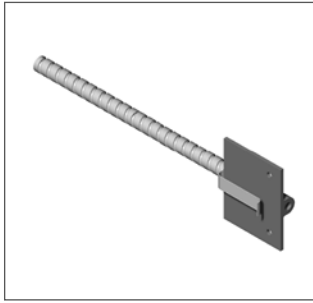
Wing bracket, fixed point EN AW-6063T66, spring clip, stainless steel round tube

#### **VECO-Isotherm-GP-**

Wing bracket, sliding point EN AW-6063T66, spring clip, stainless steel round tube

#### **VECO-Isotherm-ZB-**

Stainless steel tie rod for fixed point, 1.4404 incl. adapter



## » VECO-Isolink®

The VECO-Isolink® system is a combined rod bracket component. The glass fibre reinforced thermal anchor has a connection thread for fixed and sliding point adapters and is fastened in the anchoring base using injection technology. The energetic properties of GRP ensure negligible heat loss via thermal bridge effects. The system can therefore be classified as having no thermal bridges.

Due to the high proportion of glass fibre in the plastic composite, the system is suitable for use in buildings which are compliant with fire protection standard A2 according to the requirements of the DIBt – the German centre of competence in civil engineering.

### Article:

#### **VECO-Isolink®-D16-**

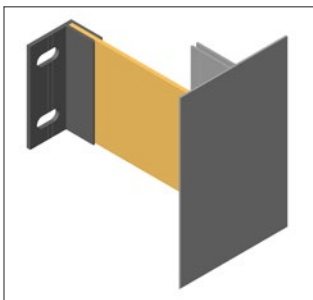
Glass fibre thermal anchor incl. wing bracket, fixed point and spring clip

#### **VECO-Isolink®-D12-**

Glass fibre thermal anchor incl. wing bracket, sliding point and spring clip

#### **VECO-Isolink®-anchor**

Injection mortar incl. perforated sleeve



## » VECO-WDK-Phoenix®

With the same thickness of insulation, it achieves better thermal transmittance values than standard substructure systems. The insulating layers required to meet the specified thermal transmittance value can therefore be thinner. In addition, this can achieve a potential energy saving of up to 30 percent.

### Article:

#### **VECO-Phoenix-70**

Combined component, VECO-WDK-Phoenix-70/length, h = 70 mm

Aluminium bracket base/bracket strut made from glass fibre reinforced plastic

#### **VECO-Phoenix-100**

Combined component, VECO-WDK-Phoenix-100/length, h = 100 mm

Aluminium bracket base/bracket strut made from glass fibre reinforced plastic

#### **VECO-Phoenix-L-Prof**

L-profile 45/45/2 mm, l = 6000 mm

#### **VECO-Phoenix-T-Prof**

T-profile 120/45/2 mm, l = 6000 mm

#### **Blind rivet, 4.8x16**

- Blind rivet, 4.8 x 16 mm
- Chrome-nickel steel, 7.0 – 10.5 mm – K 9.5

#### **Self-drilling screw, 5.5x25**

- Self-drilling screw, 5.5 x 25 mm with gasket
- Chrome-nickel steel A2

## VECO® accessories

The range of VECO accessories comprises 4 component groups: facade anchors, connecting screws, elements for thermal optimisation and bracket extensions for improved adjustability.



### » Facade anchors

**Article:**

**ZB-Dübel SDF-KB 10Vx** 50-V/60-V/70-V/80-V

Facade anchor, SDF-KB 10V x length

**ZB-Dübel SDF-KB 10Hx** 80-V/100-V/120-V/140-V

Facade anchor, SDF-KB 10H x length

**ZB-Dübel SDP-KB-10GxL** 80-V/100-V/120-V/140-V

Facade anchor, SDP-KB 10G x length

**ZB-Dübel SXR 10xL FUS** 60 FUS/80 FUS/100 FUS/120 FUS

Facade anchor, SXR 10 x length FUS

**VECO-SDF-KB** 10Vx60/M8x13E

Facade anchor with connecting screw



### » Screws

**Article:**

**ZB-JT9-3H/7-5,5x21**

Self-drilling screw made from stainless steel A4

**ZB-JT3-2-6,5x50 E16**

Self-drilling screw made from stainless steel A2 with washer

**ZB-JT6-6-5,5x25 E16**

Self-drilling screw made from stainless steel A4 with washer

**ZB-SLA5/4-6-S4-6x19**

Self-drilling screw made from stainless steel A4

**ZB-JT9-3H/5-5,5**

Self-drilling screw made from stainless steel A4

**ZB-JT9-2/5-5,0x25 VARIO**

Self-drilling screw made from stainless steel A4





## » Thermostop

Article:

### **ZB-Therm 85/5**

Thermostop, 40/5 h = 85 mm

### **ZB-Therm 85/6**

Thermostop, 40/6 h = 85 mm

### **ZB-Therm 160/5**

Thermostop, 40/5 h = 160 mm

### **ZB-Therm 160/6**

Thermostop, 40/6 h = 160 mm

### **ZB-Therm 80/85**

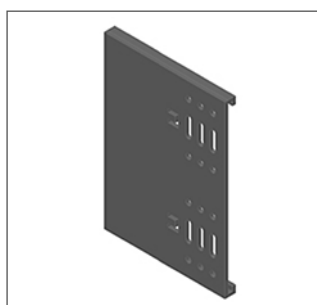
Thermostop, 80/5 h = 85 mm

### **ZB-Therm 80/160**

Thermostop, 80/5 h = 160 mm

### **ZB-Therm G**

Thermostop, 85/5 h = 80 mm



## » Bracket extensions

These components are made from an aluminium alloy of the type EN-AW-6063T66 and are supplied in a variety of sizes to meet the specific static and structural requirements of the project. Suitable for brackets with a thickness of 3 mm and 4 mm.

Article:

### **VECO-A-VL-85-**

Bracket extension

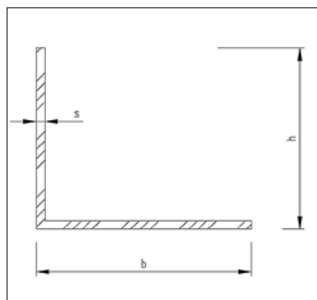
h = 85 mm, d = 3,5 mm, aluminium

### **VECO-A-VL-160-**

Bracket extension

h = 160 mm, d = 3,5 mm, aluminium

## VECO® profiles



### » L-profile

Standard profile for vertical substructures

- Used in central supports and connection applications
- Material: Aluminium
- Alloy: EN AW-6063 T66
- Dimensions in mm

Article:

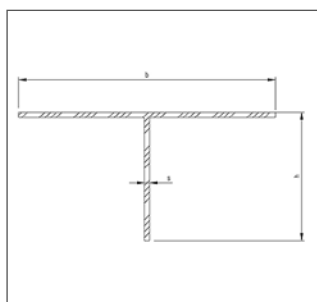
PROF-A-011

L-profile 50/40/2 mm, l = 6000 mm

PROF-A-010

L-profile 50/40/2 mm, l = 6000 mm

RAL 9005, matt



### » T-profile

Standard profile for vertical substructures

- Used in the area of joints
- Material: Aluminium
- Alloy: EN AW-6063 T66
- Dimensions in mm (h/b/s)

Article:

PROF-A-006

T-profile 52/160/2 mm, l = 6000 mm

PROF-A-031

T-profile 50/80/2 mm, l = 6000 mm

PROF-A-032

T-profile 50/100/2 mm, l = 6000 mm

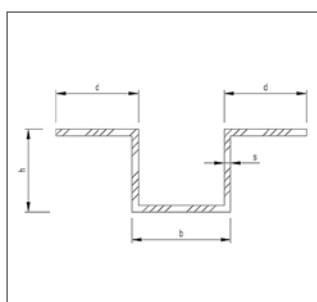
PROF-A-033

T-profile 50/120/2 mm, l = 6000 mm

PROF-A-033a

T-profile 50/120/2 mm, l = 6000mm

RAL 9005, matt



### » Hat profile

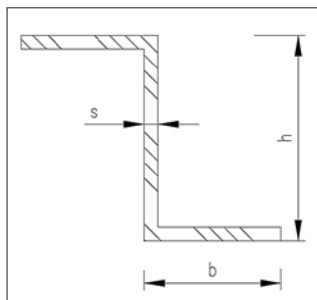
Profile for vertical and horizontal substructures

- Used in the area of joints,  
for direct mounting on the anchoring base
- Material: Aluminium
- Alloy: EN AW-6063 T66
- Dimensions in mm: d/h/b/h/d/s

Article:

PROF-A-049

Hat profile 40/30/30/30/40/2 mm, l = 6000 mm



## » Z-profile

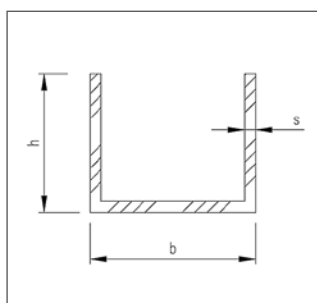
### Profile for vertical and horizontal substructures

- Used in central supports and connection applications, for direct mounting on the anchoring base
- Material: Aluminium
- Alloy: EN AW-6063 T66
- Dimensions in mm: (b/h/b/s)

#### Article:

PROF-A-047

Z-profile 40/30/40/2 mm, l = 6000 mm



## » U-profile

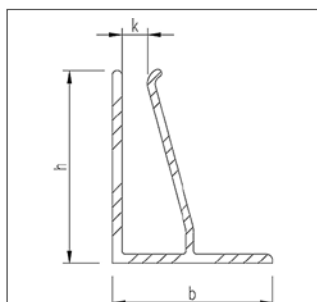
### Profile for vertical substructures

- Used in spanning and overhanging applications
- Material: Aluminium
- Alloy: EN AW-6060 T66
- Dimensions in mm: h/b/h/s

#### Article:

PROF-A-036

U-profile 40/100/40/3 mm, l = 6000 mm



## » F-profile

### Window connection profile

- Used in mounting windows
- Material: Aluminium
- Alloy: EN AW-6063 T66
- Dimensions in mm: b/h/k

#### Article:

PROF-A-070

F-profile 25/30/1,8 mm clamping range, l = 6000 mm

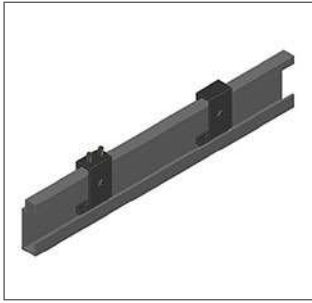
PROF-A-073

F-profile 25/30/4 mm clamping range, l = 6000 mm

PROF-A-071

F-profile 25/30/8 mm clamping range, l = 6000 mm

## Agraffe fastenings



### » VECO-2000

The system is used as a horizontal mounting system for invisible facade fastenings in combination with undercut anchors.

VECO-2000 system components are made from an aluminium alloy of the type EN-AW-6063 T66 and are supplied in a variety of sizes to meet the specific static and structural requirements of the project.

#### Article:

**VECO-A-2000-6k-s**

VECO-A-2000-Agraffe-6k, rigid

**VECO-A-2000-6k-j**

VECO-A-2000-Agraffe-6k, adjustable

**VECO-A-2000-6k-j+m**

VECO-A-2000-Agraffe-6k, adjustable + migration

**VECO-A-2000-s**

VECO-A-2000-Agraffe-Tergo, rigid

**VECO-A-2000-j**

VECO-A-2000-Agraffe-Tergo, adjustable

**VECO-A-2000-j+m**

VECO-A-2000-Agraffe-Tergo, adjustable + migration

**VECO-A-2000-RL-s**

VECO-A-2000-Agraffe-RL, rigid

**VECO-A-2000-RL-j**

VECO-A-2000-Agraffe-RL, adjustable

**VECO-A-2000-RL-j+m**

VECO-A-2000-Agraffe-RL, adjustable + migration

**VECO-AG-2010-Prof**

VECO-AG-2010-Prof, horizontal support profile

#### Accessories:

**VECO-A-2000-001**

VECO-A-2000-adjusting screw 5x14mm - A2

**VECO-A-2000-002**

VECO-A-2000-self-drilling screw 4.2x25mm - A2

**VECO-A-2000-003**

VECO-A-2000-foam rubber, self-adhesive

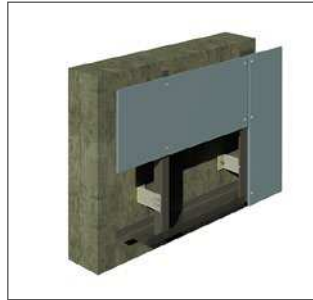




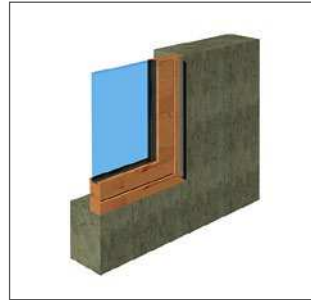
## End profiles, moldings and window frames

### » End profiles

GIP GmbH offers a variety of edging profiles to ensure an optimum structural and aesthetic transition from the ventilated curtain wall to adjacent components. We can produce customised solutions for specific buildings at short notice.



Ventilated angle profile/bottom closure



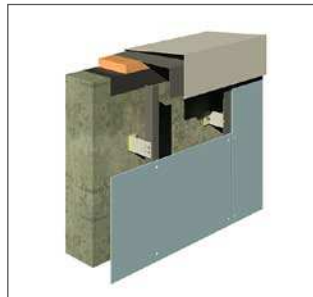
Window profile



External corner profile

### » Moldings

The following are just some of the parts we can manufacture to your specifications: Bay rails, Fanlight frames, Box gutters, Roof profiles, Wall covering, Corner plates etc. The components are produced in the desired material qualities and colours for the specific building.



Parapet flashing



Wall cornice cover

### » Window frames

Window frames create a perfect interface between the window and the facade cladding. They offer individual options for customization and accelerate construction work. Our window frames are made-to-measure to meet the specific requirements of your building.



Interlocking frame



Frame, welded

## 6. APPLICATIONS



The VECO® substructure systems offer standard solutions for fixing all commercial cladding materials. The standard system is supplemented by special components for the specific building.

Depending on the customer's requirements, GIP can supply the complete facade system as a kit (substructure, cladding and connecting components including planning and site management), or provide just some of these services. Together with our partner firms, we guarantee the assembly of our facade systems on time and in the required quality.

A wide variety of materials are used as cladding in ventilated curtain walls (VCW) and therefore offer architects and owners almost unlimited scope for innovative designs in terms of surface structure, colour, format and type of fastening.

The following section presents the most widespread cladding materials and corresponding substructure systems in more detail.

## Facade systems with composite panels

Composite panels are generally large format facade panels consisting of a stable core material and two covering layers. The composite structure makes them highly elastic and enables architects to create imposing architectural designs, which follow the contours of the building and can even be rounded. The covering layers can be supplied in an almost limitless range of colours.



Facade systems with  
composite panels

### Aluminium composite

Aluminium composite panels are composite panels consisting of two aluminium sheets covering a plastic core. Alternatively, a mineral core material can be used to increase fire resistance.

Aluminium composite panels adapt perfectly to fit the contours of the building. This combination of formability and stability can be used to create a remarkable range of shapes.

The panels are generally used as large format facade panels or coffered facade elements (with no visible cut edges).

The following fastening options can be used:

Visible fastening; riveted  
→ **VECO-1011**

Invisible fastening; with adhesive  
→ **VECO-1030**

Cassette suspension system with visible bolts  
→ **VECO-3010**

Cassette suspension system with invisible mounting  
→ **VECO-3020**

Invisible fastening with SZ 20 horizontal profile system  
→ **VECO-3030**

Cassette suspension system with visible bolts  
→ **VECO-3040**



## High pressure laminate

(High pressure laminate) facade panels are made from thermoset plastic laminates (HPL) in accordance with EN 438-6, Type EDF to provide effective weather protection. The panel core is made of kraft papers, which are wood-based materials impregnated with synthetic resins. Weather protection is provided by a coating of double hardened acrylic polyurethane resins. HPL panels are manufactured in laminate presses under conditions of high temperature and pressure.

When cutting HPL facade panels, it is important to remember that their length can change as a result of moisture absorption. The cladding must be fastened to the substructure in accordance with the manufacturer's instructions using clearly defined fixed and sliding point brackets.

The following fastening options can be used:

Visible fastening; riveted

→ **VECO-1011**

Invisible fastening; with adhesive

→ **VECO-1030**

Invisible fastening; with undercut anchors

→ **VECO-2000**





Facade systems with  
composite panels

## Stone fibre

Stone fibre is based on basalt, which is transformed into a fibrous material and pressed into facade panels as mineral wool. One side is then coated with a covering layer.

Stone fibre panels are rugged yet flexible. They are simple to process, bend and even shape in three dimensions.

The applied covering layer is available in a wide range of colours and designs.

The following fastening options can be used:

Visible fastening; riveted

→ **VECO-011**

Invisible fastening; with adhesive

→ **VECO-1030**

## Facade systems with fibre panels

A fibre panel is any large format, thin-walled facade panel made from cement with the addition of fibre materials to provide the necessary stability. Due to their homogeneous structure, these elements can be supplied as fully dyed panels. Customised colours are available. Cement bonded fibre panels are non-combustible and meet the specifications of fire prevention class A1.

Facade systems  
with fibre panels



### Fibre cement

Fibre cement is made from cement stone reinforced with fibres. The primary raw material is Portland cement, which functions as a binding agent. Additives such as lime and ground fibre cement retrieved from the recycling process are mixed in to optimise the properties of the product. Synthetic organic fibres made from polyvinyl alcohol provide reinforcement.

Fibre cement panels are available in a wide range of colours. Due to their homogeneous structure, these elements can be supplied as fully dyed panels or with a coloured and structured covering layer.

The following fastening options can be used:

Visible fastening; riveted

→ **VECO-1011**

Invisible fastening; with adhesive

→ **VECO-1030**

Invisible fastening; with clips for small formats

→ **VECO-1070**

Invisible fastening; with undercut anchors

→ **VECO-2000**



Facade systems  
with fibre panels

## Glass fibre reinforced concrete

Glass fibre reinforced concrete is 90 percent sand and cement. The remaining 10 percent consist of glass fibres, pigments and concrete additives. Consequently, these panels are very rugged and can withstand high loads despite their large format and minimal thickness.

Glass fibre reinforced concrete is fluid during the production process and can therefore be moulded into a wide range of two- and three-dimensional forms. This offers architects the scope to create highly individual new designs.

The following fastening options can be used:

Visible fastening; riveted  
→ **VECO-1011**

Invisible fastening; with adhesive  
→ **VECO-1030**

Invisible fastening; with undercut anchors  
→ **VECO-2000**



## Facade systems with metal panels

A wide range of metal materials are suitable for use in ventilated curtain walls. Colour coated aluminium and steel profiles are the most widespread but high quality materials with a natural colour, such as copper and zinc, are also commonly used. Metal cladding materials are generally installed as panels or fluted sheets but plain sheet panels – riveted or fastened on the rear side – are also used.

Facade systems  
with metal panels



### Aluminium

In facade construction, aluminium is generally used as plain sheet panels, panels or coffered facade elements.

The surface is coil coated or anodised. The range of available colours is virtually limitless

The material thickness is usually no greater than 2 to 3 mm. Aluminium is simple to process, highly flexible and easy to shape.

The material is durable, non-combustible and can be recycled extremely efficiently.

The following fastening options can be used:

Visible fastening; riveted, horizontal profile panel  
→ **VECO-1010**

Visible fastening; riveted  
→ **VECO-1011**

Invisible fastening; with adhesive  
→ **VECO-1030**

Invisible fastening; screw connection, horizontal panels  
→ **VECO-1050**

Suspended fastening system, metal cassettes  
→ **VECO-3010 / VECO-3020 / VECO-3030 / VECO-3040**

Visible fastening; riveted, vertical profile panel  
→ **VECO-G-1000**

Invisible fastening; screw connection, vertical panels  
→ **VECO-G-1010**





Facade systems  
with metal panels

## Copper

Copper has been used as a cladding material in construction for centuries.

The constantly changing coloured patina is one of its most striking characteristics.

We not only supply copper panels with a natural bronze finish but also pre-weathered panels with a fully developed patina.

Copper components are supplied as fluted sheets, coffered facade elements, panels or shingles. Composite panels with a copper covering and plastic core are also available.

The following fastening options can be used:

Invisible fastening; screw connection, horizontal panels  
→ **VECO-1050**

Invisible fastening; with clips, horizontal metal profiles  
→ **VECO-1060**

Invisible fastening; with clips for small formats  
→ **VECO-1070**

Visible fastening; riveted, vertical profile panel  
→ **VECO-G-1000**

Invisible fastening; screw connection, vertical panels  
→ **VECO-G-1010**

Invisible fastening; with clips for diamond-shaped covering  
→ **VECO-G-1020**

Invisible fastening; with clips, vertical metal profiles  
→ **VECO-G-1030**



## Zinc

Zinc used in the construction sector is extremely pure (approx. 99.995 percent) and has natural, corrosion-resistant properties.

Weathering creates a natural, constantly changing surface (patina), which gives the building a clear and characteristic design.

Zinc components are supplied as fluted sheets, coffered facade elements, panels, shingles or diamonds.

Zinc is durable, non-combustible and can be recycled extremely efficiently.

### The following fastening options can be used:

Invisible fastening; screw connection, horizontal panels  
→ **VECO-1050**

Invisible fastening; with clips, horizontal metal profiles  
→ **VECO-1060**

Invisible fastening; with clips for small formats  
→ **VECO-1070**

Visible fastening; riveted, vertical profile panel  
→ **VECO-G-1000**

Invisible fastening; screw connection, vertical panels  
→ **VECO-G-1010**

Invisible fastening; with clips for diamond-shaped shingles  
→ **VECO-G-1020**

Invisible fastening; with clips, vertical metal profiles  
→ **VECO-G-1030**

## Facade systems with natural stone

Natural stone cladding has been used in facades on exterior walls since ancient times. Stone with a thickness of 30–40 mm is normally used for ventilated facades. However, thinner materials can also be used with adhesive fastening techniques. Natural stones suitable for use in facades include granite and travertine.



Facade systems  
with natural stone

The following fastening options can be used:

Invisible fastening; with adhesive  
→ **VECO-1030**

Invisible fastening; with natural stone fasteners  
→ **VECO-1040**

Invisible fastening; with undercut anchors  
→ **VECO-2000**



## Facade systems with ceramic panels

Ceramic panels for ventilated curtain walls are based on the same raw materials used to manufacture standard ceramic tiles, e.g. for wet areas such as bathrooms. However, facades generally use large format sections (600x600 or 600x1200 mm). Depending on the product, a special dirt repellent coating can be applied to ceramic product surfaces, which ensures a natural self-cleaning effect.

Facade systems  
with ceramic panels



The following fastening options can be used:

Visible fastening; with stainless steel clips  
→ **VECO-1020**

Invisible fastening; with adhesive  
→ **VECO-1030**

Invisible fastening; with undercut anchors  
→ **VECO-2000**



## Facade systems with tiles

Tile panels are made from natural clays. The raw material is mixed, extruded, cut to size and fired. Exposure to a high kiln temperature over a long period produces intense colours and high strength. Tile panels are available in a wide range of colours, formats and finishes from specific manufacturers. As

well as natural clay colours, which are usually supplied as fully dyed panels, an extensive selection of colour coatings and glazes are also possible.

The portfolio is supplemented by a number of moulded ceramic components for technical details, such as external corners, curved facade areas or sunshade constructions.



Facade systems  
with tiles

1\_ KeraTwin®

2\_ ALPHATON®

3\_ TONALITY®

4\_ TERRART®

5\_ Facing tiles

The following fastening options can be used:

<b>KeraTwin®</b>	<b>VECO-4020</b> Invisible fastening; with vertical system support rail
<b>ALPHATON®</b>	<b>VECO-4010</b> Invisible fastening; with pre-punched vertical profiles for tile holder
	<b>VECO-4011</b> Invisible fastening; with horizontal system support profile
<b>TONALITY®</b>	<b>VECO-4040</b> Invisible fastening; with vertical system support rail
<b>TERRART®</b>	<b>VECO-4030</b> Invisible fastening; with pre-punched vertical profiles for tile holder
	<b>VECO-1030</b> Invisible fastening; with adhesive
<b>FACING TILES</b>	<b>VECO-2030</b> Invisible fastening; with VECO-STARC support profile
	<b>VECO-G-2000</b> Invisible fastening; with VECO-Brick system support rail

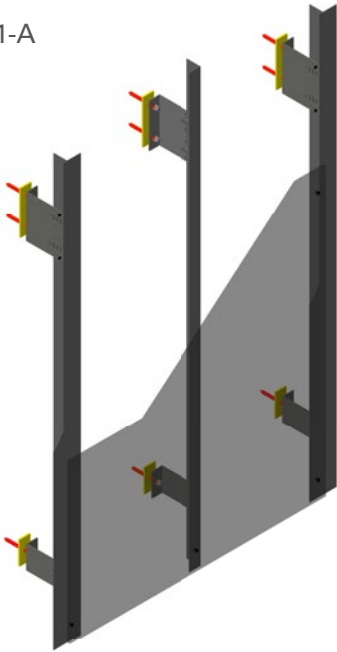
## 7. SUBSTRUCTURE TYPES VECO®

Type	Description
<b>Vertical substructure systems (bracket materials: aluminium / stainless steel / no thermal bridges)</b>	
VECO®-1010	Vertical substructure with L-profile
VECO®-1011	Vertical substructure with L- and T-profile
VECO®-1020	Vertical substructure with L- and T-profile and stainless steel clips
VECO®-1030	Vertical substructure with L- and T-profile and adhesive system
VECO®-1040	Vertical substructure with L- and T-profile and stainless steel clips for natural stone
VECO®-1050	Vertical substructure with L- and T-profile for horizontal panel
VECO®-1060	Vertical substructure with L-profile, horizontal counter battens and full formwork
VECO®-1070	Vertical wooden substructure with aluminium U-brackets and full formwork
VECO®-2000	Vertical substructure with L-profile and AG 2010 horizontal agraffe support profile
VECO®-2020	Vertical substructure with L-profile and VECO®-COVER horizontal system support rail
VECO®-2030	Vertical substructure with L-profile and VECO®-STARC horizontal system support rail
VECO®-3010	Vertical substructure with base profile and sliding bolts for cassettes
VECO®-3020	Vertical substructure with base profile and sliders for cassettes with profile piece
VECO®-3030	Vertical substructure with L- and hat profile for System SZ 20
VECO®-3040	Vertical substructure with hat profile and sliding bolts for cassettes
VECO®-4010	Vertical substructure with L- and T-profile, pre-punched and panel holder
VECO®-4011	Vertical substructure with L-profile and G 06 horizontal support profile
VECO®-4020	Vertical substructure with L- and T-profile and K20 system support rail stainless steel clips for KeraTwin
VECO®-4030	Vertical substructure with L- and T-profile and panel holder for TERRART
VECO®-4040	Vertical substructure with T-profile and BAS system support rail for Tonality
<b>Horizontal substructure systems (bracket material: Galvalume)</b>	
VECO®-G-1000	Horizontal Galvalume® substructure with L-profile for vertical fluted/trapezoid metal panels
VECO®-G-1010	Horizontal Galvalume® substructure with L-profile for vertical panels
VECO®-G-1020	Horizontal Galvalume® substructure with L-profile and vertical trapezoid full formwork
VECO®-G-1030	Horizontal Galvalume® substructure with L-profile and vertical counter battens and full formwork
VECO®-G-2000	Horizontal Galvalume® substructure with L-profile and VECO®-Brick vertical system support rail

## Vertical substructure systems

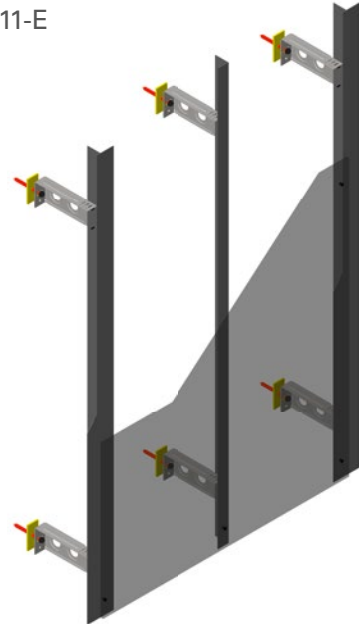
A variety of bracket products may be used in accordance with the project-specific conditions.

VECO®-1011-A



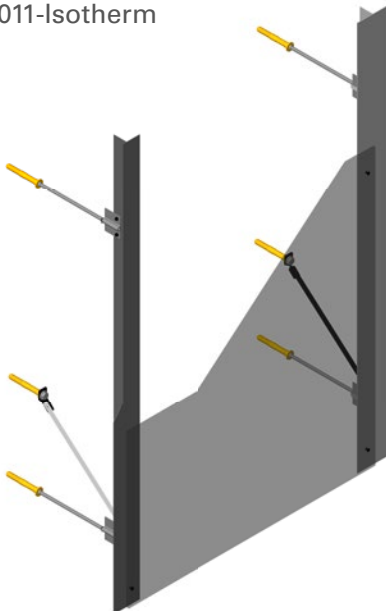
VECO-A-LS aluminium angle bracket

VECO®-1011-E



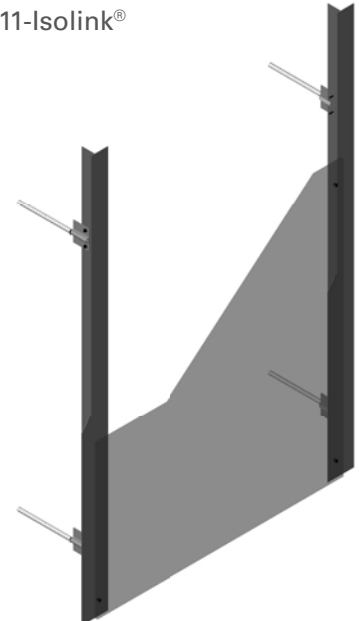
VECO-E-Flex stainless steel angle bracket

VECO®-1011-Isotherm

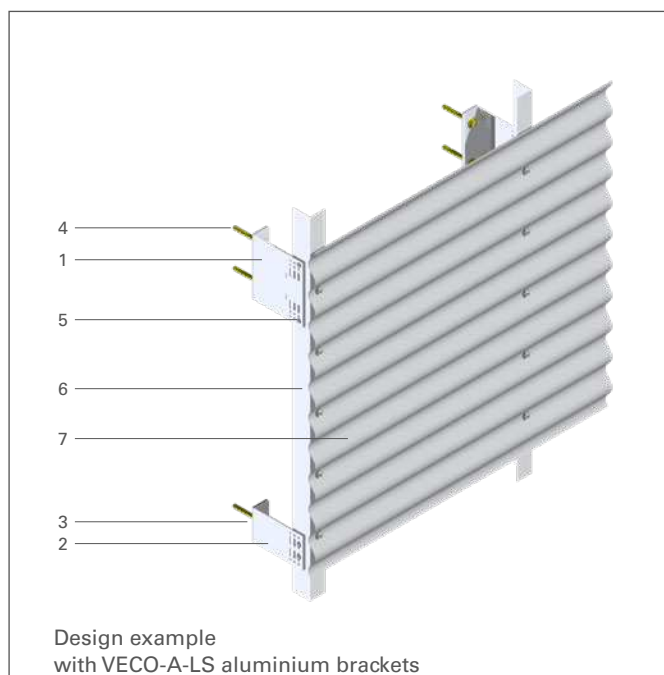


VECO-Isotherm stainless steel rod bracket

VECO®-1011-Isolink®



VECO-Isolink® GRP rod bracket



## Substructure system VECO®-1010

**Substructure:** Vertical aluminium substructure  
with L-profiles

**Type of cladding:** Large format fluted metal and trapezoid panels

**Type of fastening:** Visible, by bolts

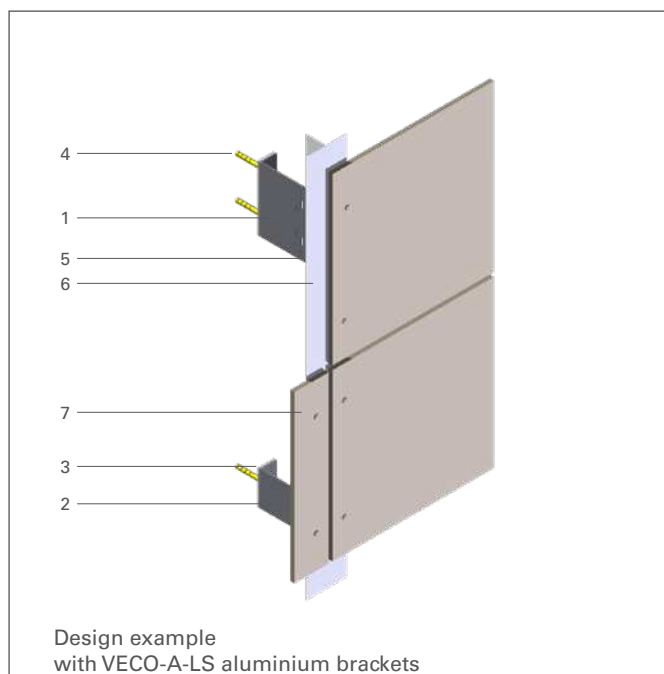
**Cladding material:** Metal

### Substructure components:

Pos.	Description	Article no.
1	Bracket fix point	VECO-A-L-
2	Bracket slide point	VECO-A-L-
3	Thermo element	VECO-ZB-Therm-
4	Anchors	VECO-ZB-Dübel-
5	Self-drilling screws	VECO-ZB-
6	Vertical profile	
	L-profile 50/40/2	PROF-A-011
7	Cladding	

Detailed solutions/Texts for invitations to tender:

[www.gip-fassade.com/en/VECO-1010](http://www.gip-fassade.com/en/VECO-1010)



## Substructure system VECO®-1011

**Substructure:** Vertical aluminium substructure  
with L- and T-profiles

**Type of cladding:** Large format facade panels

**Type of fastening:** Visible, by bolts

**Cladding material:** Composite, HPL (High Pressure Laminate),  
fibre cement, OSB panels, plain sheet panels, plaster baseboards

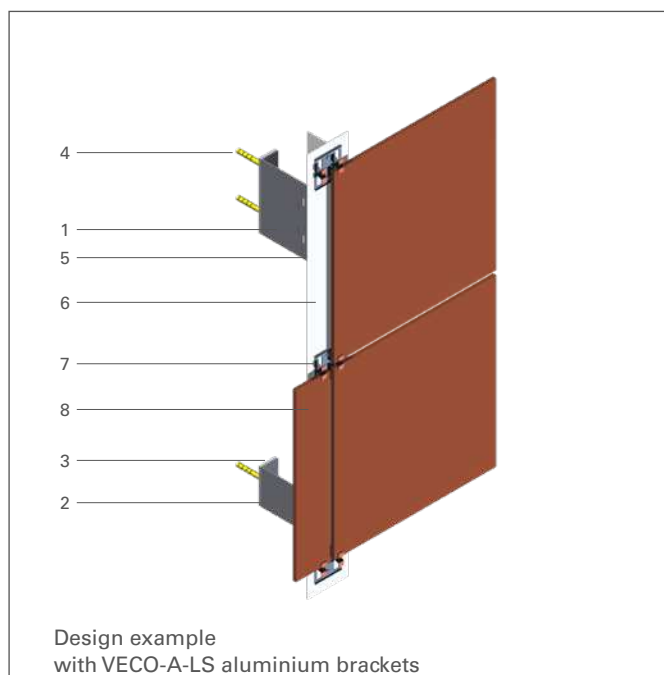
### Substructure components:

Pos.	Description	Article no.
1	Bracket fix point	VECO-A-L-
2	Bracket slide point	VECO-A-L-
3	Thermo element	VECO-ZB-Therm-
4	Anchors	VECO-ZB-Dübel-
5	Self-drilling screws	VECO-ZB-
6	Vertical profile	
	L-profile 50/40/2	PROF-A-011
	T-profile 50/120/2	PROF-A-033
7	Cladding	

Detailed solutions/Texts for invitations to tender:

[www.gip-fassade.com/en/VECO-1011](http://www.gip-fassade.com/en/VECO-1011)





## Substructure system VECO®-1020

**Substructure:** Vertical aluminium substructure  
with L- and T-profiles and ceramic clips

**Type of cladding:** Ceramic panels

**Type of fastening:** Visible fixation with clips

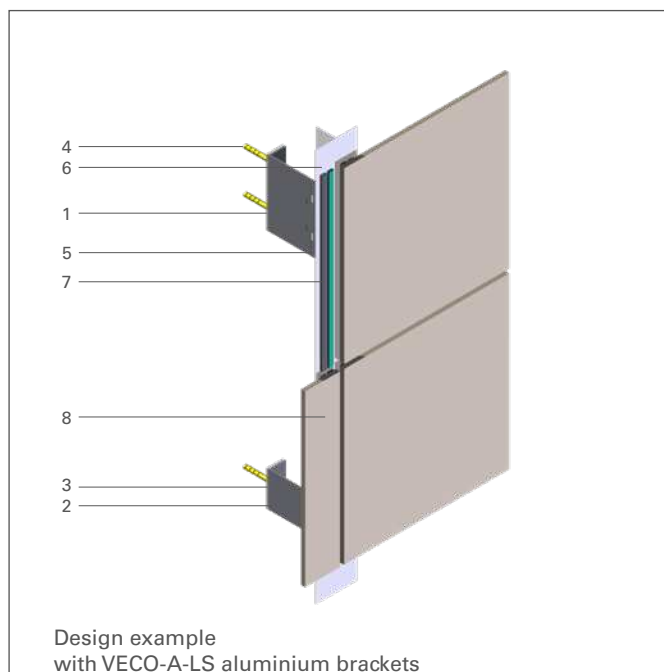
**Cladding material:** Ceramic

### Substructure components:

Pos.	Description	Article no.
1	Bracket fix point	VECO-A-L-
2	Bracket slide point	VECO-A-L-
3	Thermo element	VECO-ZB-Therm-
4	Anchors	VECO-ZB-Dübel-
5	Self-drilling screws	VECO-ZB-
6	Vertical profile	
	L-profile 50/40/2	PROF-A-011
	T-profile 50/80/2	PROF-A-035
7	Ceramic clips; stainless steel coated	
8	Cladding	

Detailed solutions/Texts for invitations to tender:

[www.gip-fassade.com/en/VECO-1020](http://www.gip-fassade.com/en/VECO-1020)



## Substructure system VECO®-1030

**Substructure:** Vertical aluminium substructure  
with L- and T-profiles and adhesive system

**Type of cladding:** Large and small format facade panels

**Type of fastening:** Invisible, with adhesive

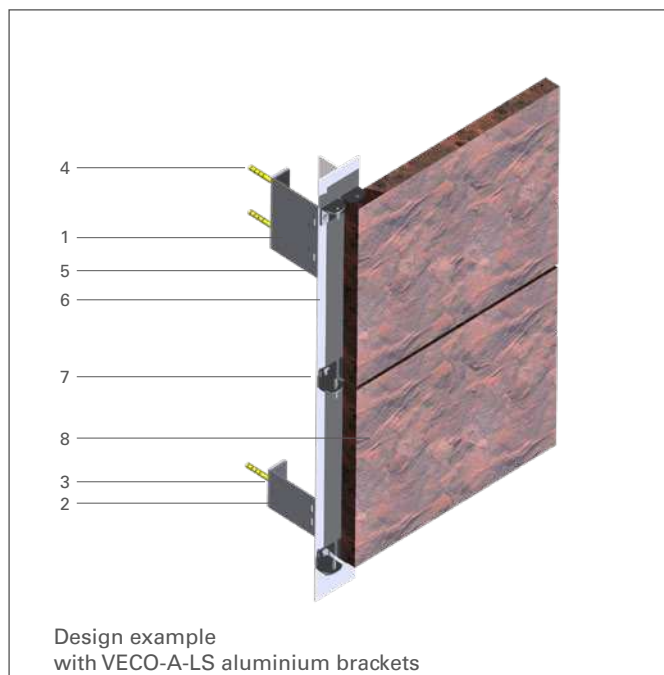
**Cladding material:** Fibre cement, ceramic, HPL (High Pressure Laminate), metal, composite, natural stone

### Substructure components:

Pos.	Description	Article no.
1	Bracket fix point	VECO-A-L-
2	Bracket slide point	VECO-A-L-
3	Thermo element	VECO-ZB-Therm-
4	Anchors	VECO-ZB-Dübel-
5	Self-drilling screws	VECO-ZB-
6	Vertical profile	
	L-profile 50/40/2	PROF-A-011
	T-profile 120/50/2	PROF-A-033
7	Facade adhesive system (cleaning agent, tape, adhesive)	
8	Cladding	

Detailed solutions/Texts for invitations to tender:

[www.gip-fassade.com/en/VECO-1030](http://www.gip-fassade.com/en/VECO-1030)



## Substructure system VECO®-1040

**Substructure:** Vertical aluminium substructure with L- and T-profiles and stainless steel clips for natural stone

**Type of cladding:** Natural stone panels

**Type of fastening:** Invisible fixation on hooks

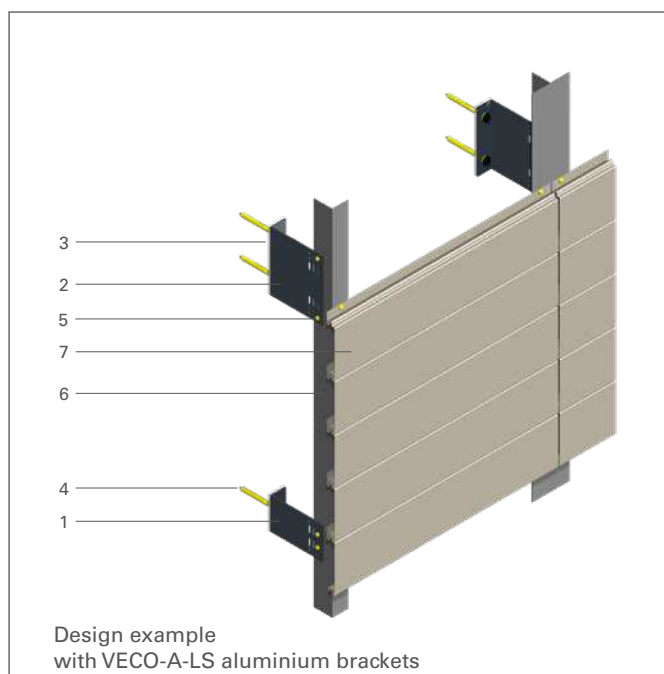
**Cladding material:** Natural stone

### Substructure components:

Pos.	Description	Article no.
1	Bracket fix point	VECO-A-L-
2	Bracket slide point	VECO-A-L-
3	Thermo element	VECO-ZB-Therm-
4	Anchors	VECO-ZB-Dübel-
5	Self-drilling screws	VECO-ZB-
6	Vertical profile	
	L-profile 50/40/2	PROF-A-011
	T-profile 50/120/2	PROF-A-033
7	Natural stone fasteners	
8	Cladding	

Detailed solutions/Texts for invitations to tender:

[www.gip-fassade.com/en/VECO-1040](http://www.gip-fassade.com/en/VECO-1040)



## Substructure system VECO®-1050

**Substructure:** Vertical aluminium substructure with L- and T-profiles

**Type of cladding:** Horizontal panel

**Type of fastening:** Invisible, with screws

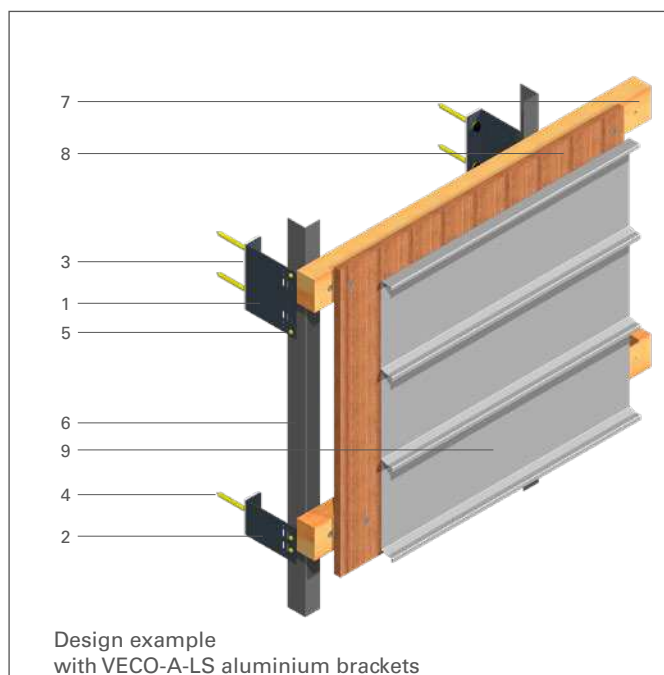
**Cladding material:** Metal

### Substructure components:

Pos.	Description	Article no.
1	Bracket slide point	VECO-A-L-
2	Bracket fix point	VECO-A-L-
3	Thermo element	VECO-ZB-Therm-
4	Anchors	VECO-ZB-Dübel-
5	Self-drilling screws	VECO-ZB-
6	Vertical profile	
	L-profile 40/50/2	PROF-A-011
	T-profile 50/80/2	PROF-A-035
7	Cladding	

Detailed solutions/Texts for invitations to tender:

[www.gip-fassade.com/en/VECO-1050](http://www.gip-fassade.com/en/VECO-1050)



## Substructure system VECO®-1060

**Substructure:** Vertical substructure with L-profile, horizontal counter battens and full formwork

**Type of cladding:** Horizontal metal profiles

**Type of fastening:** Invisible, with clips

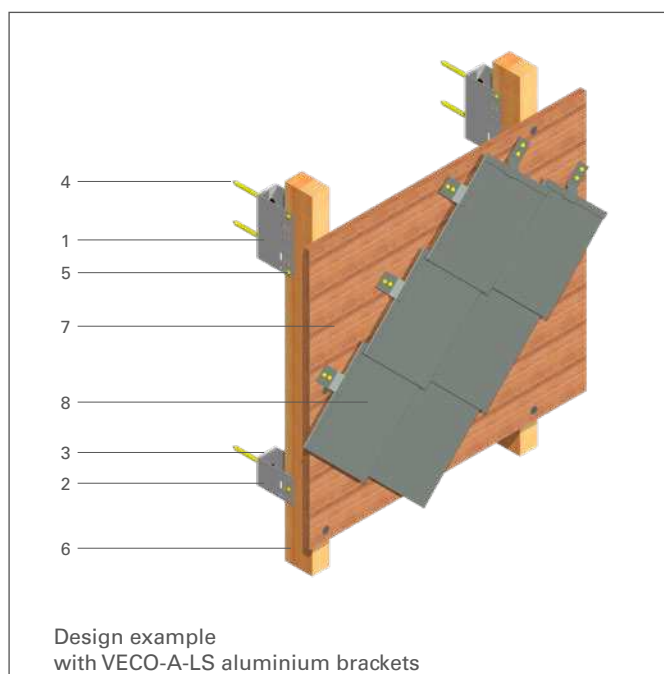
**Cladding material:** Metal

### Substructure components:

Pos.	Description	Article no.
1	Bracket fix point	VECO-A-L-
2	Bracket slide point	VECO-A-L-
3	Thermo element	VECO-ZB-Therm-
4	Anchors	VECO-ZB-Dübel-
5	Self-drilling screws	VECO-ZB-
6	Vertical profile L-profile 50/40/2	PROF-A-011
7	Wooden battens	
8	Full formwork	
9	Cladding	

Detailed solutions/Texts for invitations to tender:

[www.gip-fassade.com/en/VECO-1060](http://www.gip-fassade.com/en/VECO-1060)



## Substructure system VECO®-1070

**Substructure:** Vertical wooden substructure with aluminium U-brackets and full formwork

**Type of cladding:** Small format facade panels

**Type of fastening:** Invisible, with clips

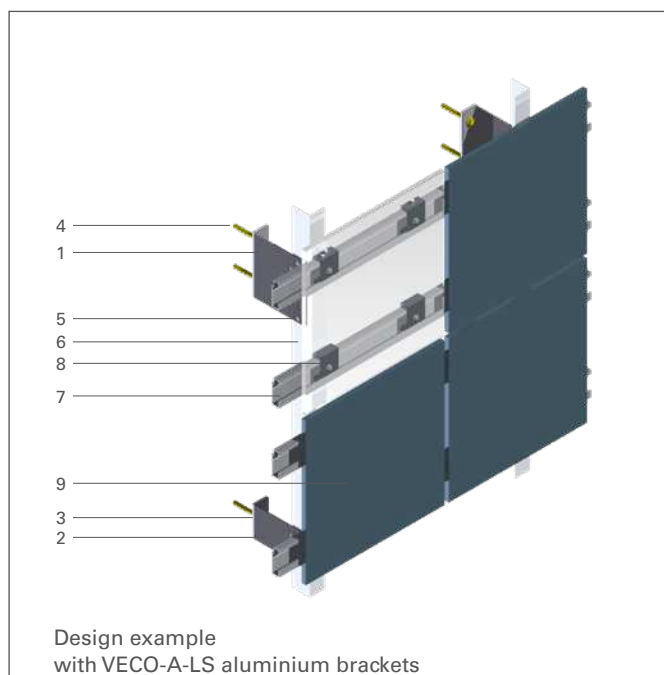
**Cladding material:** Fibre cement, metal, slate

### Substructure components:

Pos.	Description	Article no.
1	Bracket fix point	VECO-A-H-
2	Bracket slide point	VECO-A-H-
3	Thermo element	VECO-ZB-Therm-
4	Anchors	VECO-ZB-Dübel-
5	Self-drilling screws	VECO-ZB-
6	Vertical support batten	
7	Full formwork	
8	Cladding	

Detailed solutions/Texts for invitations to tender:

[www.gip-fassade.com/en/VECO-1070](http://www.gip-fassade.com/en/VECO-1070)



## Substructure system VECO®-2000

**Substructure:** Vertical aluminium substructure with L-profiles and horizontal agraffe profile

**Type of cladding:** Large and small format facade panels

**Type of fastening:** Invisible fixation with undercut anchors

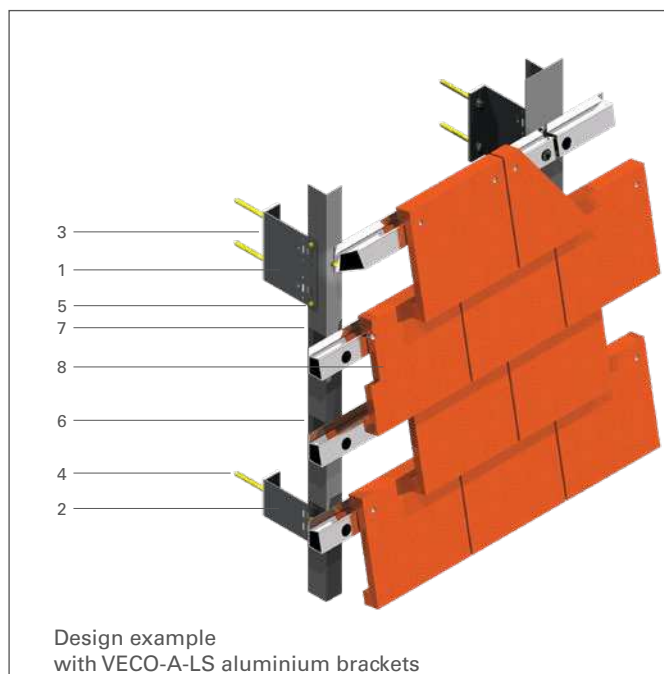
**Cladding material:** Fibre cement, ceramic, HPL (High Pressure Laminate), natural stone, composite, laminated wood

### Substructure components:

Pos.	Description	Article no.
1	Bracket fix point	VECO-A-L-
2	Bracket slide point	VECO-A-L-
3	Thermo element	VECO-ZB-Therm-
4	Anchors	VECO-ZB-Dübel-
5	Self-drilling screws	VECO-ZB-
6	Vertical profile L-profile 50/40/2	PROF-A-011
7	Horizontal profile (agraffe support profile AG 2010)	VECO-AG-2010
8	Agraffe (adjustable/rigid47)	VECO-A-2000
9	Cladding	

Detailed solutions/Texts for invitations to tender:

[www.gip-fassade.com/en/VECO-2000](http://www.gip-fassade.com/en/VECO-2000)



## Substructure system VECO®-2020

**Substructure:** Vertical substructure with L-profiles and VECO®-COVER horizontal system support rail

**Type of cladding:** Small format tiles

**Type of fastening:** Invisible, on hooks

**Cladding material:** Tile

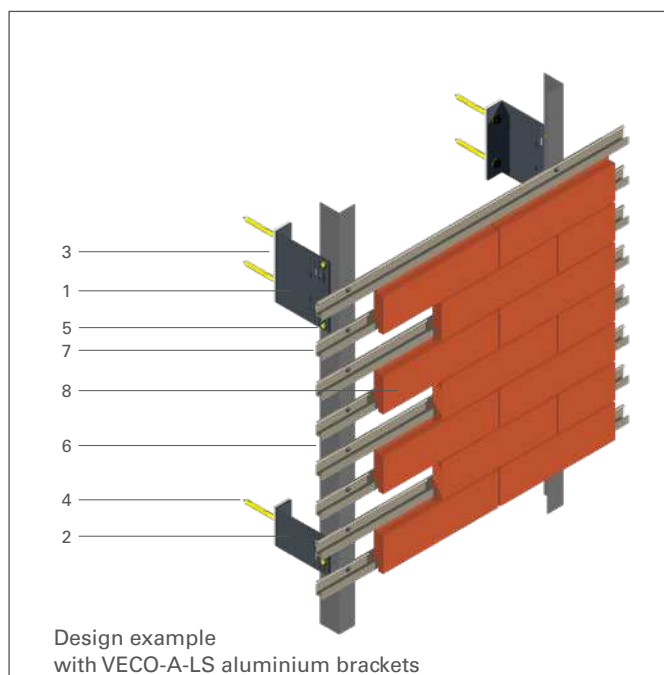
### Substructure components:

Pos.	Description	Art.-Nr.
1	Bracket fix point	VECO-A-L-
2	Bracket slide point	VECO-A-L-
3	Thermo element	VECO-ZB-Therm-
4	Anchors	VECO-ZB-Dübel-
5	Self-drilling screws	VECO-ZB-
6	Vertical profile L-profile 50/40/2	PROF-A-011
7	Horizontal system support rail	VECO-COVER
8	Cladding	

Detailed solutions/Texts for invitations to tender:

[www.gip-fassade.com/en/VECO-2020](http://www.gip-fassade.com/en/VECO-2020)





## Substructure system VECO®-2030

**Substructure:** Vertical aluminium substructure with L-profiles and VECO-STARC horizontal system support rail

**Type of cladding:** Facing tiles

**Type of fastening:** Invisible, on hooks

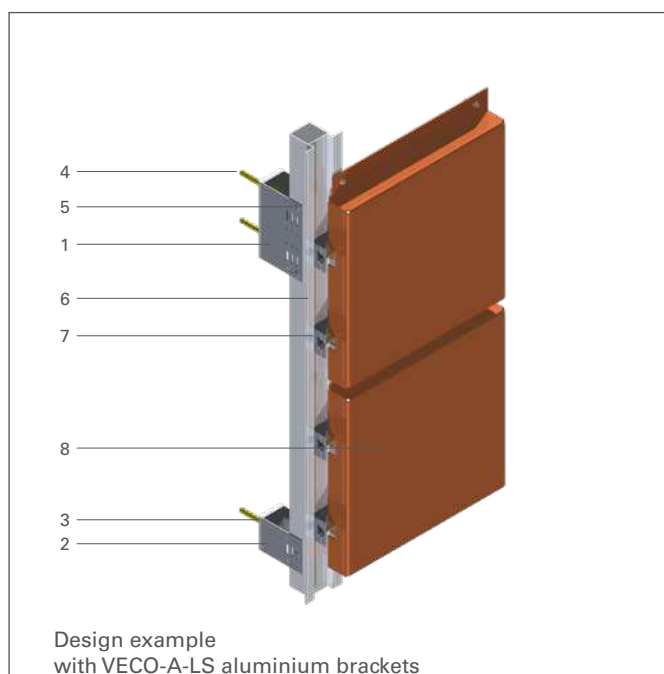
**Cladding material:** Tile

### Substructure components:

Pos.	Description	Article no.
1	Bracket fix point	VECO-A-L-
2	Bracket slide point	VECO-A-L-
3	Thermo element	VECO-ZB-Therm-
4	Anchors	VECO-ZB-Dübel-
5	Self-drilling screws	VECO-ZB-
6	Vertical profile L-profile 50/40/2	PROF-A-011
7	Horizontal system support rail	VECO-STARC
8	Cladding	

Detailed solutions/Texts for invitations to tender:

[www.gip-fassade.com/en/VECO-2030](http://www.gip-fassade.com/en/VECO-2030)



## Substructure system VECO®-3010

**Substructure:** Vertical aluminium substructure with vertical base profile for sliding bolts

**Type of cladding:** Large and small format metal cassettes

**Type of fastening:** Suspended on metal bolts

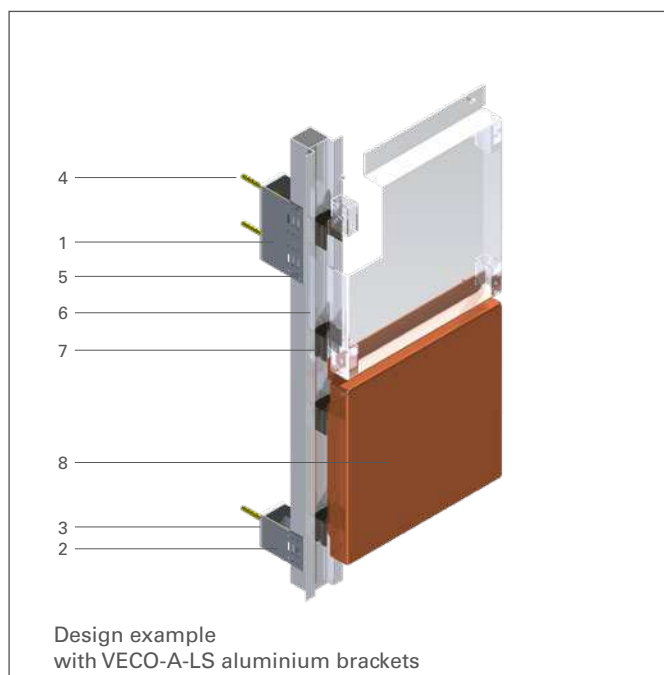
**Cladding material:** Composite, metal

### Substructure components:

Pos.	Description	Article no.
1	Bracket fix point	VECO-A-H-
2	Bracket slide point	VECO-A-H-
3	Thermo element	VECO-ZB-Therm-
4	Anchors	VECO-ZB-Dübel-
5	Self-drilling screws	VECO-ZB-
6	Vertical profile, UB 30	
7	Slider with bolts, polymer coated	
8	Cladding	

Detailed solutions/Texts for invitations to tender:

[www.gip-fassade.com/en/VECO-3010](http://www.gip-fassade.com/en/VECO-3010)



## Substructure system VECO®-3020

**Substructure:** Vertical aluminium substructure

with vertical base profile for hooks

**Type of cladding:** Large and small format metal cassettes

**Type of fastening:** Suspended on hooks

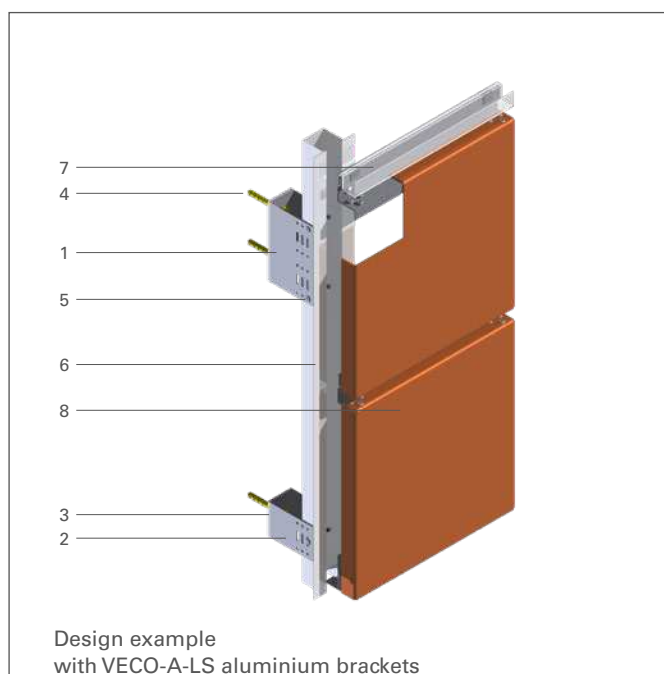
**Cladding material:** Composite, metal

### Substructure components:

Pos.	Description	Article no.
1	Bracket fix point	VECO-A-H-
2	Bracket slide point	VECO-A-H-
3	Thermo element	VECO-ZB-Therm-
4	Anchors	VECO-ZB-Dübel-
5	Self-drilling screws	VECO-ZB-
6	Vertical profile, UB 30	
7	Sliding hook	
8	Cladding	

Detailed solutions/Texts for invitations to tender:

[www.gip-fassade.com/en/VECO-3020](http://www.gip-fassade.com/en/VECO-3020)



## Substructure system VECO®-3030

**Substructure:** Vertical aluminium substructure

with horizontal rails for cassettes

**Type of cladding:** Large and small format metal cassettes

**Type of fastening:** Suspended with horizontal support system

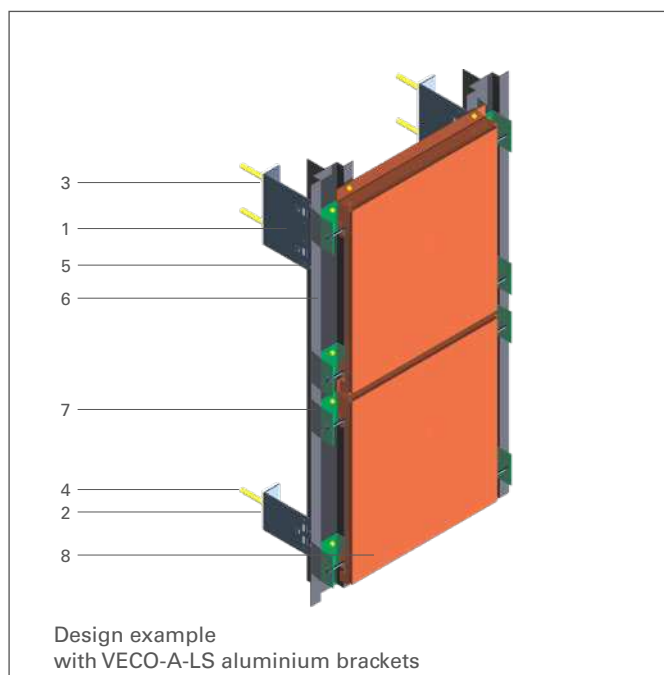
**Cladding material:** Composite, metal

### Substructure components:

Pos.	Description	Article no.
1	Bracket fix point	VECO-A-H-
2	Bracket slide point	VECO-A-H-
3	Thermo element	VECO-ZB-Therm-
4	Anchors	VECO-ZB-Dübel-
5	Self-drilling screws	VECO-ZB-
6	Vertical profile	
	L-profile 50/40/2 +	PROF-A-011
	Hat profile 30/50/50/2	PROF-A-051
7	Horizontal profile system SZ 20	
8	Cladding	

Detailed solutions/Texts for invitations to tender:

[www.gip-fassade.com/en/VECO-3030](http://www.gip-fassade.com/en/VECO-3030)



## Substructure system VECO®-3040

**Substructure:** Vertical aluminium substructure with vertical base profile for sliding bolts

**Type of cladding:** Large and small format metal cassettes

**Type of fastening:** Suspended on metal bolts

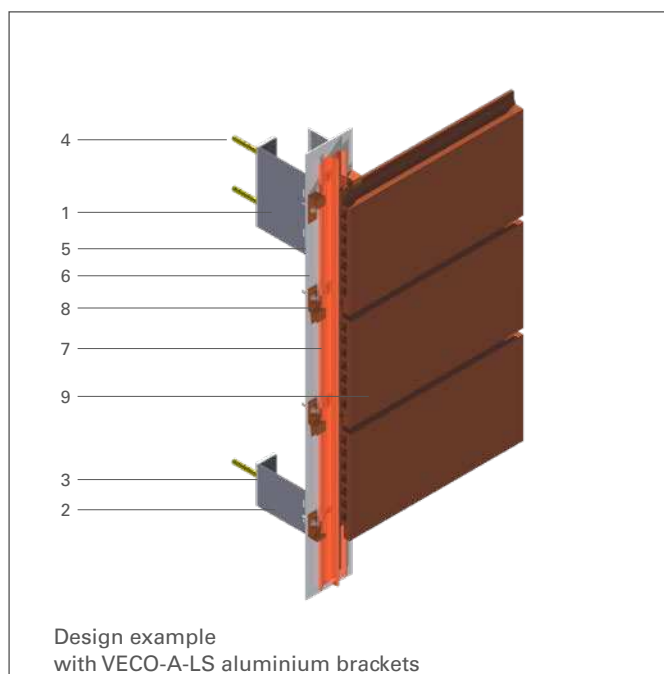
**Cladding material:** Composite, metal

### Substructure components:

Pos.	Description	Article no.
1	Bracket fix point	VECO-A-L-
2	Bracket slide point	VECO-A-L-
3	Thermo element	VECO-ZB-Therm-
4	Anchors	VECO-ZB-Dübel-
5	Self-drilling screws	VECO-ZB-
6	Vertical profile Hat profile with cross-piece	
7	Slider with bolts, polymer coated	
8	Cladding	

Detailed solutions/Texts for invitations to tender:

[www.gip-fassade.com/en/VECO-3040](http://www.gip-fassade.com/en/VECO-3040)



## Substructure system VECO®-4010

**Substructure:** Vertical aluminium substructure with pre-punched L- and T-profiles for tile holder

**Type of cladding:** Large format tile panels

**Type of fastening:** Invisible, on hooks

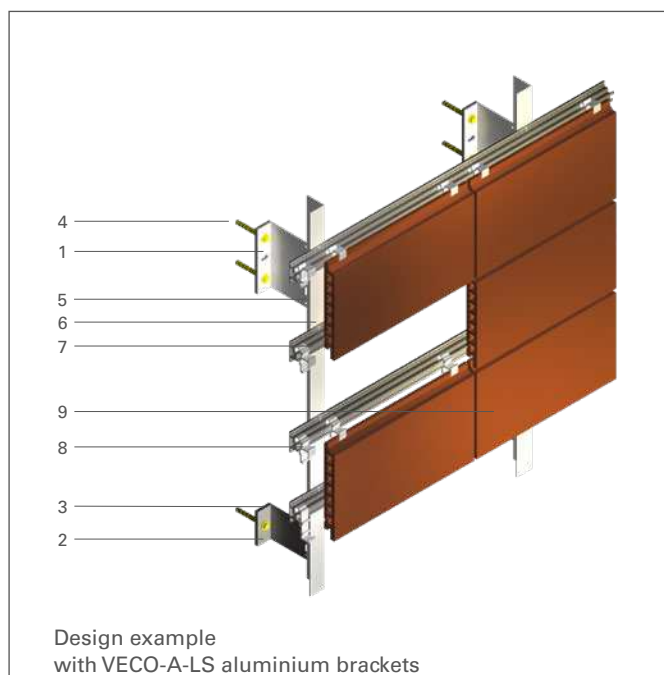
**Cladding material:** Clay tiles

### Substructure components:

Pos.	Description	Article no.
1	Bracket fix point	VECO-A-L-
2	Bracket slide point	VECO-A-L-
3	Thermo element	VECO-ZB-Therm-
4	Anchors	VECO-ZB-Dübel-
5	Self-drilling screws	VECO-ZB-
6	Vertical profile L-profile 50/40/2 pre-punched T-profile 50/140/2 pre-punched	
7	Vertical joint profile	
8	Panel holder	
9	Cladding	

Detailed solutions/Texts for invitations to tender:

[www.gip-fassade.com/en/VECO-4010](http://www.gip-fassade.com/en/VECO-4010)



## Substructure system VECO®-4011

**Substructure:** Vertical aluminium substructure  
with L-profile and horizontal support profile

**Type of cladding:** Small format tile panels

**Type of fastening:** Invisible, on hooks

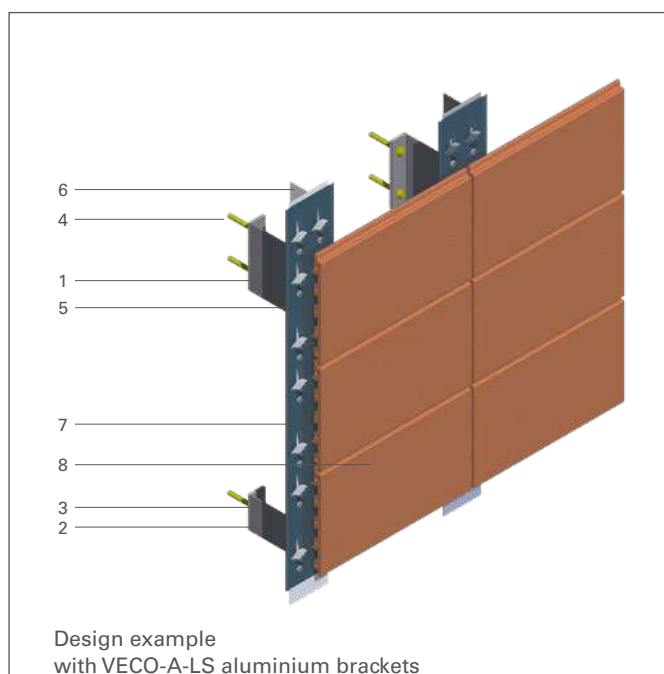
**Cladding material:** Clay tile

### Substructure components:

Pos.	Description	Article no.
1	Bracket fix point	VECO-A-L-
2	Bracket slide point	VECO-A-L-
3	Thermo element	VECO-ZB-Therm-
4	Anchors	VECO-ZB-Dübel-
5	Self-drilling screws	VECO-ZB-
6	Vertical profile	
	L-profile 50/40/2	PROF-A-011
7	Horizontal profile	
	(panel support profile Gen 06)	
8	Panel holder	
9	Cladding	

Detailed solutions/Texts for invitations to tender:

[www.gip-fassade.com/en/VECO-4011](http://www.gip-fassade.com/en/VECO-4011)



## Substructure system VECO®-4020

**Substructure:** Vertical aluminium substructure  
with L- and T-profiles and vertical system support rail

**Type of cladding:** Small and large format tile panels

**Type of fastening:** Invisible, on hooks

**Cladding material:** Ceramic tile

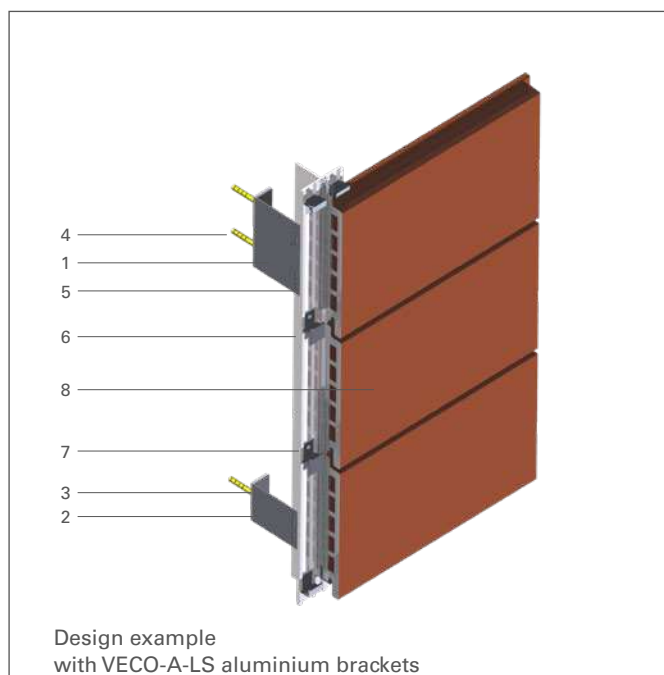
### Substructure components:

Pos.	Description	Article no.
1	Bracket fix point	VECO-A-L-
2	Bracket slide point	VECO-A-L-
3	Thermo element	VECO-ZB-Therm-
4	Anchors	VECO-ZB-Dübel-
5	Self-drilling screws	VECO-ZB-
6	Vertical profile	
	L-profile 50/40/2	PROF-A-011
	T-profile 50/80/2	PROF-A-032
7	Vertical system support rail	
8	Cladding	

Detailed solutions/Texts for invitations to tender:

[www.gip-fassade.com/en/VECO-4020](http://www.gip-fassade.com/en/VECO-4020)





## Substructure system VECO®-4030

**Substructure:** Vertical aluminium substructure with L- and T-profiles pre-punched for panel holder

**Type of cladding:** Large format tile panels

**Type of fastening:** Invisible, on hooks

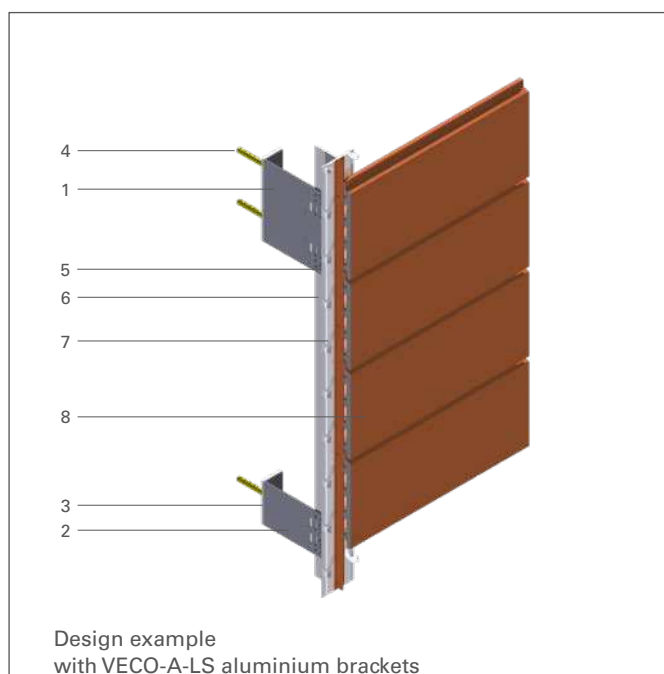
**Cladding material:** Terracotta

### Substructure components:

Pos.	Description	Article no.
1	Bracket fix point	VECO-A-L-
2	Bracket slide point	VECO-A-L-
3	Thermo element	VECO-ZB-Therm-
4	Anchors	VECO-ZB-Dübel-
5	Self-drilling screws	VECO-ZB-
6	Vertical profile L-profile 50/40/2 pre-punched T-profile 50/120/2 pre-punched	
7	Panel holder	
8	Cladding	

Detailed solutions/Texts for invitations to tender:

[www.gip-fassade.com/en/VECO-4030](http://www.gip-fassade.com/en/VECO-4030)



## Substructure system VECO®-4040

**Substructure:** Vertical aluminium substructure with L- and T-profiles and vertical system support rail

**Type of cladding:** Small and large format tile panels

**Type of fastening:** Invisible, on hooks

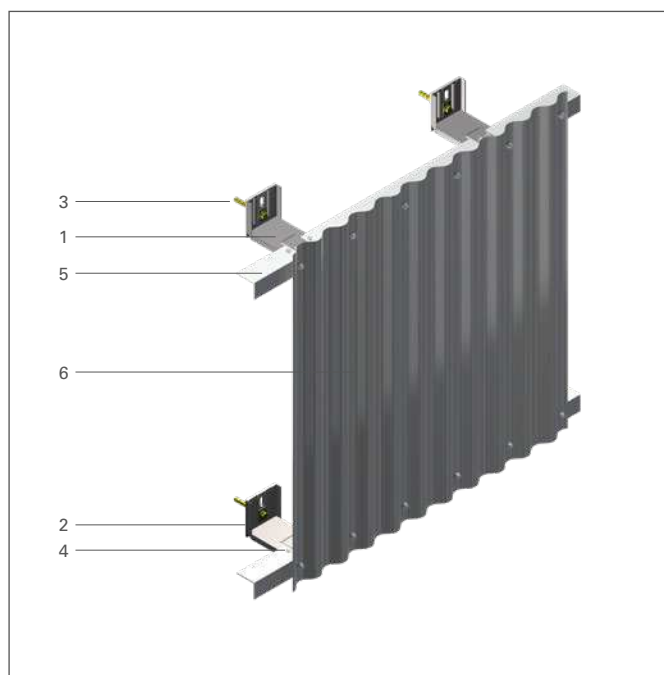
**Cladding material:** Clay tile

### Substructure components:

Pos.	Description	Article no.
1	Bracket fix point	VECO-A-L-
2	Bracket slide point	VECO-A-L-
3	Thermo element	VECO-ZB-Therm-
4	Anchors	VECO-ZB-Dübel-
5	Self-drilling screws	VECO-ZB-
6	Vertical profile L-profile 50/40/2 T-profile 50/80/2	PROF-A-011 PROF-A-032
7	System rail BAS, vertical	
8	Cladding	

Detailed solutions/Texts for invitations to tender:

[www.gip-fassade.com/en/VECO-4040](http://www.gip-fassade.com/en/VECO-4040)



## Substructure system VECO®-G-1000

**Substructure:** Horizontal Galvalume® substructure with L-profiles

**Type of cladding:** Large format fluted metal and trapezoid panels

**Type of fastening:** Fixation by bolts

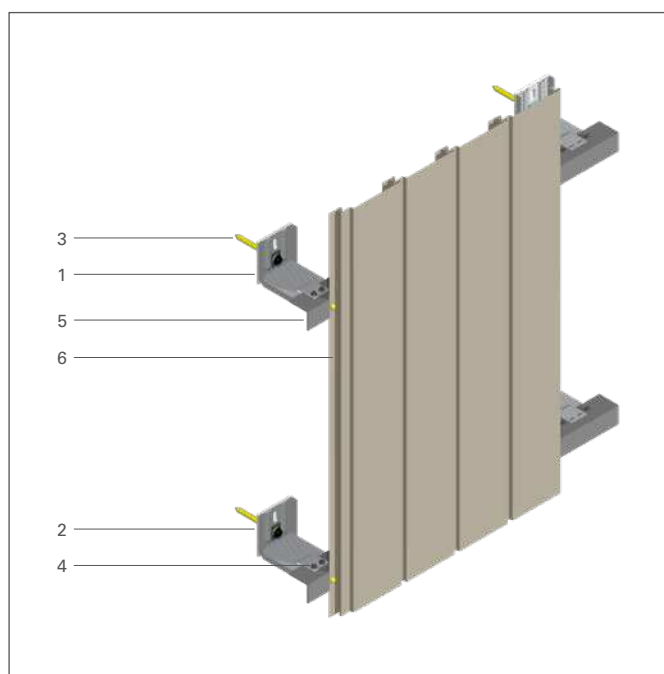
**Cladding material:** Metal

### Substructure components:

Pos.	Description	Article no.
1	Bracket	VECO-G-L
2	Thermo element	VECO-ZB-Therm-
3	Anchors	VECO-ZB-Dübel-
4	Self-drilling screws	VECO-ZB-
5	Horizontal profile	
	L-profile 40/50/2	PROF-A-011
6	Cladding	

Detailed solutions/Texts for invitations to tender:

[www.gip-fassade.com/en/VECO-G-1000](http://www.gip-fassade.com/en/VECO-G-1000)



## Substructure system VECO®-G-1010

**Substructure:** Horizontal Galvalume® substructure with L-profiles

**Type of cladding:** Vertical panel

**Type of fastening:** Invisible, with screws

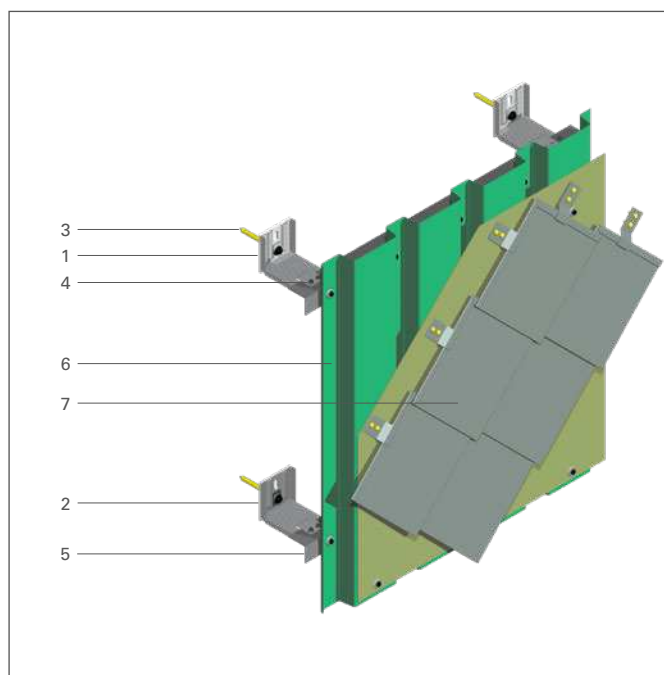
**Cladding material:** Metal

### Substructure components:

Pos.	Description	Article no.
1	Bracket	VECO-G-L
2	Thermo element	VECO-ZB-Therm-
3	Anchors	VECO-ZB-Dübel-
4	Self-drilling screws	VECO-ZB-
5	Horizontal profile	
	L-profile 50/40/2	PROF-A-011
6	Cladding	

Detailed solutions/Texts for invitations to tender:

[www.gip-fassade.com/en/VECO-G-1010](http://www.gip-fassade.com/en/VECO-G-1010)



## Substructure system VECO®-G-1020

**Substructure:** Horizontal Galvalume® substructure with L-profiles, trapezoid full formwork and plain sheet panel

**Type of cladding:** Rectangular and large trapezoid

**Type of fastening:** Invisible, with clips

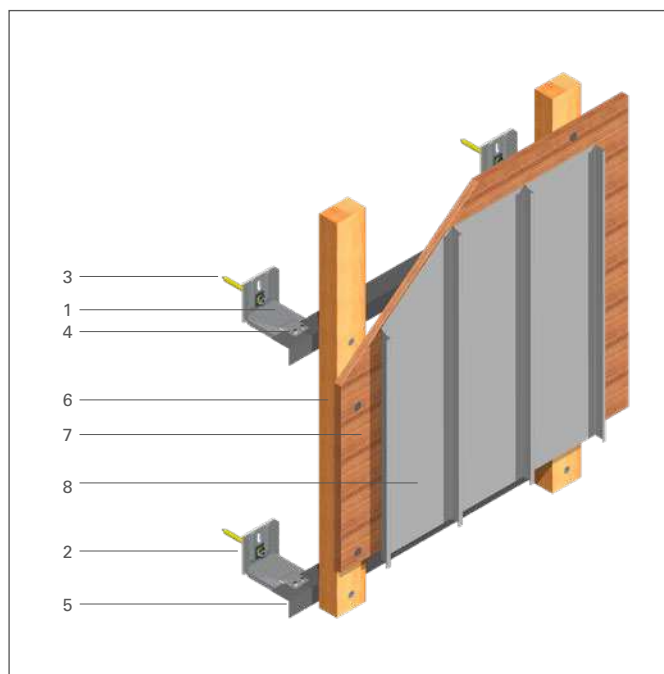
**Cladding material:** Metal

### Substructure components:

Pos.	Description	Article no.
1	Bracket	VECO-G-L-
2	Thermo element	VECO-ZB-Therm-
3	Anchors	VECO-ZB-Dübel-
4	Self-drilling screws	VECO-ZB-
5	Horizontal profile L-profile 50/40/2	PROF-A-011
6	Trapezoid panel	
7	Cladding	

Detailed solutions/Texts for invitations to tender:

[www.gip-fassade.com/en/VECO-G-1020](http://www.gip-fassade.com/en/VECO-G-1020)



## Substructure system VECO®-G-1030

**Substructure:** Horizontal Galvalume® substructure with L-profiles

**Type of cladding:** Vertical metal profiles

**Type of fastening:** Invisible, with clips

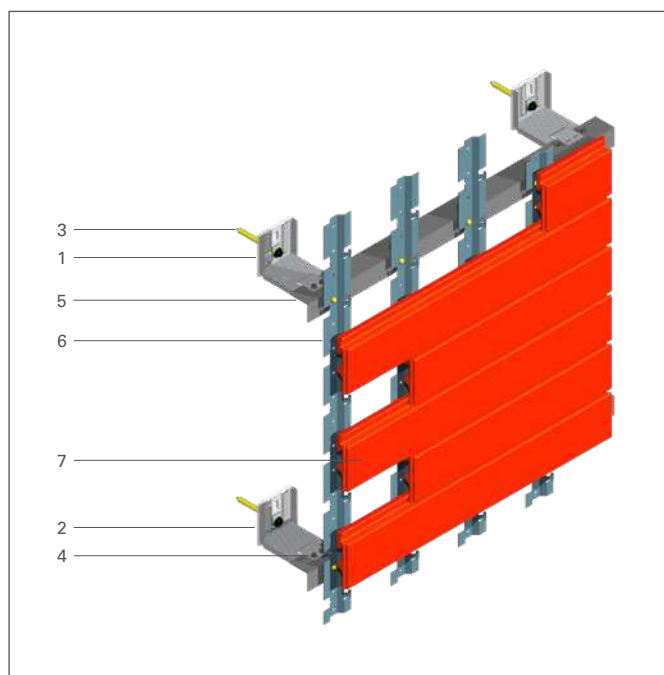
**Cladding material:** Metal

### Substructure components:

Pos.	Description	Article no.
1	Bracket	VECO-G-L-
2	Thermo element	VECO-ZB-Therm-
3	Anchors	VECO-ZB-Dübel-
4	Self-drilling screws	VECO-ZB-
5	Horizontal profile L-profile 50/40/2	PROF-A-011
6	Wooden battens	
7	Full formwork	
8	Cladding	

Detailed solutions/Texts for invitations to tender:

[www.gip-fassade.com/en/VECO-G-1030](http://www.gip-fassade.com/en/VECO-G-1030)



## Substructure system VECO®-G-2000

**Substructure:** Horizontal Galvalume® substructure with L-profiles and VECO-Brick vertical system support rail

**Type of cladding:** Facing tiles

**Type of fastening:** Invisible, on hooks

**Cladding material:** Tile

### Substructure components:

Pos.	Description	Article no.
1	Bracket	VECO-G-L-
2	Thermo element	VECO-ZB-Therm-
3	Anchors	VECO-ZB-Dübel-
4	Self-drilling screws	VECO-ZB-
5	Horizontal profile	
	L-profile 50/40/2	PROF-A-011
6	Vertical system support rail	VECO-Brick
7	Cladding	

Detailed solutions/Texts for invitations to tender:

[www.gip-fassade.com/en/VECO-G-2000](http://www.gip-fassade.com/en/VECO-G-2000)



## SUMMARY

GIP GmbH is a specialist in all the technical aspects relating to the design, planning and realisation of ventilated curtain walls.

Our employees are at your service with their innovative know-how and many years of experience. We provide you with all the support you require from the initial stages of planning a facade to its completion.

### **We offer the following products and services**

- Structural and design consulting
- Production of essential planning documentation as well as calculation of the static requirements and the physical aspects of the structure
- Supply of the substructure or the complete facade system (including the facade cladding)
- Supply of the required custom-made, connecting and accessory components
- Support from our technical field service team.

We will be pleased to answer your specific questions in greater detail and quickly send you a non-binding offer.

You can find further information about our products and services at [www.gip-fassade.com](http://www.gip-fassade.com)

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## **Export**

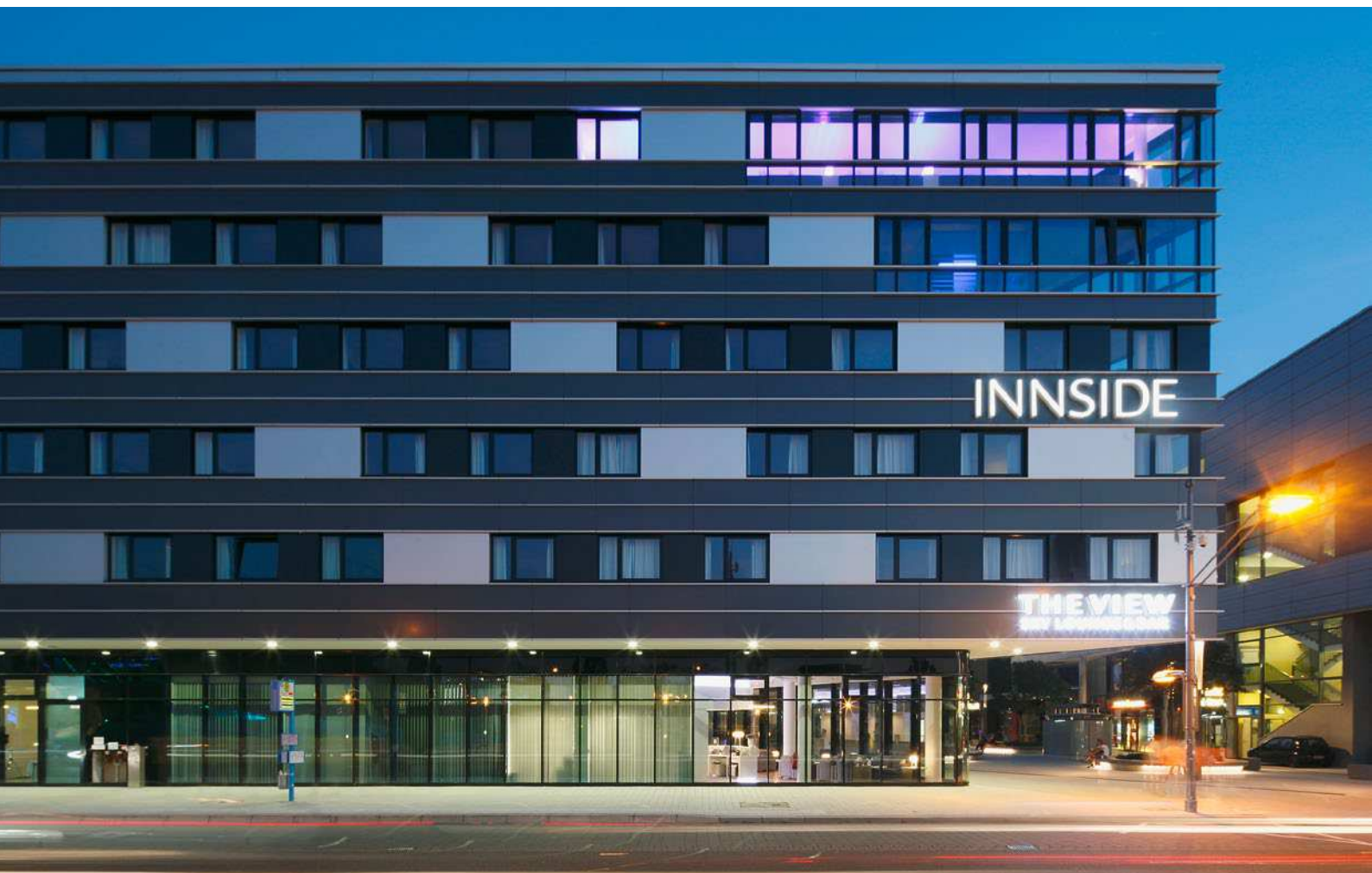
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