



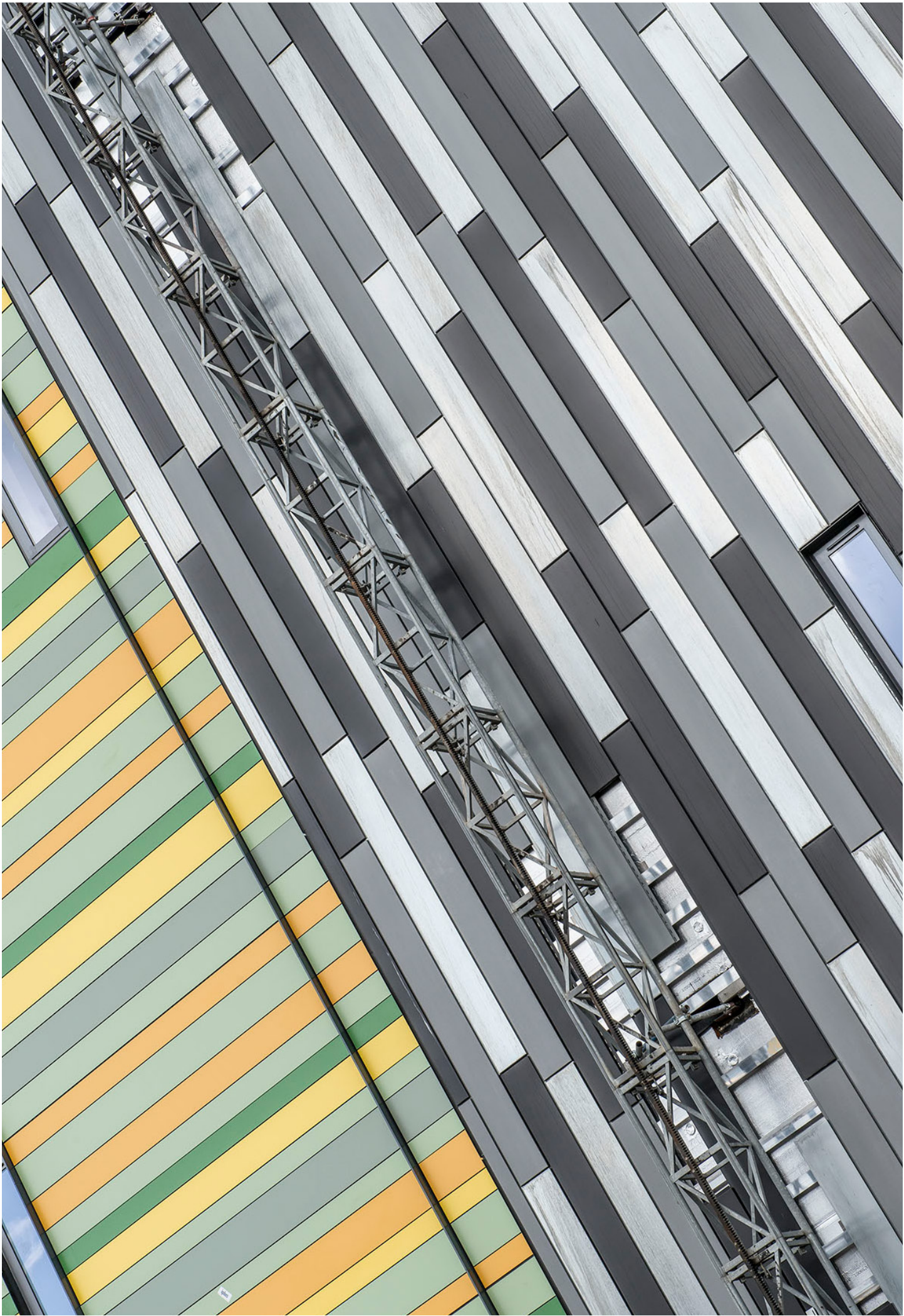
**SFS**



**NVELOPE<sup>®</sup>**  
**Rainscreen**  
**Subframe**

Capability Brochure 2024







# The building envelope specialist

**We strive for continuous improvement and innovation – always in close collaboration with our customers, colleagues and suppliers. We want to be successful together, improve all the time, see where the technological limits are and drive them forward. SFS creates value with advanced fixing and rainscreen subframe systems for the building envelope. As the leading specialist in this application we offer the highest possible expertise.**

**Together with our partners we invent new products and services for our shared success.**









## Contents

|                               |     |
|-------------------------------|-----|
| Latest additions to the range | 7   |
| Introducing SFS ConnectSuite® | 9   |
| Project Builder               | 10  |
| Thermal Builder               | 11  |
| Drawing Overlay Service       | 12  |
| Cutting Service               | 13  |
| Specification                 | 15  |
| Approvals                     | 16  |
| Thermal Solutions             | 18  |
| Corrosion in Subframe Systems | 22  |
| Fire Safety                   | 24  |
| NVELOPE® Systems              | 26  |
| Bracket Options               | 62  |
| First Level Fixings           | 70  |
| Profiles (Rails)              | 101 |
| Second Level Fixings          | 106 |
| Third Level Fixings           | 116 |
| Hanger Options                | 131 |
| Accessories                   | 132 |



# NVELOPE® Rainscreen Subframe-Systems

---

## How to use this brochure

The SFS NVELOPE® Capability brochure has been designed to help you find the right rainscreen solutions quickly. To do this; Identify the right NVELOPE® subframe system for your decorative panel type.

Identify the right bracket for the situation.

Select the level 1 fixings.

Identify the right profile and cutting service options.

Select the level 2 fixings.

Select the level 3 fixings.

Choose any accessories you may need.

Or **make it really simple** and use the Project Builder tool to do all the hard work. Visit [www.uk.sfs.com](http://www.uk.sfs.com) → for more information.

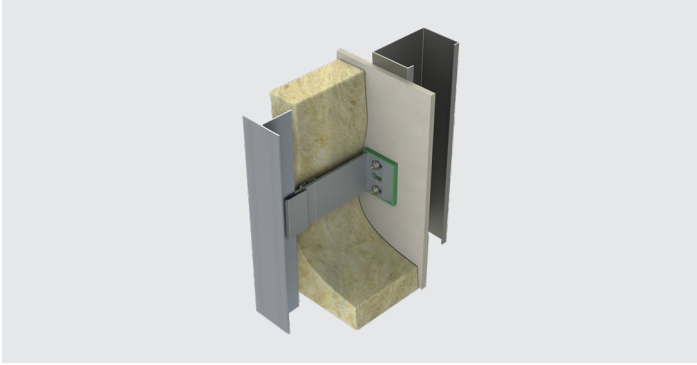
---



# Latest additions to the range

---

## Thermal Solutions



SFS have recently introduced our “Thermal Solutions” range → of subframe brackets which help to minimise the effect of cold bridging within the ventilated rainscreen.

Thermal Solutions makes use of 4 bracket ranges which offer the maximum flexibility to balance budget against thermal performance. The ranges are suitable across virtually all of the industry leading NVELOPE® rainscreen subframe systems.

Thermal Solutions also introduces our new non-compressible Thermal Pad which eliminates the effects of thermal degradation during installation thus helping to bridge the performance gap between design and installation.



# Additional Support



# Introducing SFS ConnectSuite®

**Designed to support you through the  
life-cycle of designing a project.**

The right solution or product for your needs. These tools are free to use and accessible through our SFS website. For Rainscreen subframe systems, Project Builder and Thermal Builder are particularly useful tools. Check out the following pages to learn more.

Page 10 – Project Builder →

Page 11 – Thermal Builder →

Page 12 – Drawing Overlay Service →

Page 13 – Cutting Service →

Page 15 – Specification →



# Project Builder

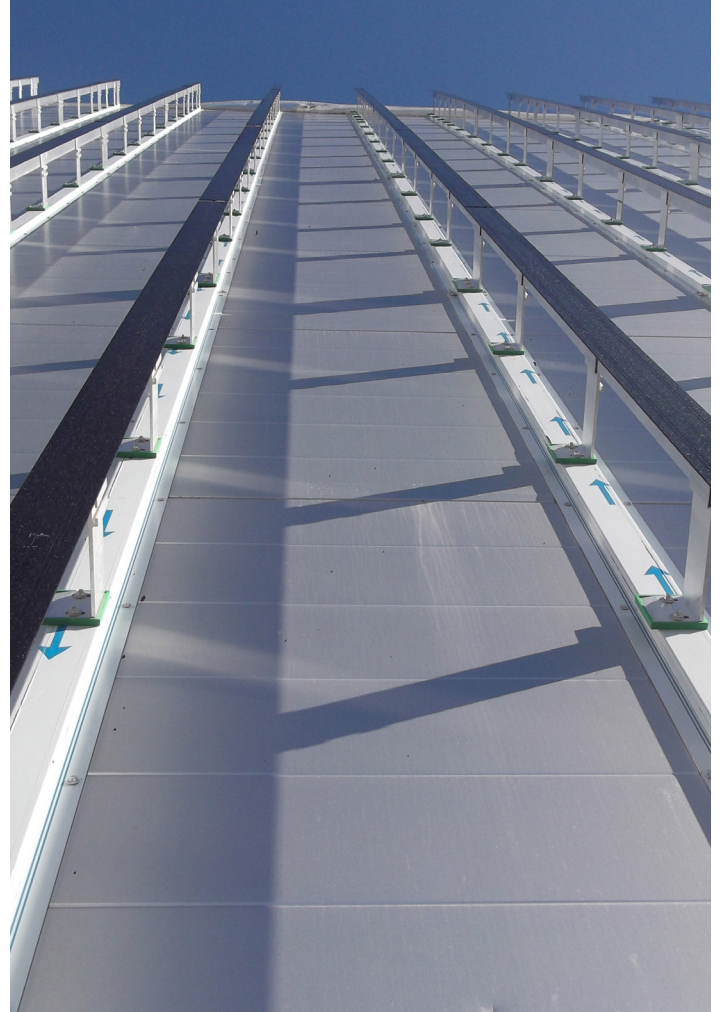
**Through our SFS ConnectSuite® tools, you can easily find the right solution for your project.**

SFS ConnectSuite® includes Project Builder, a free online service that allows visitors to our portal to submit their rainscreen building project requirements.

We recognise that each rainscreen design can vary. Our innovative calculation tool is approaching ten years since it was launched and remains the industry standard. Thousands of users have benefited, as a result tens of thousands of calculations have been produced for our customers throughout the past decade.

The design requirements for each rainscreen cladding project are often different and depend on factors such as local wind loads, building height, primary substrate being fixed to, selected cladding material and the chosen cladding zone. All our NVELOPE® systems can be engineered to project specific requirements utilising Project Builder.

NVELOPE® technicians and technology then process the enquiry to output a Project Builder PDF document which provides project specific bracket and rail spacings, guide pricing per m<sup>2</sup> and a prefilled NBS specification document.





# Thermal Builder

**To help identify the optimised solution, SFS can take your project details and create specific thermal calculations.**

Based on your project's unique wall build-up configuration, our thermal service 3D models each bracket variant to calculate each point loss Chi value. This service is able to dynamically calculate the required insulation depth to achieve your target U-value.

These calculations conform to BS EN:10211 as well as BRE 443 (Conventions for U-value calculations) and ensure the full detailed construction is understood rather than a generic scenario which as such, play no reference to the intended design. Our Static calculations determine the parameters for these calculations and thus can also include project specific information such as insulation type and brand.



## Thermal calculations made easy

Our free service lets you submit your rainscreen building project requirements online and our technical experts will get back to you within 24 hours, to get your project moving quickly.

## Our calculations consider the following criteria

- Thermal bridges via bracket point loss cause increased flow of heat and should be taken into consideration when designing a façade/façade system. Since the fixing of ventilated cladding must go through the thermal insulation into the substrate it cannot be avoided.
- Thermal decoupling of the substructure from the ventilated façade is achieved through thermal separation layers. Our SFS NVELOPE® + Thermal Range can significantly improve bracket point loss and ultimately improve thermal performance.
- The U-value of the plane elements, necessary for the calculation of the overall loss from the building.
- Corrections that need to be made for any thermal bridging, fixings & bracketry. This includes linear heat loss should the rail penetrate the insulation layer.
- The Chi value is the heat loss at (for example) a bracket and is measured as W/mK. Either a default correction is used or a 3D calculation is carried out.

# Drawing Overlay Service

**SFS are able to provide a Drawing Overlay service for specific projects.**

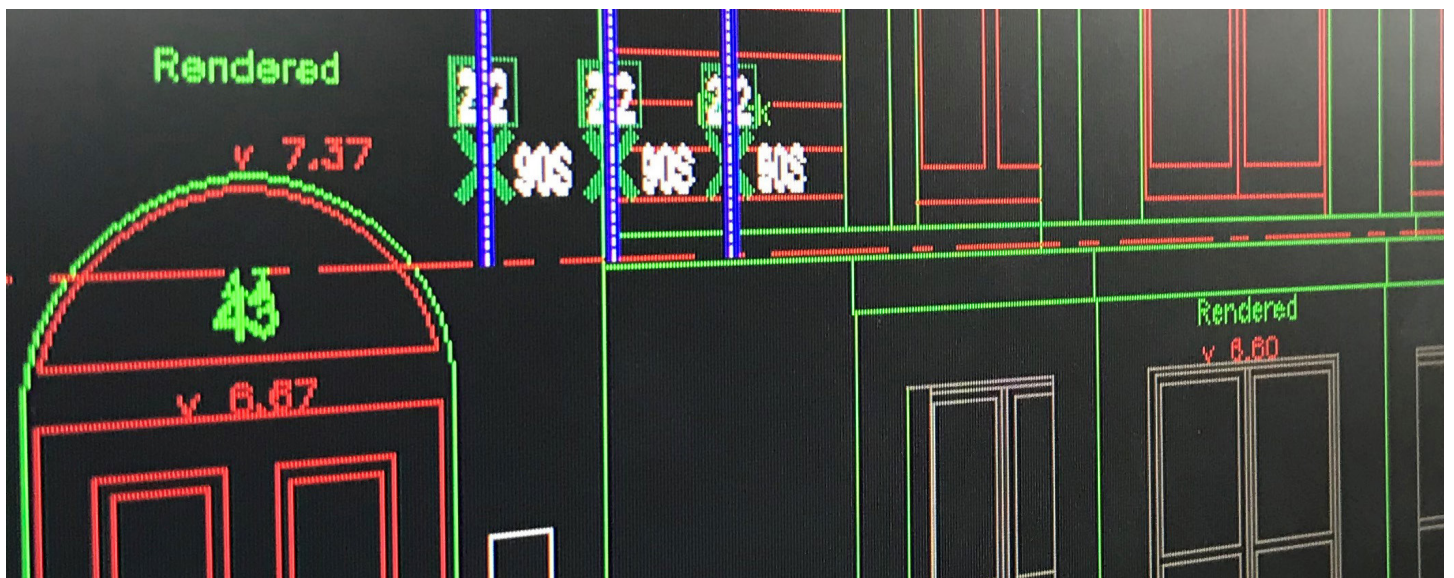
This service correctly positions bracket and rails as calculated by our Project Builder static tool into building drawings as supplied to SFS. As part of this process, SFS are able to “optimise” the lengths of profiles used from standard lengths thus reducing wastage. The profile optimisation feature aligns perfectly with our Profile Cutting service described within the following page. The service also produces a list of required fixings and quantifies accordingly.

SFS Drawing overlays can be utilised for:

- Quoting purposes – the provision of a indicative or sample façade area.
- Final quantification of components – the full drawing overlay can be issued, which are based on the drawings forwarded to us.

SFS Drawing Overlays provide a valuable quantification recommendation which further helps to offer additional assurance that our NVELOPE® systems are economically integrated within a safe and effective design.

To find out how our Technical Team can support you with your design, please contact [info-nvelope@sfs.com](mailto:info-nvelope@sfs.com). →



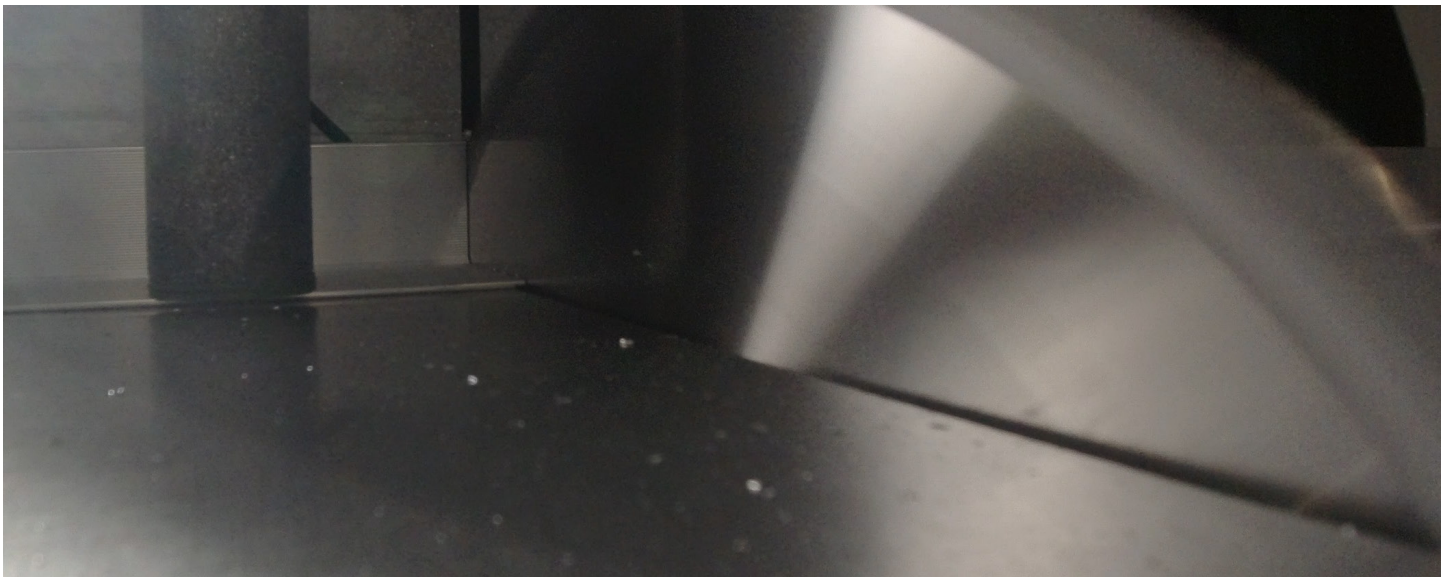


# Cutting Service

**Reduce waste and install more quickly with our unique optimised profile cutting service.**

SFS have recognised a market need to move more activities “off-site” and we recognise the benefits this brings. Our optimised profile cutting service offers additional benefits:

- Optimised material usage – Less waste, lower costs, more environmentally sound
- No disposal issues on site – Lower costs, less space devoted to waste, assures waste is correctly recycled
- Staged Deliveries – Reduces storage, minimises damages and losses
- Health & Safety – Reduced noise and lessened chance of injury
- Optimised Labour – Site teams are focused on installation alone







# Digital Construction and Specification

**The method for digitally designing and constructing our buildings continues to evolve and so our approach at SFS is to be flexible, listen to the needs of our customers and develop tools that assist with the correct use of our systems.**

## **We can offer**

- Structured Product Data – allowing relevant attributes to your specific project to be supplied for incorporation into models.
- BIM Models – a range of our systems can be downloaded from the NBS BIM Library ( which contain geometry and data.
- 2D and 3D geometry models for use in your system designs.

SFS recognise that the specifier has challenges to overcome which often requires a tailored approach, because of this, we offer a dedicated specification team to support you, ensuring the right solutions are incorporated into your project. Our team understand key issues such as fire and thermal performance, corrosion and air tightness. They can provide guidance on how different systems will perform within the building envelope, ensuring the relevant building standards for your project, are met.

## **To support, we can offer**

- RIBA accredited CPD seminars
- Bespoke system presentations
- Specification writing including the latest NBS Chorus
- Review of project requirements and guidance on our solutions
- Engagement with associated OEM's to provide

For more details please visit [uk.sfs.com/specification](https://uk.sfs.com/specification). →



# Approvals

## BBA – British Board of Agrément



BBA certification is a mark of excellence based on rigorous National and European standards that validate a construction products formulation, capability and uniqueness.

Earning and maintaining BBA certification demonstrates a commitment to ongoing innovation.

It is recognised, respected and sought after by specifiers, architects and contractors. Assessment reassures all parties that we are an expert in our specialty and we continue to offer the latest advances and best practices, enabling us to deliver the safest, most efficient and highest quality product possible. Our NVELOPE® Rainscreen Subframe System was first awarded a British Board of Agrément certification over ten years ago and was the first system in the UK to gain recognition.

## CE/UKCA



All our UK sourced NVELOPE® Subframe stainless steel and aluminium components are covered by our Declaration of Performance (DoP) meeting the requirement of conformity to EN 1090-1:2009+A1:2011 and the technical requirements according to EN 1090-3 & 1090-2.

The content of our DoP is in accordance with ZA3.1 & ZA3.2 of EN1090-1 and assessed under system 2+. Our systems are CE marked as approved by our European Notified Body partner accordingly. UKCA mark will be mirrored during 2021.

## Passive House



The Passive House Institute (PHI) is an independent research institute that has played an especially crucial role in the development of the passive House concept, an internationally recognised, performance-based, energy standard for the construction industry.

Passive House Certification assures that strict quality requirements of the Passive House Standard have been achieved for buildings and particularly building components.

Our **NVELOPE® NVS Stainless Steel bracket** combined with our unique **Thermal Pad** (NVS + Thermal) has been awarded Passive House component accreditation, falling within the Facade Anchor category. The significant reduction in thermal point loss which may be achieved by utilising our **NVS + Thermal system** is clearly recognised by the PHI.









# Thermal Solutions



# Optimised Thermal Solutions

**Excellent thermal performance linked to rainscreen façades is a vital prerequisite if we're to meet our carbon reduction targets.**

Our NVELOPE® rainscreen subframe systems are an integral part of rainscreen cladding build-up and their impact on heat loss from the façade, plays a key role. By calculating the U-value (Thermal Transmittance  $W/m^2k$ ) of a building envelope, it is possible to understand the implication thermal performance has when aiming to meet or exceed current building regulations.

As buildings become better insulated, the importance of the effects cold bridging or thermal point loss can have on the overall thermal performance of a dwelling can be significant. Recent research has shown that thermal bridging can be responsible for up to 30% of a dwelling's heat loss (source BRE).

Subframe systems, including the use of brackets which penetrate the insulation layer, can provide a potential source of cold bridging within a ventilated rainscreen. To achieve the ideal thermal solution for your project, SFS have created an innovative range of Thermal Brackets which can be used across the wide range of NVELOPE® systems.

## **Thermal bracket ranges which work across most of the NVELOPE® systems**

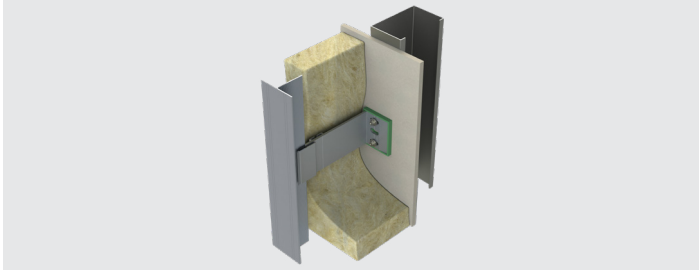
NVELOPE® Thermal Solutions makes use of 4 bracket ranges to ensure maximum flexibility to balance budget against thermal performance and are available across virtually all NVELOPE® systems.

## **Bridging the performance gap**

Utilising our UK patent pending technology, SFS have created a thermal pad which guards against thermal degradation due to compression during installation ensuring no loss in thermal performance. The thermal pad can be universally used with most of our bracket ranges.

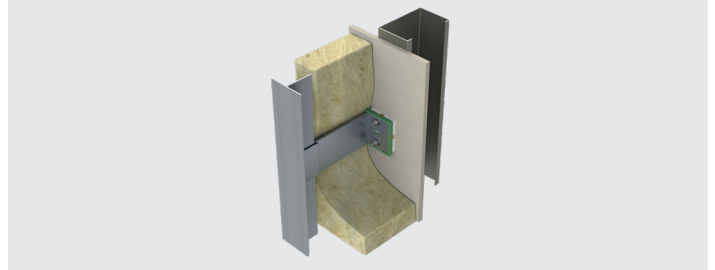
# NVELOPE® Thermal Solutions Ranges

## NVELOPE® VB/HB



NVELOPE® VB/HB aluminium brackets are supplied with a green plastic “isolator” which offers a degree of thermal benefit. However, it’s principle function is to eliminate any potential of galvanic corrosion between masonry and aluminium substrates.

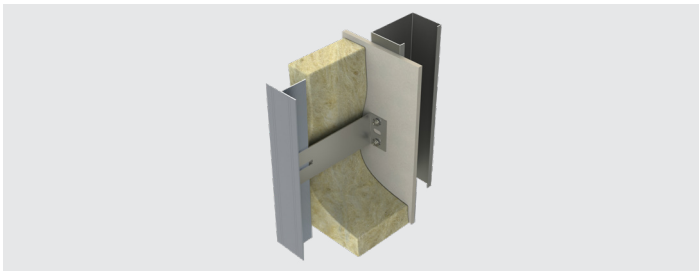
## NVELOPE® VB/HB + Thermal



Whilst strong and easy to install, aluminium is very thermally conductive e.g.  $>200 \text{ W/m}^2\text{k}$ . Therefore, the thermal point loss affects can be significant when aluminium brackets are utilised depending on the combination of various elements within the rainscreen build-up.

The NVELOPE® VB/HB + Thermal range includes an insulation pad at the base of the bracket. This dramatically improves the thermal performance of the rainscreen build-up.

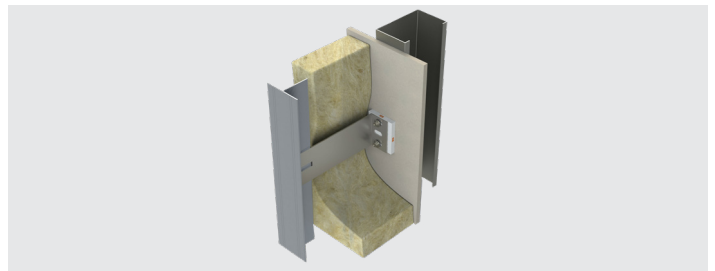
## NVELOPE® NVS



For greater performance SFS have recently introduced a complete range of stainless steel brackets to complement our vertical aluminium ranges. Our stainless steel range is made from superior 316 grade which exhibits far greater resistance to localised corrosion in marine and in contact with atmospheric pollution found in most built up environments.

Stainless steel will demonstrate a much improved increase in thermal performance. Typically stainless steel of approximately  $16 \text{ W/m}^2\text{K}$ . This represents a  $12 \times$  thermal improvement over and above aluminium. Additionally stainless steel brackets have no requirement to utilise an isolator to alleviate galvanic corrosion.

## NVELOPE® NVS + Thermal

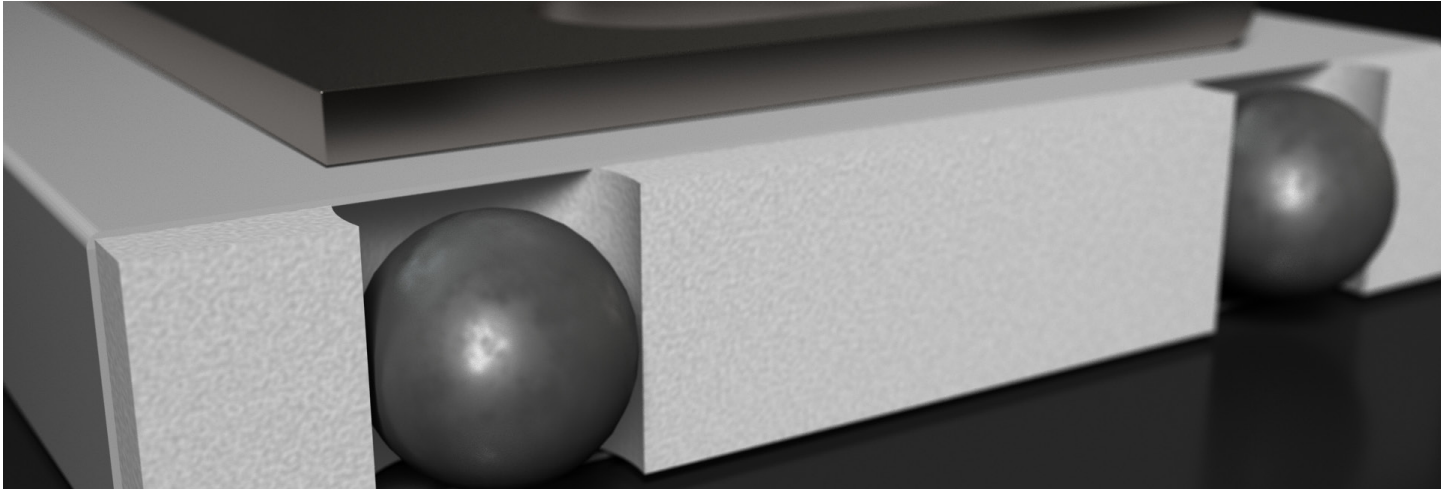


For **optimum thermal performance** NVELOPE® NVS + Thermal is the ideal choice. It offers the combined benefits of high thermal performance with high corrosion resistance for coastal environments.

Where rainscreen build up designs prescribe demanding thermal solutions, this option could offer the ideal high performance answer! Our NVELOPE® NVS Stainless Steel bracket combined with our unique Thermal Pad (NVS + Thermal) has been awarded Passive House component accreditation, falling within the Facade Anchor category.



# Optimised Thermal Solutions



## NVELOPE® Thermal Solutions Benefits

- 4 ranges across many NVELOPE® Rainscreen subframe systems.
- Includes aluminium and stainless steel brackets.
- Non-compressible thermal pad reduces thermal performance gap.
- Thermal pad is bonded to the bracket to save on installation time.
- Good to excellent thermal performance.
- Supported by our Project Builder software.

SFS can assist with an understanding of the Thermal effects caused by our components within the rainscreen build-up in respect of heat loss and U-values for a rainscreen project by visiting and using our Thermal Builder, ConnectSuite®, digital tool.

## Materials

Aluminium brackets are manufactured from extruded 6005A T6 alloys conforming to EN 573-3 material and EN 755 production standards providing exceptional strength and durability and ideal for good thermal performance. The Stainless Steel brackets utilise the superior 316 grade of material which provides increased resistance to localised corrosion such as in marine or polluted environments. The stainless steel brackets also provide superior thermal performance. The Thermal options incorporate the addition of thermal insulant in the form of a bonded non-compressible insulating pad.

## Reduction in the performance gap

Non-compressible insulation pad on the NVELOPE® VB+Thermal, NVELOPE® HB+Thermal and the NVELOPE® NVS + Thermal products reduces the effects from thermal degradation due to compression of the insulating pad. This helps to reduce the performance gap from design to real world installation.

## Thermal enhancement

NVELOPE® VB + Thermal, NVELOPE® HB + Thermal and the NVELOPE® NVS + Thermal come with a pre-installed thermal insulated pad. There is no need to assemble these on site which ensures that all brackets are installed correctly with the insulated pad saving time on rework or assembly on site.

## Fire Safety

All our NVELOPE® aluminium and stainless steel brackets are defined as Euroclass A1 Non Combustible EC Directive – 94/611/EC. Our Thermal pad has an A2 Non Combustible Euroclassification.

## Thermal Pad

NVELOPE® VB + Thermal, NVELOPE® HB + Thermal and the NVELOPE® NVS + Thermal come with a pre-installed thermal insulated pad. There is no need to assemble these on site which ensures that all brackets are installed correctly with the insulated pad saving time on rework or assembly on site.

## Full technical support

As with all NVELOPE® products we offer full technical support.

## Warranty

As with all qualifying SFS products we offer an industry leading warranty.

**Find out more...** →



# Corrosion



# Corrosion in Subframe Systems

Corrosion is an important consideration when using differing metal substrates in combination together.

Galvanic corrosion is an electrochemical process, it occurs as a result of the flow of very small electric currents usually between two dissimilar metals which causes the more anodic of the two metals to corrode. The most common solution to prevent galvanic corrosion is to select materials that are close together in the galvanic series.

The main exception to using stainless steel and aluminium together is the quantity of each material in contact, in the case of the NVELOPE® NVS stainless steel system, the bracket contains the smaller quantity of material.

The cathode area (stainless steel bracket) is very small when compared to the anode area (aluminium rail), this combination will not dramatically decrease the life span.

The table below is taken from “Stainless Steel in Contact with Other Metallic Materials” published by The European Stainless Steel Development Association, 2009.

## Recommended material connections/combinatons

| Material with a large area | Materials with a small area |                     |                |                |                 |
|----------------------------|-----------------------------|---------------------|----------------|----------------|-----------------|
|                            | Carbon steel/Cast iron      | Zn galvanised steel | Al             | Cu             | Stainless steel |
| Carbon steel/Cast iron     | good                        | poor                | poor           | good           | good            |
| Zn galvanised steel        | good                        | good                | good           | uncertain      | good            |
| Al                         | uncertain/poor              | uncertain           | good           | uncertain/poor | good            |
| Cu                         | poor                        | poor                | poor           | good           | good            |
| Stainless steel            | poor                        | poor                | uncertain/poor | good           | good            |

Table from “Stainless Steel in Contact with Other Metallic Materials” by The European Stainless Steel Development Association, 2008



**Fire**

**Safety**



# Fire Safety

## **Euroclass Standard EN13501-1 provides the reaction to fire classification process for all components and building elements.**

The standard defines a reaction to fire as the response of a construction product in contributing by its own decomposition to a fire which it is exposed, under specific conditions. It does not define resistance to fire.

Construction products are classified according to harmonised test methods in Euroclass A1, A2, B, C, D, E and F. Products falling into A1 & A2 classes are classified as non-combustible.

All our NVELOPE® stainless steel and aluminium brackets and profiles are defined as A1 within an EC Directive – 94/611/EC.

Throughout England, a ban exists on the use of combustible materials used in the external walls of certain high rise buildings and has been implemented by amending Regulation 7 of the building regulations, which deals with materials and workmanship. The amended regulations list materials which are exempt from the limits on combustibility introduced by Regulation 7 (2).

The list of exemptions are described within 7 (3). The list includes Thermal break materials where the inclusion of the materials is necessary to meet the thermal bridging requirements of Part L or Schedule 1 & Fixings.

These exemptions to Regulation 7 may apply to:

- All our aluminium brackets are supplied with “Green” polypropylene isolators which impart improved thermal performance.
- Our Thermal pad, a core component utilised within our Thermal Solutions systems.
- Our fixings and fasteners.

The use of any material exempted by Regulation 7 (3) must also be used in conjunction with the requirements of B4 of Schedule 1 of the Building Regulations 2010.



# NVELOPE<sup>®</sup>

# Systems



# Overview

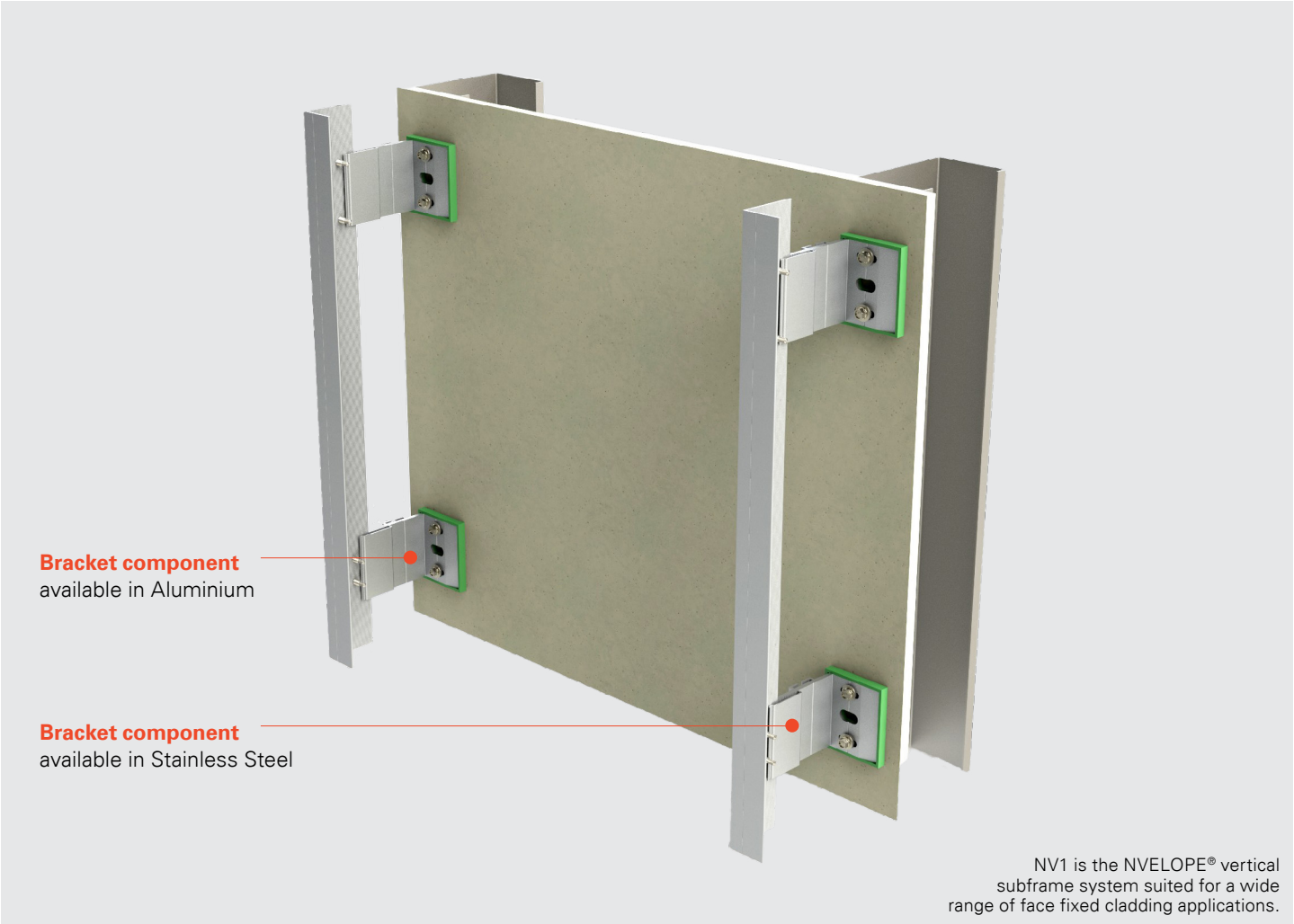
**NVELOPE® systems are made up from brackets and profiles and are available in various configurations to suit your project or application needs.**

---

## Systems

- NV1 →
- NV2 →
- NV3 →
- NV4 →
- NV5 →
- NV6 →
- NV7 →
- NV8 →
- NV9 →
- NV10 →
- NS1 →
- NVF2F →
- NH3 →

# NV1



## NV1 L and T corner profile

| System Type | Isolator Options                      | Panel Orientations    | *BBA | 1 <sup>st</sup> Level Fix | 2 <sup>nd</sup> Level Fix | 3 <sup>rd</sup> Level Fix |
|-------------|---------------------------------------|-----------------------|------|---------------------------|---------------------------|---------------------------|
| Face Fixed  | Standard Isolator<br>NVELOPE® Thermal | Vertical & Horizontal | Yes  | All fixings               | SDA5                      | Rivet/Panel<br>fixing     |

\*British Board of Agreement



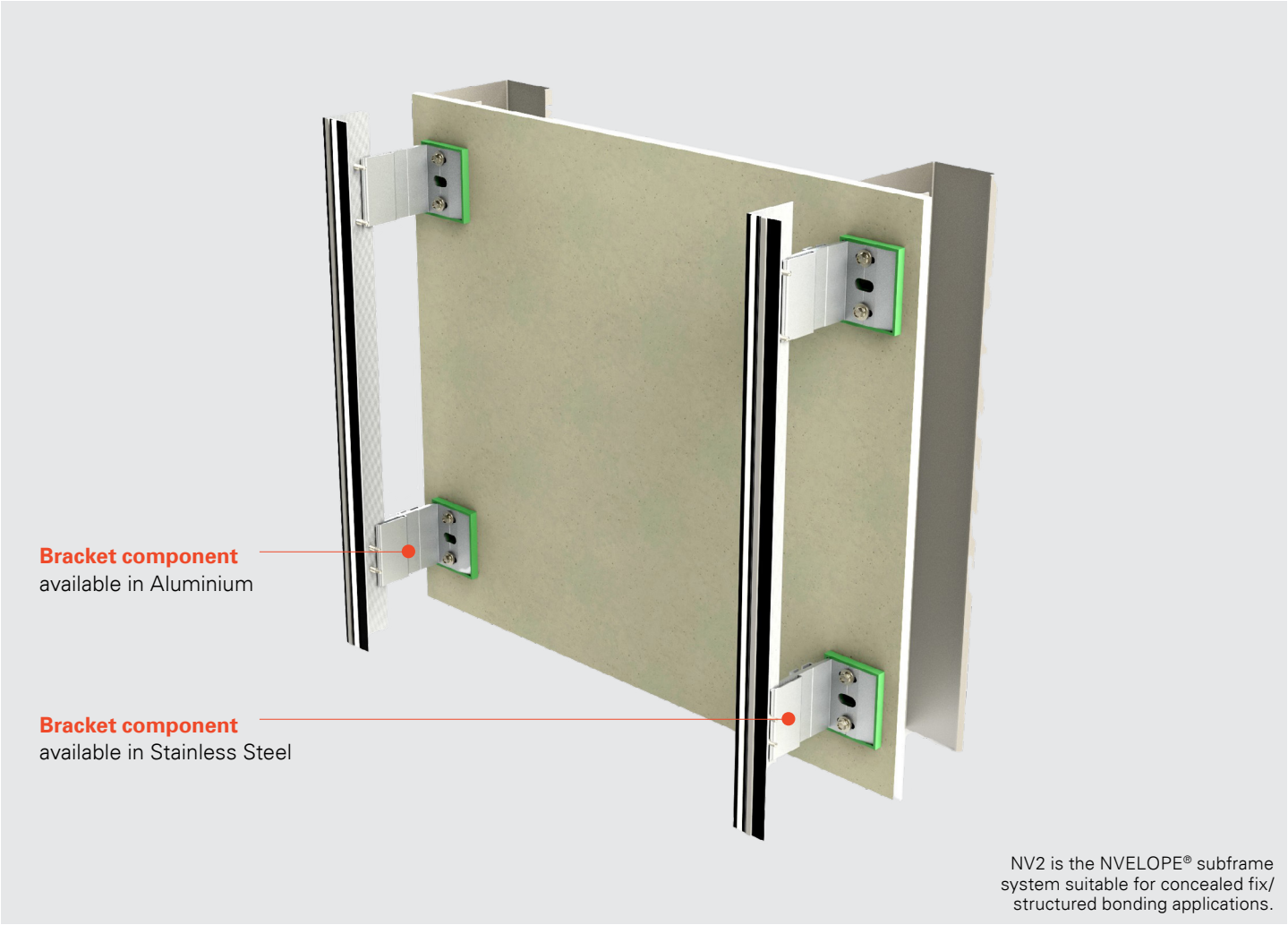


---

#### Features & Benefits

- NV1 is the basis of most of our NVELOPE® support systems.
  - It forms the backframe for the face fixing of decorative panels and a wide range of other NVELOPE® systems.
  - It is compatible with a wide range of NVELOPE® profiles.
  - It is suitable for 3rd level fixing and riveting systems.
  - Ideal solution for OEM system support.
-

# NV2



**NV2 L and T corner profile**

| System Type              | Isolator Options                      | Panel Orientations    | *BBA | 1 <sup>st</sup> Level Fix | 2 <sup>nd</sup> Level Fix | 3 <sup>rd</sup> Level Fix |
|--------------------------|---------------------------------------|-----------------------|------|---------------------------|---------------------------|---------------------------|
| Adhesive Concealed Fix** | Standard Isolator<br>NVELOPE® Thermal | Vertical & Horizontal | No   | All fixings               | SDA5                      | N/A                       |

\*British Board of Agreement/\*\*Seek the relevant adhesive manufacturers advice and recommendation.



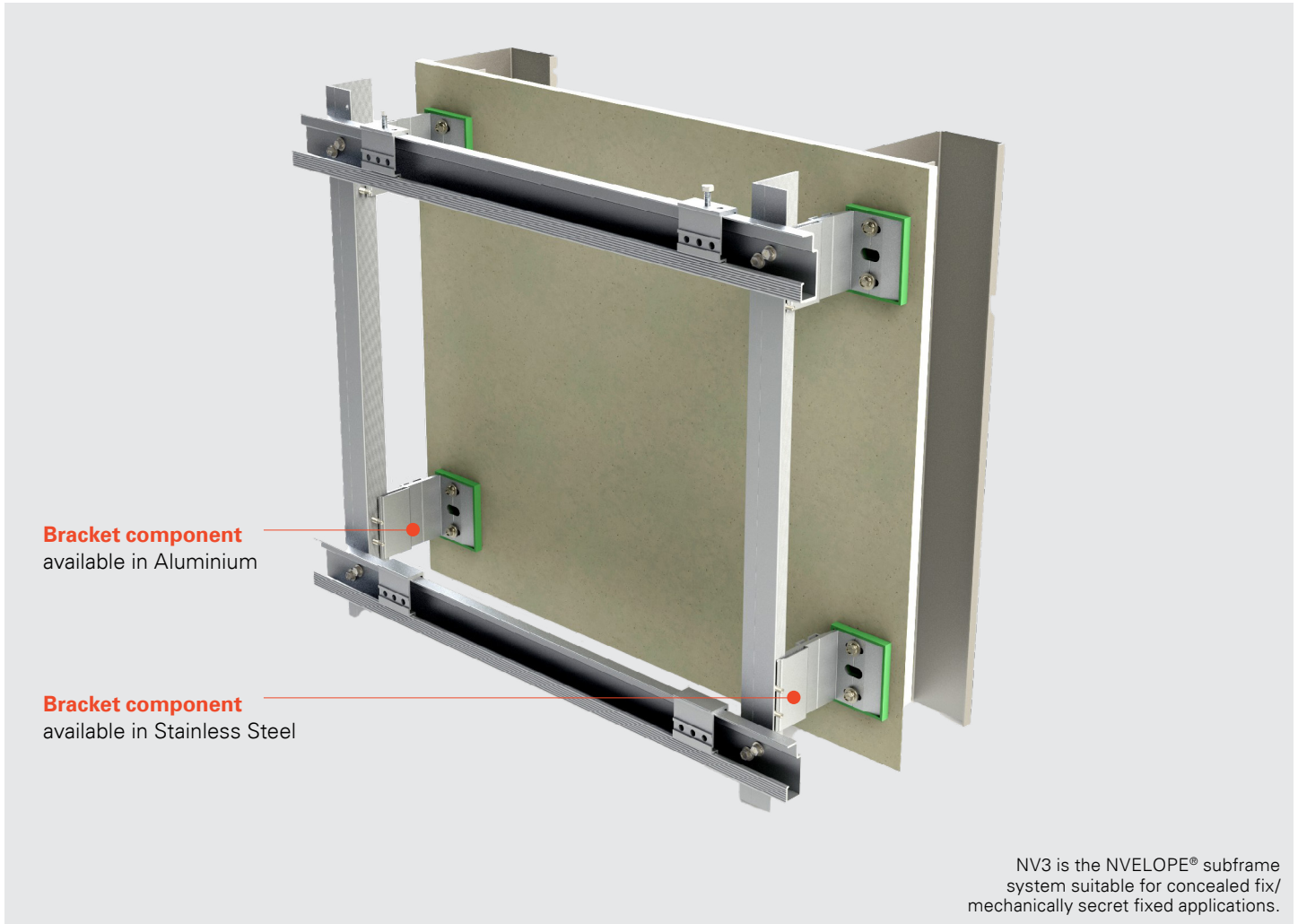


---

#### Features & Benefits

- NV2 provides a back frame for structural adhesive bonded systems\*
  - It is compatible with a wide range of NVELOPE® profiles
  - Ideal solution for OEM system support.
-

# NV3



NV3 is the NVELOPE® subframe system suitable for concealed fix/mechanically secret fixed applications.

**NV3 Only L profile, NV3 profile, NV3 hangers**

| System Type                 | Isolator Options                      | Panel Orientations    | *BBA | 1 <sup>st</sup> Level Fix | 2 <sup>nd</sup> Level Fix | 3 <sup>rd</sup> Level Fix |
|-----------------------------|---------------------------------------|-----------------------|------|---------------------------|---------------------------|---------------------------|
| Mechanical<br>Concealed Fix | Standard Isolator<br>NVELOPE® Thermal | Vertical & Horizontal | Yes  | All fixings               | SDA5<br>SN3               | TUF anchor                |

\*British Board of Agreement





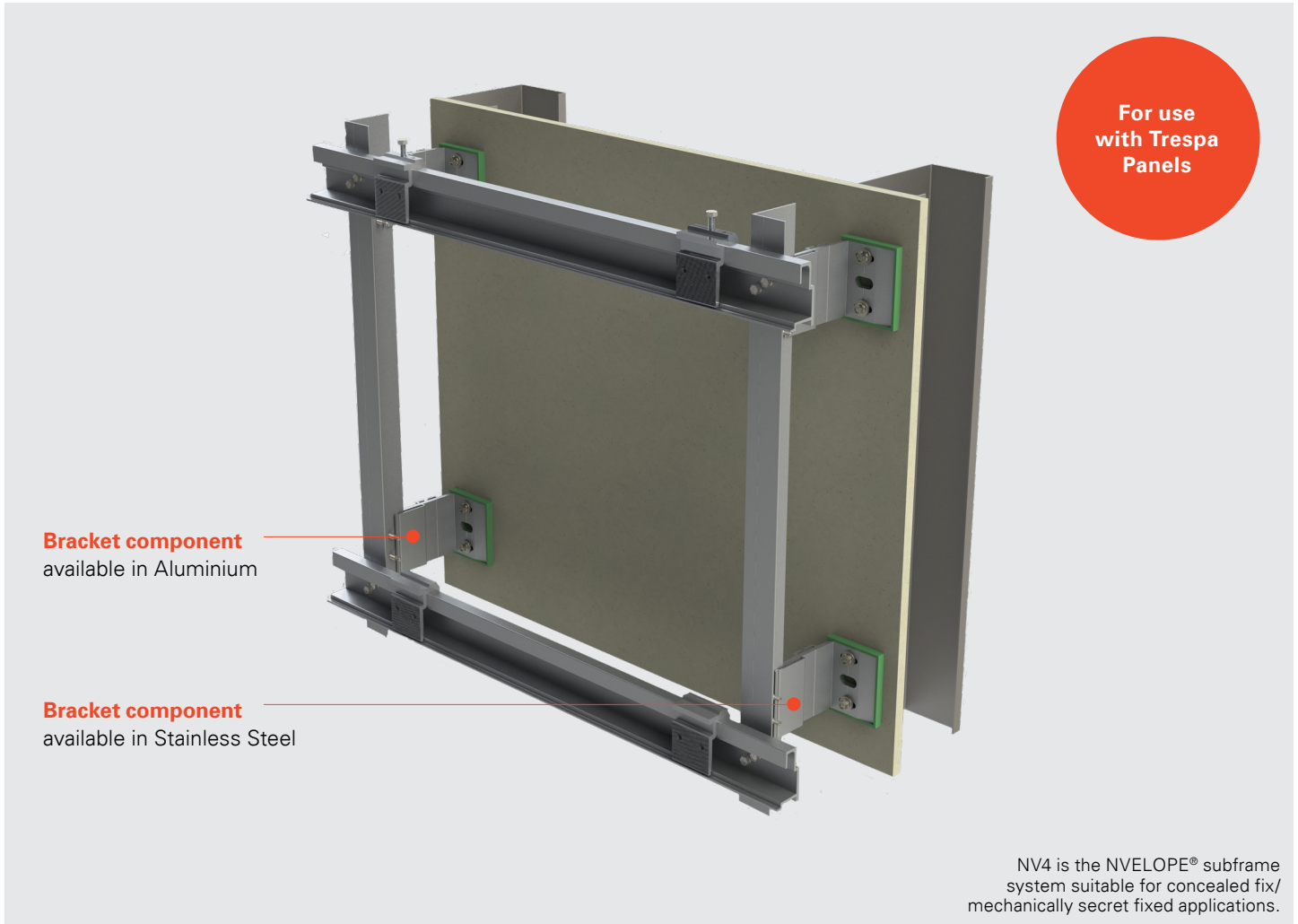
NV3  
Edgware Road Station Building

---

### Features & Benefits

- NV3 provides a “hook on” mechanical fix system for concealed panels.
  - Fully adjustable hangers.
  - Hangers to suit different types of anchor fixing.
  - Increased flexibility in panel layout design.
  - Can be used in conjunction with our unique TUF secret fixing fastening system.
  - Ideal solution for OEM system support.
-

# NV4



**NV4 Only L profile, NV4 profile, NV4 hangers**

| System Type   | Isolator Options  | Panel Orientations    | *BBA | 1 <sup>st</sup> Level Fix | 2 <sup>nd</sup> Level Fix | 3 <sup>rd</sup> Level Fix |
|---------------|-------------------|-----------------------|------|---------------------------|---------------------------|---------------------------|
| Mechanical    | Standard Isolator | Vertical & Horizontal | No   | All fixings               | SDA5                      | TUF                       |
| Concealed Fix | NVELOPE® Thermal  |                       |      |                           | SN3                       | PTS                       |

\*British Board of Agreement



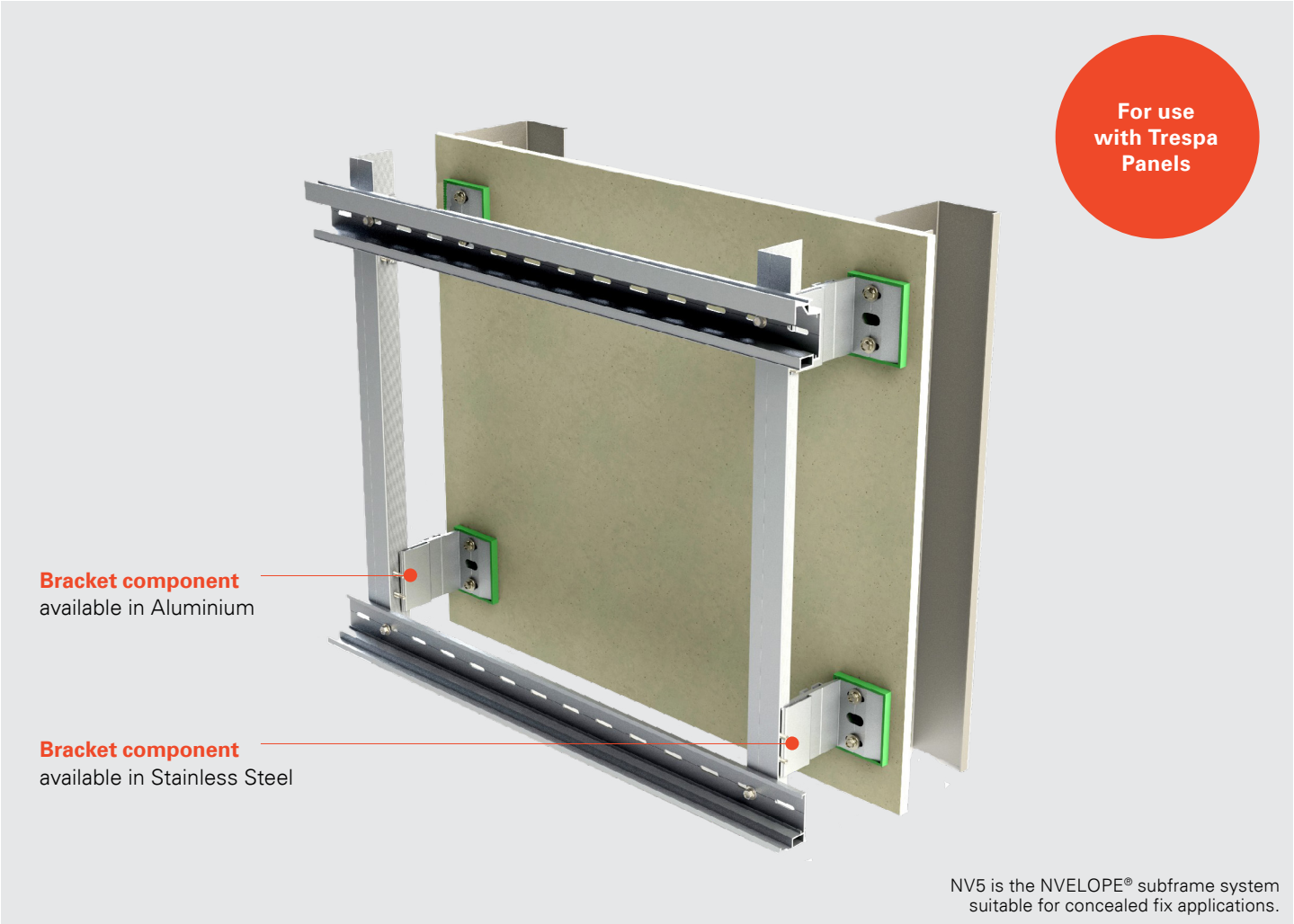


---

#### Features & Benefits

- NV4 provides a “hook on” mechanical fix systems for concealed panels.
  - Fully adjustable hangers.
  - Hangers to suit different types of anchor fixing.
  - Increased flexibility in panel layout design.
  - Used in combination with our unique TUF secret fix fastening system.
  - Ideal solution for OEM system support.
-

# NV5



**NV5 Only L profile, NV5 Starter Rail, NV5 Mail Rail**

| System Type                 | Isolator Options                      | Panel Orientations | *BBA | 1 <sup>st</sup> Level Fix | 2 <sup>nd</sup> Level Fix | 3 <sup>rd</sup> Level Fix |
|-----------------------------|---------------------------------------|--------------------|------|---------------------------|---------------------------|---------------------------|
| Mechanical<br>Concealed Fix | Standard Isolator<br>NVELOPE® Thermal | Horizontal         | No   | All fixings               | SDA5                      | N/A                       |

\*British Board of Agreement



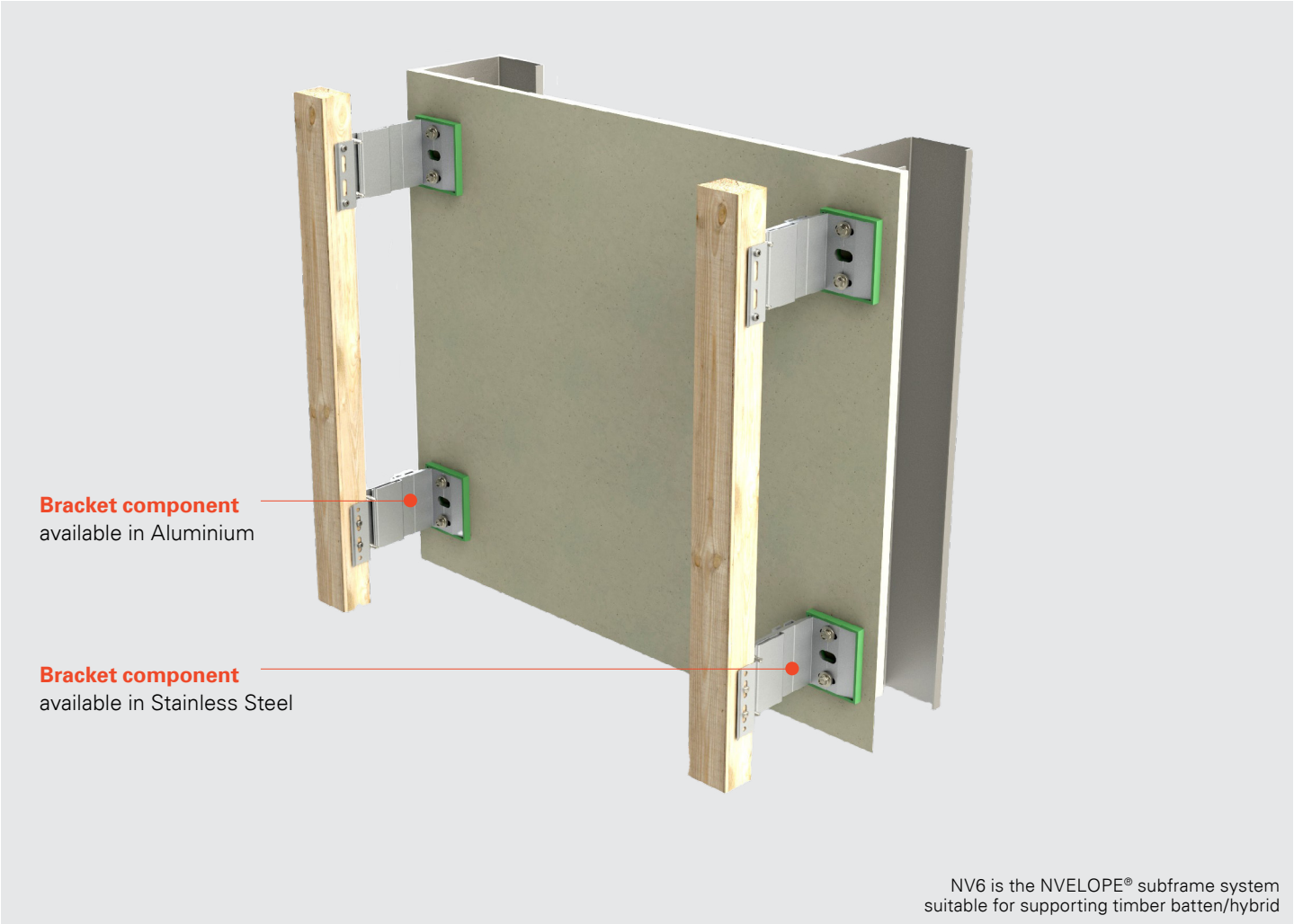


---

#### Features & Benefits

- NV5 provides a mechanical concealed fix channel system for narrow horizontal panels.
  - Can support a range of different panel edge designs.
  - Ideal solution for OEM system support.
-

# NV6



NV6 N/A

| System Type       | Isolator Options  | Panel Orientations | *BBA | 1 <sup>st</sup> Level Fix | 2 <sup>nd</sup> Level Fix | 3 <sup>rd</sup> Level Fix |
|-------------------|-------------------|--------------------|------|---------------------------|---------------------------|---------------------------|
| Timber Face Fixed | Standard Isolator | Vertical &         | No   | All fixings               | SDA5                      | Panel Fixing              |
| Concealed Fix     | NVELOPE® Thermal  | Horizontal         |      |                           | SR2                       |                           |

\*British Board of Agreement





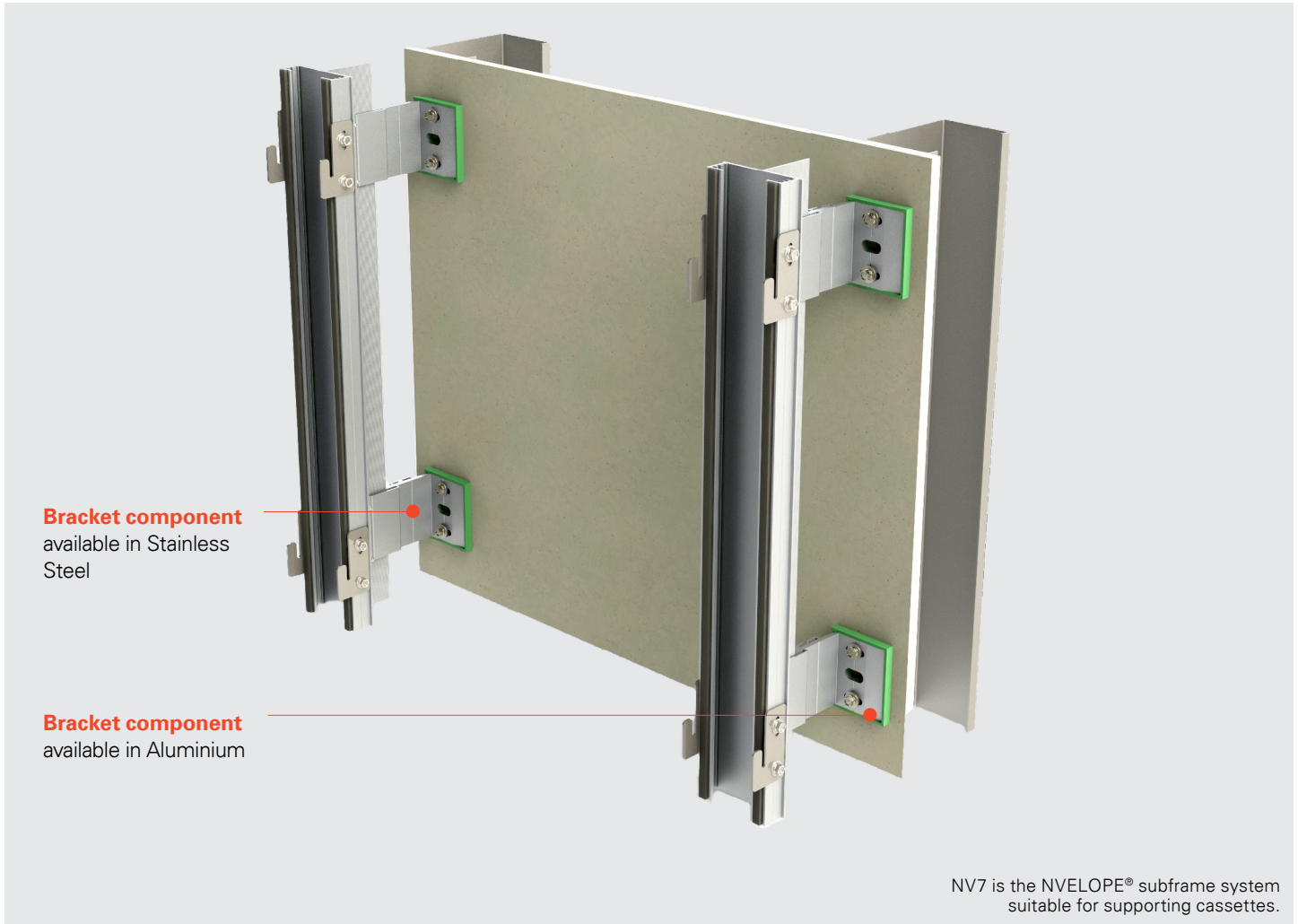
**NV6**  
**Packington Estate**

---

#### **Features & Benefits**

- NV6 is a hybrid system.
  - It creates a timber back frame support system, suitable for face fix panels or concealed fix timber cladding/ weatherboarding systems.
  - Range of carrier sizes to suit different size timber.
  - Ideal solution for OEM system support.
-

# NV7



## NV7 profile

| System Type               | Isolator Options                      | Panel Orientations       | *BBA | 1 <sup>st</sup> Level Fix | 2 <sup>nd</sup> Level Fix | 3 <sup>rd</sup> Level Fix |
|---------------------------|---------------------------------------|--------------------------|------|---------------------------|---------------------------|---------------------------|
| Concealed Fix<br>Cassette | Standard Isolator<br>NVELOPE® Thermal | Vertical &<br>Horizontal | Yes  | All fixings               | SDA5<br>SX3               | N/A                       |

\*British Board of Agreement



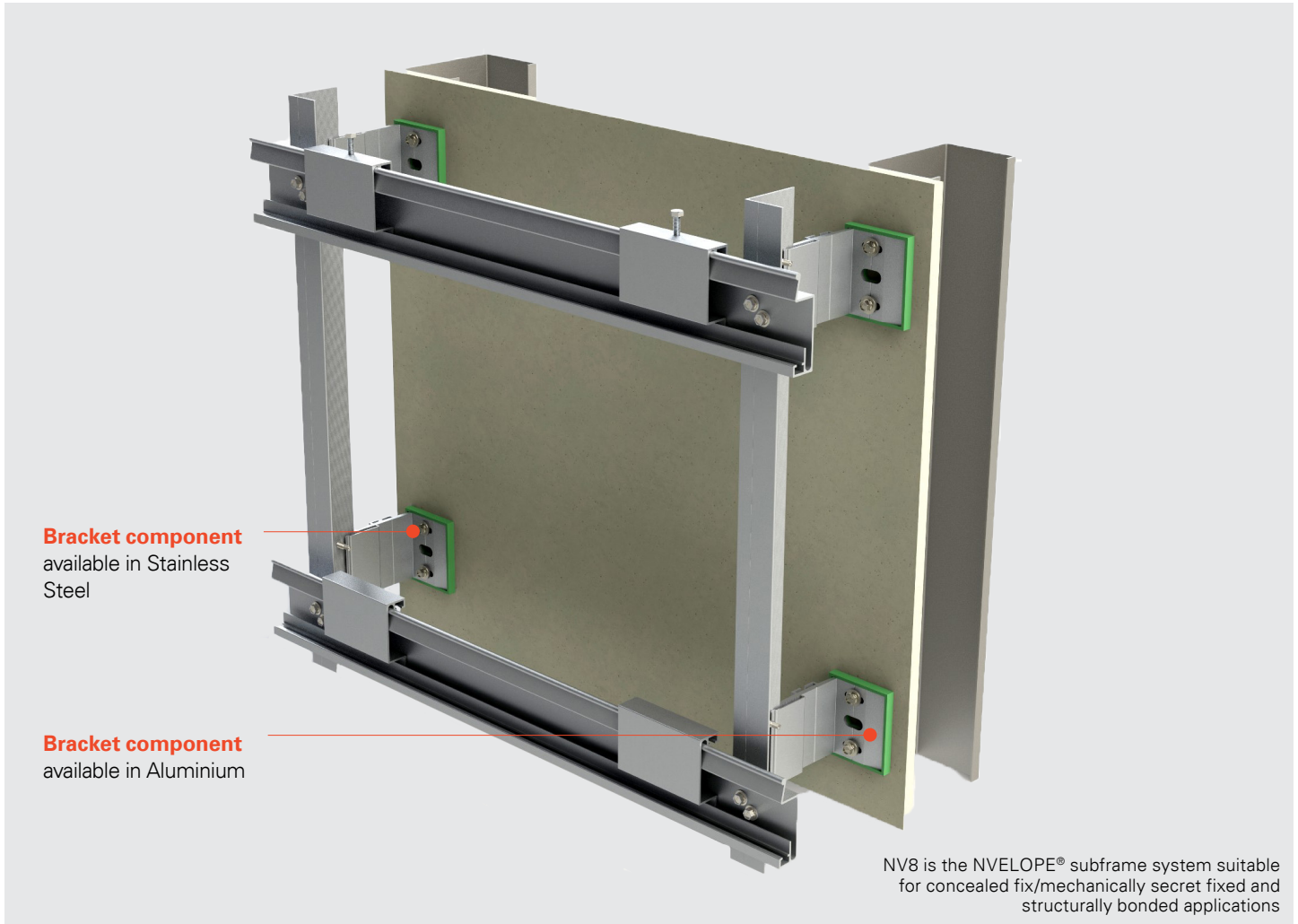


---

**Features & Benefits**

- NV7 provides a “hook on” mechanical fix system for concealed cassette panels specifically metal panels and ACM.
  - Cassette hanger plates fix to the NV7 profile to create a concealed fix.
  - Contains panel anti-rattle properties.
  - Ideal solution for OEM system support.
-

# NV8



**NV8 Only L profile**

| System Type                              | Isolator Options                      | Panel Orientations       | *BBA | 1 <sup>st</sup> Level Fix | 2 <sup>nd</sup> Level Fix | 3 <sup>rd</sup> Level |
|------------------------------------------|---------------------------------------|--------------------------|------|---------------------------|---------------------------|-----------------------|
| Mechanical/<br>Adhesive Concealed<br>Fix | Standard Isolator<br>NVELOPE® Thermal | Vertical &<br>Horizontal | No   | All fixings               | SDA5<br>SX3               | TUF                   |

\*British Board of Agreement





---

**Features & Benefits**

- NV8 provides a “hook on” mechanical fix system for concealed panels.
  - Fully adjustable hanger.
  - Hangers designed for structurally bonded adhesive systems or mechanical anchor fixings.
  - Increased flexibility in panel layout design.
  - Ideal solution for OEM system support.
-

# NV9



**NV9 Omega & Zed profiles**

| System Type                | Isolator Options   | Panel Orientations       | *BBA | 1 <sup>st</sup> Level Fix | 2 <sup>nd</sup> Level | 3 <sup>rd</sup> Level Fix |
|----------------------------|--------------------|--------------------------|------|---------------------------|-----------------------|---------------------------|
| Adhesive Fix<br>Face Fixed | No thermal options | Vertical &<br>Horizontal | No   | All fixings               | N/A                   | Panel Fixings             |

\*British Board of Agreement



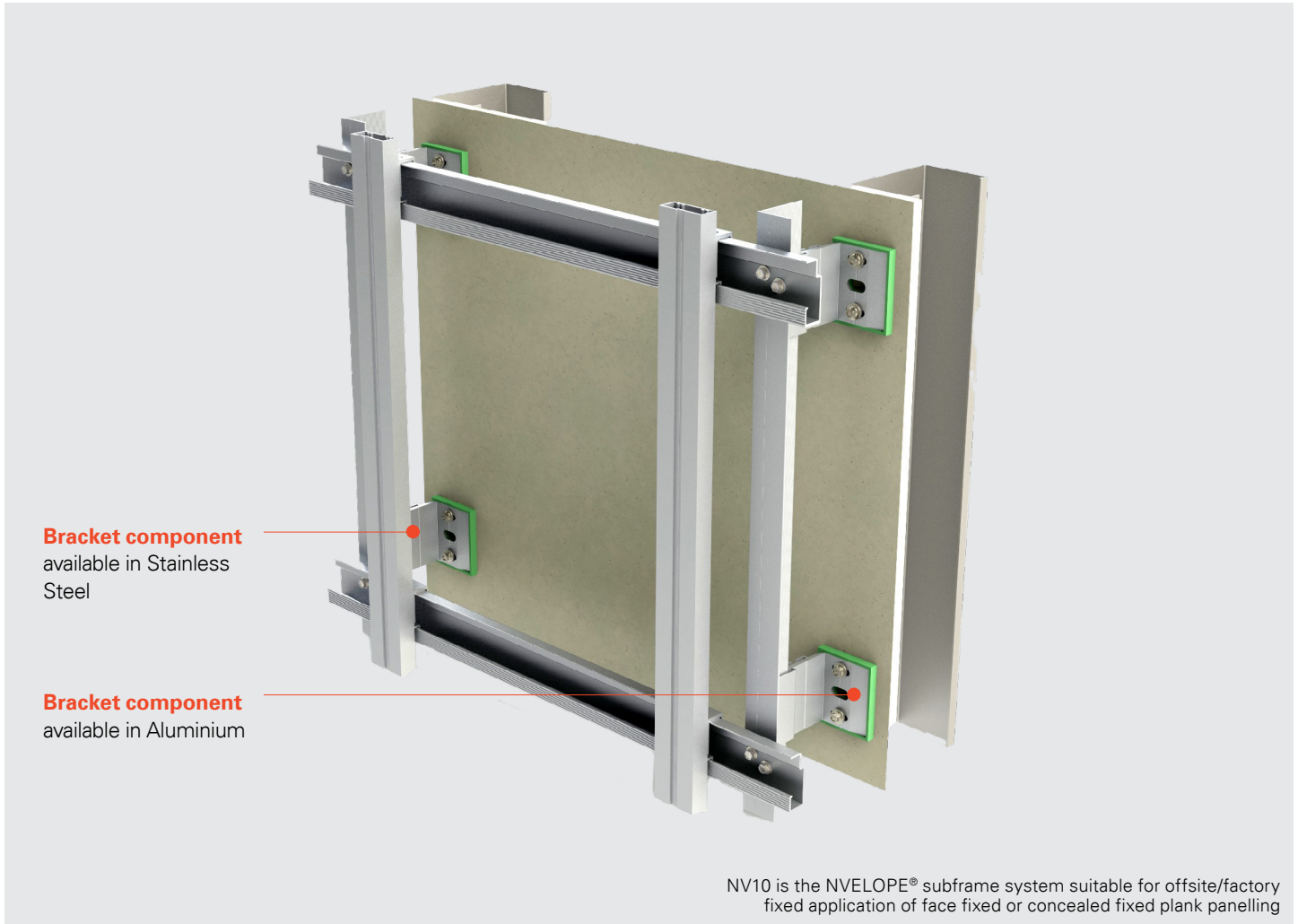


---

### Features & Benefits

- NV9 is for face fixed or adhesive fix panel systems.
  - Pre-set profile cladding zones (25mm or 40mm).
  - Bracket-less system.
  - Ideal solution for OEM system support.
-

# NV10



**NV10 Only L profiles**

| System Type                              | Isolator Options                      | Panel Orientations       | *BBA | 1 <sup>st</sup> Level Fix | 2 <sup>nd</sup> Level Fix | 3 <sup>rd</sup> Level Fix |
|------------------------------------------|---------------------------------------|--------------------------|------|---------------------------|---------------------------|---------------------------|
| Mechanical/<br>Adhesive Concealed<br>Fix | Standard Isolator<br>NVELOPE® Thermal | Vertical &<br>Horizontal | No   | All fixings               | SDA5<br>SX3               | TUF                       |

\*British Board of Agreement



NV10  
TK Maxx Distribution Centre

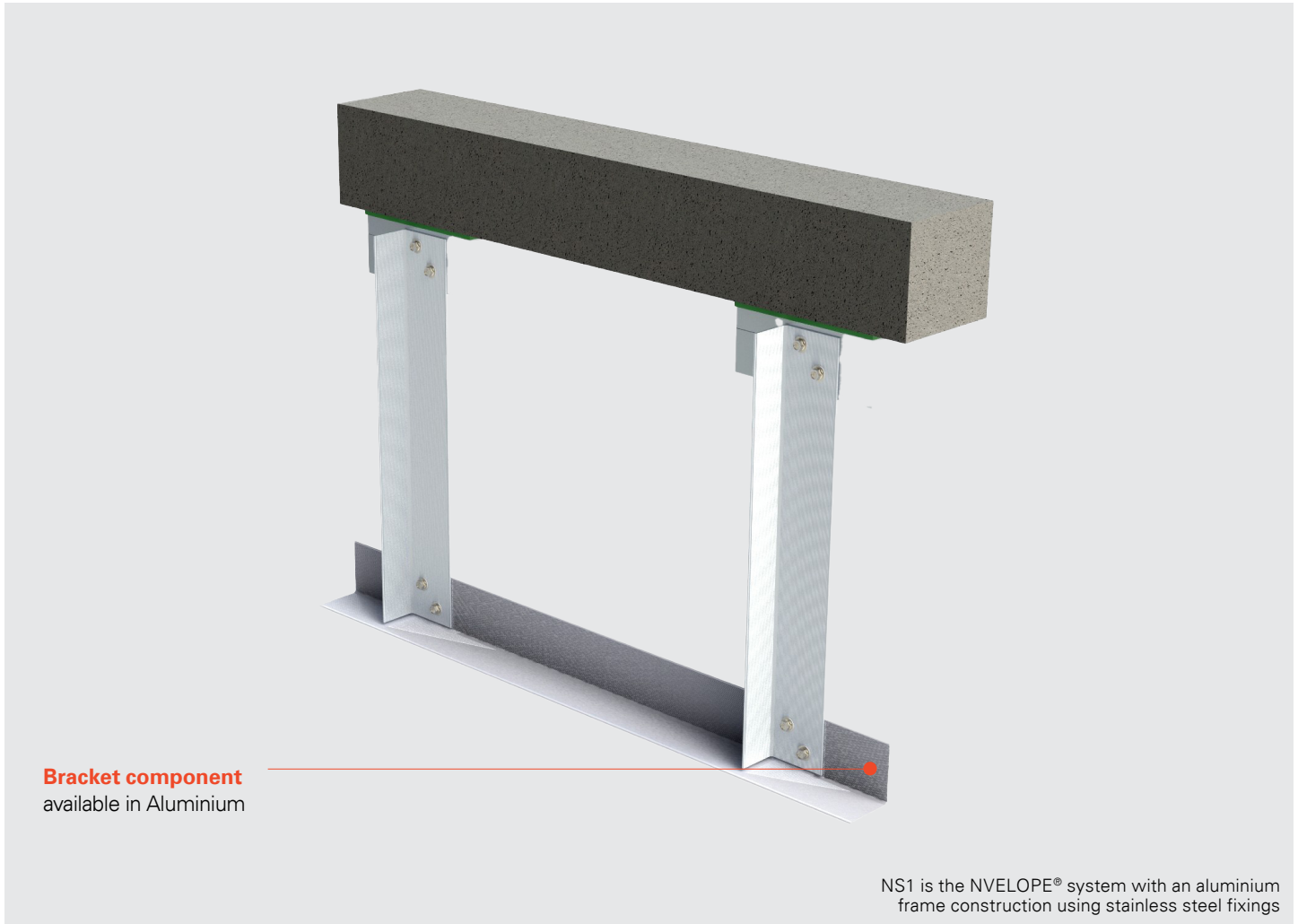
---

#### Features & Benefits

- NV10 provides a “hook on” mechanical system for concealed or face fix plank panelling.
  - Fully adjustable hangers.
  - Install multiple panels at once fixed to the NV10 profile.
  - Suited for offsite installation.
  - Ideal solution for OEM system support.
-



# NS1



## NS1 L and T profiles

| System Type                              | Isolator Options  | Panel Orientations       | *BBA | 1 <sup>st</sup> Level     | 2 <sup>nd</sup> Level Fix | 3 <sup>rd</sup> Level |
|------------------------------------------|-------------------|--------------------------|------|---------------------------|---------------------------|-----------------------|
| Mechanical/<br>Adhesive Concealed<br>Fix | Standard Isolator | Vertical &<br>Horizontal | No   | All fixings<br>except SXR | SX3 29 mm                 | Rivet/Panel<br>Fixing |

\*British Board of Agreement

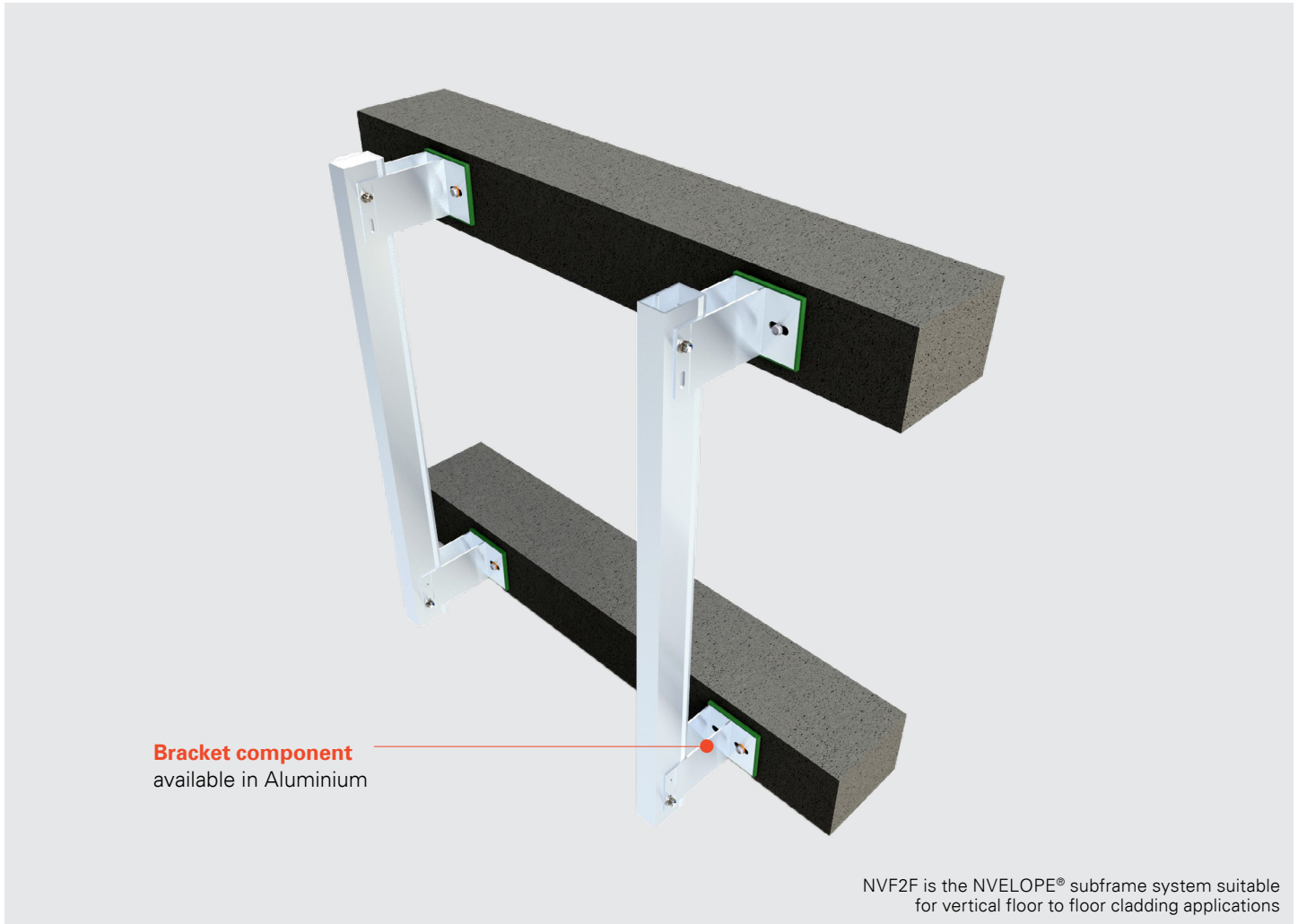


---

#### Features & Benefits

- NS1 is a Soffit solution for face fix panel systems.
  - Soffit drops up to 1 Metre.
  - Simple system consisting of NVELOPE® profiles.
  - Ideal solution for OEM system support.
-

# NVF2F



NVF2F is the NVELOPE® subframe system suitable for vertical floor to floor cladding applications

## NVF2F Box profile/T Box profile

| System Type                          | Isolator Options  | Panel Orientations       | *BBA | 1 <sup>st</sup> Level Fix | 2 <sup>nd</sup> Level Fix | 3 <sup>rd</sup> Level Fix |
|--------------------------------------|-------------------|--------------------------|------|---------------------------|---------------------------|---------------------------|
| Mechanical/Adhesive<br>Concealed Fix | Standard Isolator | Vertical &<br>Horizontal | Yes  | Multi-Monti               | M8 Bolt Kit               | Rivet/Panel<br>fixing     |

\*British Board of Agreement



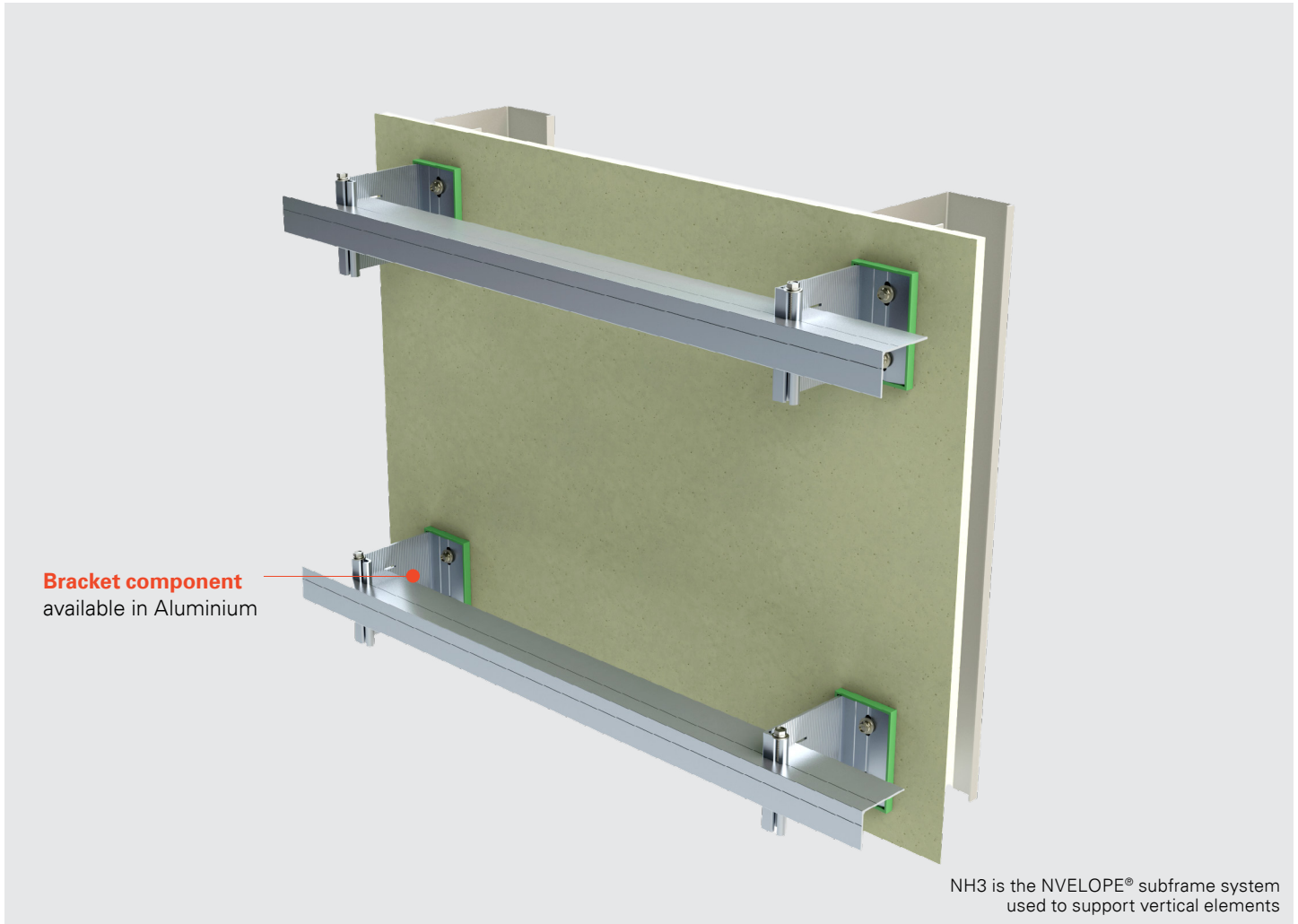


---

#### Features & Benefits

- The NVF2F system is designed to span across floor levels.
  - It consists of aluminium box profiles and dual leg brackets.
  - NVF2F can also support NVELOPE® concealed fix systems.
  - Can be used where it is not possible to fix brackets between floor levels.
  - Ideal solution for OEM system support.
-

# NH3



## NH3 L Profile

| System Type                          | Isolator Options                      | Panel Orientations | *BBA | 1 <sup>st</sup> Level Fix | 2 <sup>nd</sup> Level Fix | 3 <sup>rd</sup> Level Fix |
|--------------------------------------|---------------------------------------|--------------------|------|---------------------------|---------------------------|---------------------------|
| Mechanical/Adhesive<br>Concealed Fix | Standard Isolator<br>NVELOPE® Thermal | Vertical           | Yes  | All fixings               | SDA5<br>45 mm             | Rivet/Panel<br>fixing     |

\*British Board of Agreement

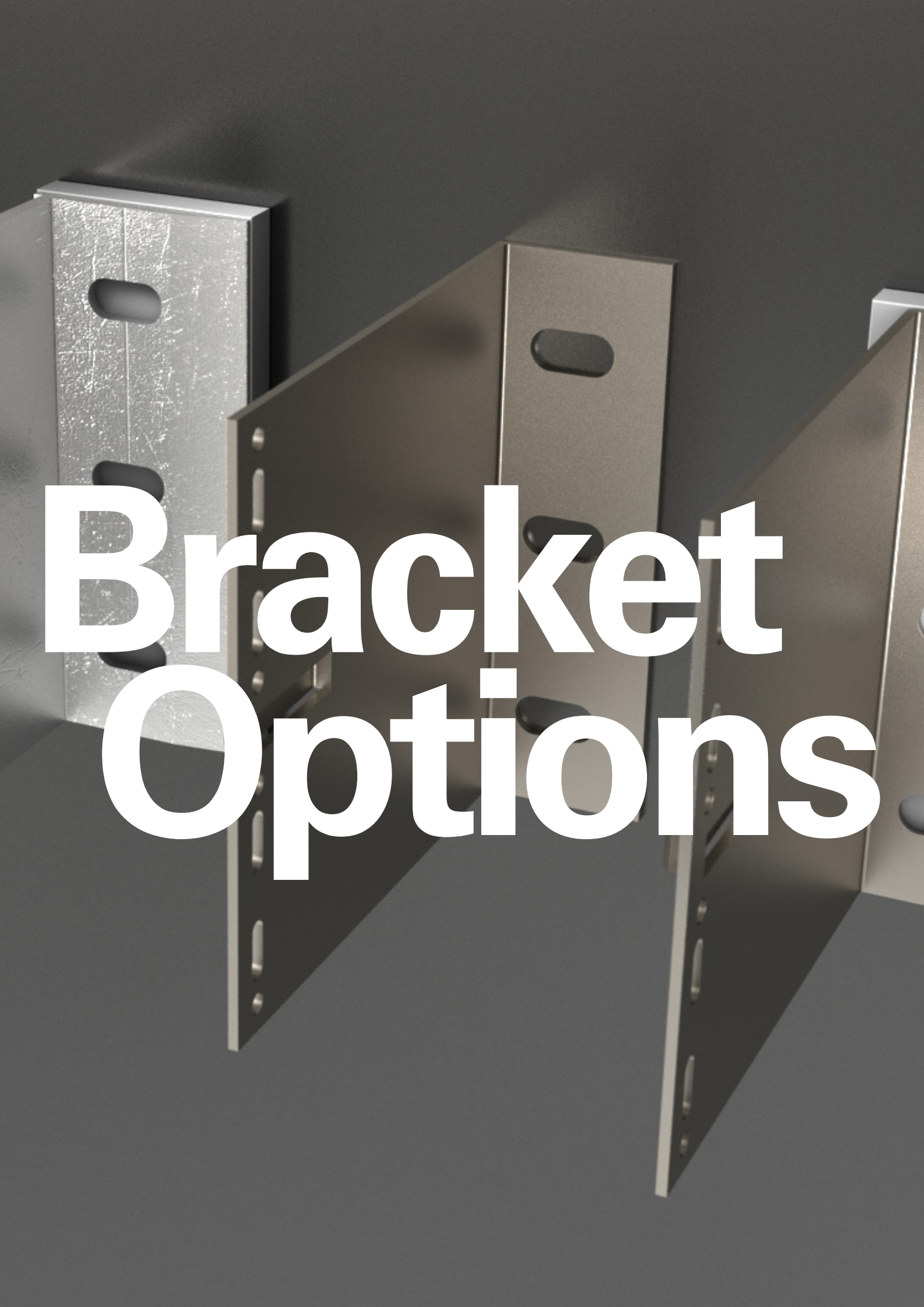


---

**Features & Benefits**

- The NH3 system provides a horizontal backframe
  - Provides a solution for vertically aligned face fix panel systems
  - A unique bracket design for horizontal applications
  - The NH3 bracket matches the NVELOPE® range of bracket sizes
  - Ideal solution for OEM system support.
-





# Bracket Options

# Aluminium

## NVELOPE® aluminium brackets are available in two options.

### NVELOPE® VB/HB

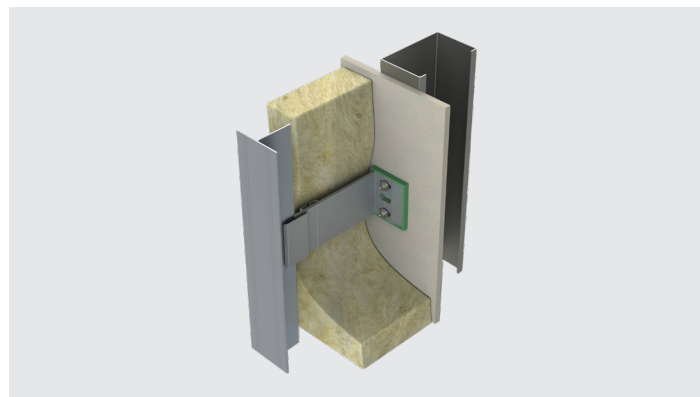
NVELOPE® VB/HB aluminium brackets are supplied with a polypropylene "Green Isolator" which offers a degree of thermal benefit. However, its principal function is to eliminate any potential for corrosion between masonry and aluminium substrates.

### NVELOPE® VB/HB + Thermal

Whilst strong and easy to install, aluminium is very thermally conductive e.g.  $> 200 \text{ W/mK}$ . Therefore the thermal point loss affects can be significant when aluminium brackets are utilised depending on the combination of various elements within the rainscreen build-up. The NVELOPE® VB/HB + Thermal range includes an insulation pad at the base of the bracket. This dramatically improves the thermal performance of the rainscreen build-up.

### Eurocode 9 (EN 1999-1-1:2007+A1)

The Eurocode series of EN standards relate to the construction industry. Eurocode 9: Design of Aluminium Structures (abbreviated EN 1999 or EC9) describes how to design aluminium structures. It complies with the principles and requirements for the safety and serviceability of building structures and the basis of their design. It further sets the requirements for structural integrity including strength, durability and fire resistance. NVELOPE® aluminium subframe brackets and associated fixings used for rainscreen cladding applications have been designed in accordance with Eurocode



9 and are implemented to the National Annex BS EN 1999 1–5 relevant for the UK.

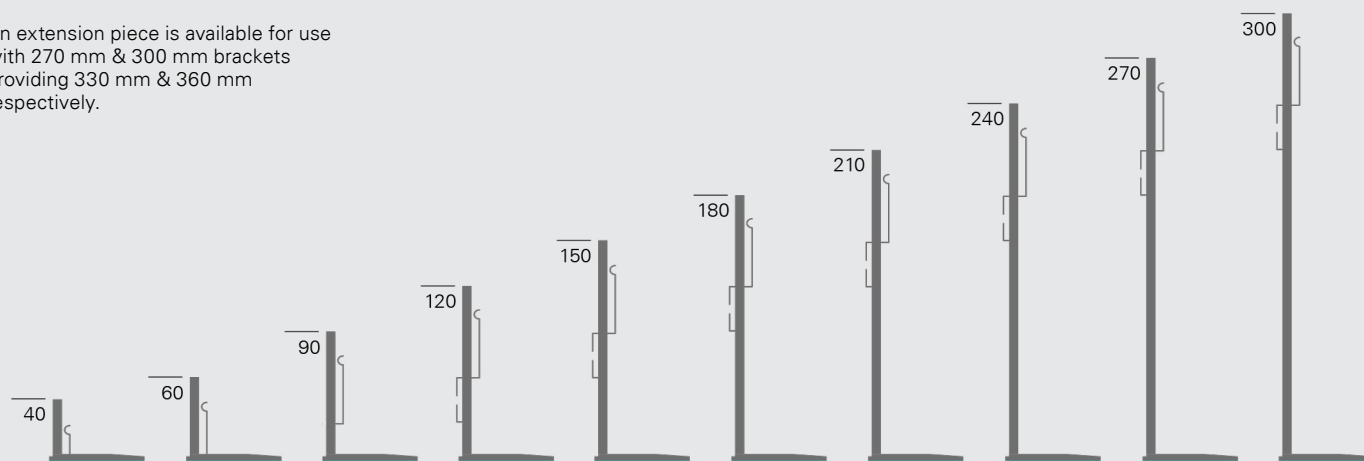
### Eurocode 3 (EN 1993-1-1:2005)

Eurocode 3 applies to the design of buildings, utilising in steel. It complies with the principles and requirements for the safety and serviceability of structures, and the basis of their design. It is concerned with requirements for resistance, durability and fire resistance.

NVELOPE® Stainless steel subframe brackets and associated fixings used for rainscreen cladding applications have been designed in accordance with Eurocode 3 and are implemented to the National Annex BS EN 1993 (informative) relevant for the UK.

### NVELOPE® Aluminium Brackets

An extension piece is available for use with 270 mm & 300 mm brackets providing 330 mm & 360 mm respectively.



# Aluminium Fixed Point & Sliding Point

**Profiles (rails) are attached to brackets by a combination of fixed and sliding points to allow for and assure dead load and dynamic load performance. Sliding points are important to accommodate differing thermal effects of materials (dilation) being combined. Dead and dynamic loads as well as dilation effects must be fully accounted for.**

The rainscreen façade must be able to “float” on the subconstruction. Each element should have one fixed point. All other fixing points must be executed as sliding points. Fixed point brackets and profiles are connected (Level 2 Fixings) by round holes in the brackets. The fixed point absorbs both vertical weight (deadload) and horizontal wind loads.

Sliding point brackets and profiles are connected (Level 2 Fixings) at the elongated holes (slots) in the brackets. Their primary function is to absorb dynamic horizontal wind loads.

## **Cementitious Surfaces**

All aluminium components in direct contact with cementitious primary substrates, where a risk of corrosion exists, shall be isolated. All NVELOPE® aluminium brackets are isolated via the addition of a polypropylene “Green Isolator” to the foot of the bracket.

This isolator also provides additional thermal insulation which in turn can improve thermal point loss (Chi value) for individual brackets and ultimately, support greater thermal efficiency.

## **Helping Hands**

NVELOPE® vertical brackets come in standard dimensions of 40- 300mm and are available in two sizes, Single and Double. Each bracket has 40mm of adjustment (except the 40mm bracket which has 20mm adjustment). The profiles (rails) are held in place by friction afforded by the ‘helping hands’ feature of the bracket. Once adjusted for line and level they are fixed using the appropriate Level 2 stainless steel fixing.



Aluminium Bracket Options – Suitable for all NVELOPE® systems except NVF2F

| Bracket Size mm   | min. | max. | Single (6.5/11 mm slot) | 6.5 mm                | Double<br>11 mm       |
|-------------------|------|------|-------------------------|-----------------------|-----------------------|
| 40                | 47   | 67   | 1582505                 | 1521239               | 1521238               |
| 60                | 62   | 102  | 1582506                 | 1521247               | 1521246               |
| 90                | 92   | 132  | 1582508                 | 1521255               | 1521254               |
| 120               | 122  | 162  | 1582509                 | 1521263               | 1521262               |
| 150               | 152  | 192  | 1582510                 | 1521273               | 1521271               |
| 180               | 182  | 222  | 1582511                 | 1521282               | 1521281               |
| 210               | 212  | 252  | 1582512                 | 1521291               | 1521290               |
| 240               | 242  | 282  | 1582514                 | 1521300               | 1521299               |
| 270               | 272  | 312  | 1582517                 | 1521309               | 1521308               |
| 300               | 302  | 342  | 1582520                 | 1521317               | 1521316               |
| 270 (+extension)* | 332  | 372  | 1582517<br>(+1521188)   | 1521309<br>(+1521187) | 1521308<br>(+1521187) |
| 300 (+extension)* | 362  | 402  | 1582520<br>(+1521188)   | 1521317<br>(+1521187) | 1521316<br>(+1521187) |

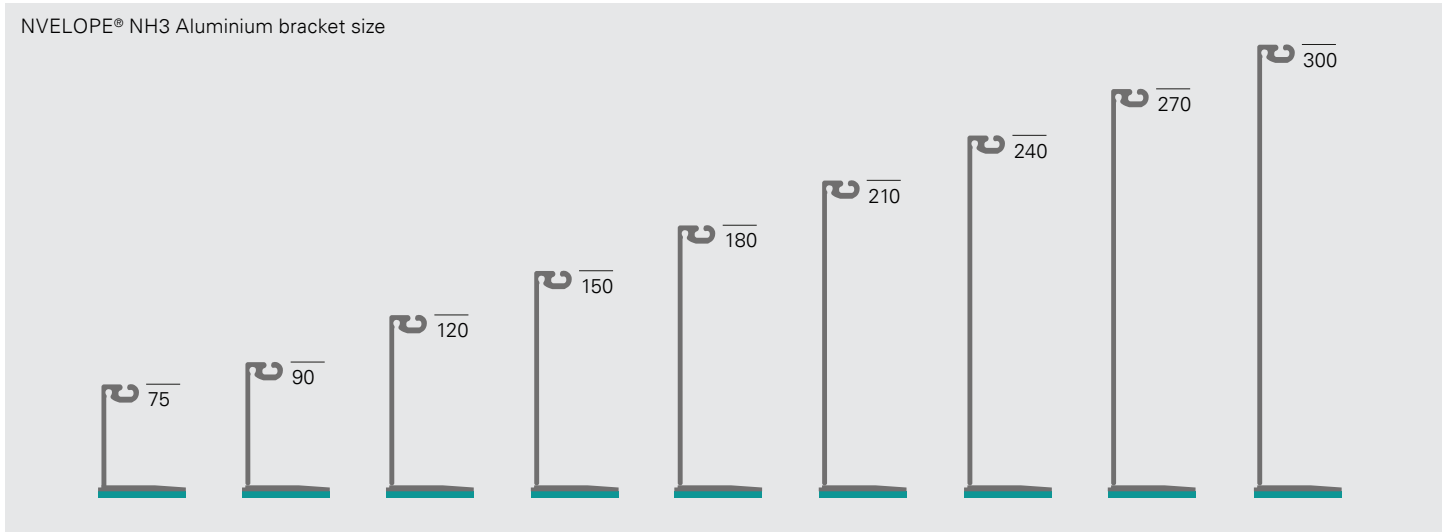
\*Example to show largest possible cladding zones. Extension piece is compatible with all bracket sizes, and is available as single (1521188) or double (1521187). Please visit the Accessories page (page 91) for more information.

Aluminium Bracket Options NVF2F – suitable for NVELOPE® F2F systems only

| Bracket Size mm | min. | max. | Single  |
|-----------------|------|------|---------|
| 72              | 79   | 127  | 1600061 |
| 122             | 125  | 177  | 1600062 |
| 172             | 175  | 227  | 1600063 |
| 222             | 225  | 277  | 1600065 |
| 272             | 275  | 327  | 1649538 |



# Aluminium



**Aluminium Bracket Options – NH3 Suitable for NVELOPE® NH3 systems only**

| Bracket Size mm | 6.5 mm slot | 11 mm slot |
|-----------------|-------------|------------|
| 75              | 1602052     | 1602050    |
| 90              | 1602054     | 1602053    |
| 120             | 1602057     | 1602056    |
| 150             | 1602059     | 1602058    |
| 180             | 1062062     | 1602061    |
| 210             | 1602064     | 1602063    |
| 240             | 1602066     | 1602065    |
| 270             | 1602068     | 1602067    |
| 300             | 1602070     | 1602069    |

| Profile mm                   | Size            | Product Code |
|------------------------------|-----------------|--------------|
| Horizontal Bracket L Profile | 60×40×2.5×3'000 | 1521346      |
| 90                           | 60×40×2.5×6'000 | 1602053      |







# Stainless Steel

**NVELOPE® stainless steel brackets are available in two options.**

## **NVELOPE® NVS**

For greater thermal performance, SFS have recently introduced a complete range of stainless steel brackets to complement our vertical aluminium ranges. Our stainless steel range is made from superior 316 grade which exhibits greater resistance to localised corrosion in marine environments and in contact with atmospheric pollution found in many built-up environments.

Stainless steel will demonstrate a much improved increase in thermal performance. Typically, stainless steel has a thermal conductivity of 16 W/mK. This represents a 12x thermal improvement over and above aluminium. Additionally, stainless steel brackets have no requirement to utilise an isolator to alleviate corrosion.

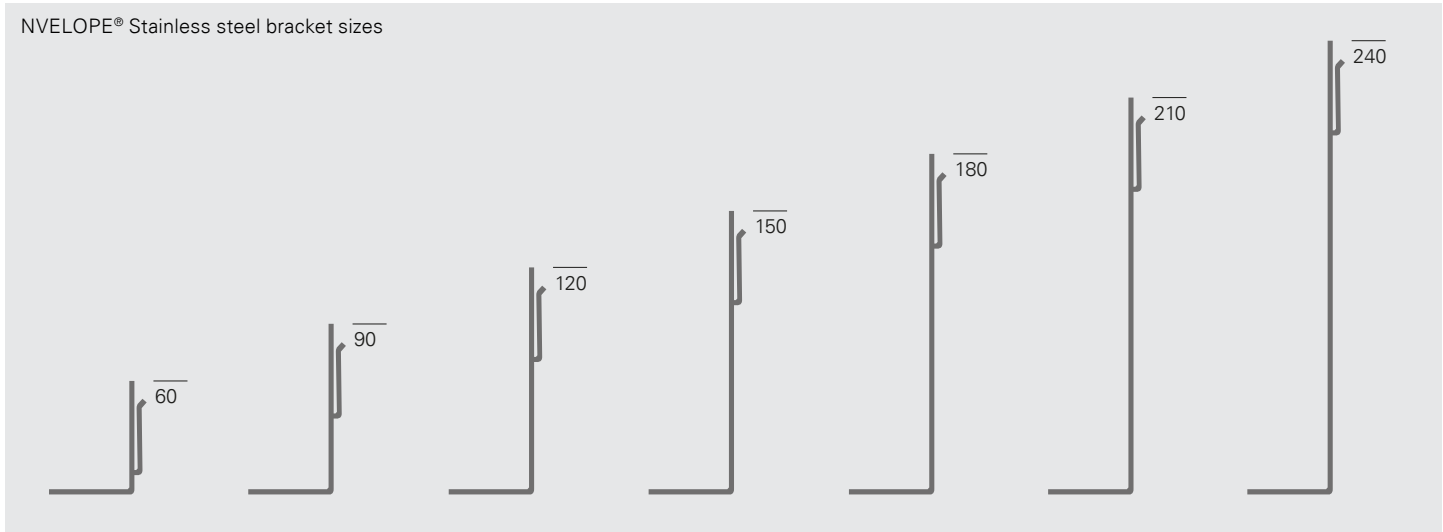
## **NVELOPE® NVS + Thermal**

For **optimum, thermal performance**, NVELOPE® NVS + Thermal is the ideal choice.

It offers the combined benefits of high thermal performance where rainscreen build-up designs prescribe demanding thermal solutions, this option could offer the ideal high performance answer. Our NVELOPE® NVS Stainless Steel bracket combined with our unique Thermal Pad (NVS + Thermal) has been awarded Passive House component accreditation, falling within the Facade Anchor category. The significant reduction in thermal point loss which may be achieved by utilising our NVS + Thermal system is clearly recognised by the Passive House Institute.



# Stainless Steel Bracket Options



| Bracket Size | min. | max. | Single  | 6.5 mm  | Double 11 mm |
|--------------|------|------|---------|---------|--------------|
| 60           | 70   | 105  | 1667550 | 1667502 | 1667508      |
| 90           | 100  | 135  | 1667552 | 1667503 | 1667509      |
| 120          | 130  | 165  | 1667569 | 1667504 | 1667510      |
| 150          | 160  | 195  | 1667570 | 1667505 | 1667545      |
| 180          | 190  | 225  | 1667571 | 1667500 | 1667546      |
| 210          | 220  | 255  | 1667572 | 1667520 | 1667548      |
| 240          | 250  | 285  | 1667573 | 1667514 | 1667549      |





# First Level Fixings



# Level 1 Fixing

## Fixing subframe/insulation back to the substrate

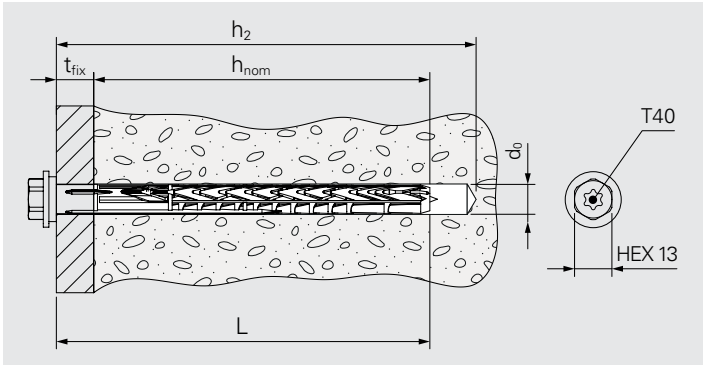
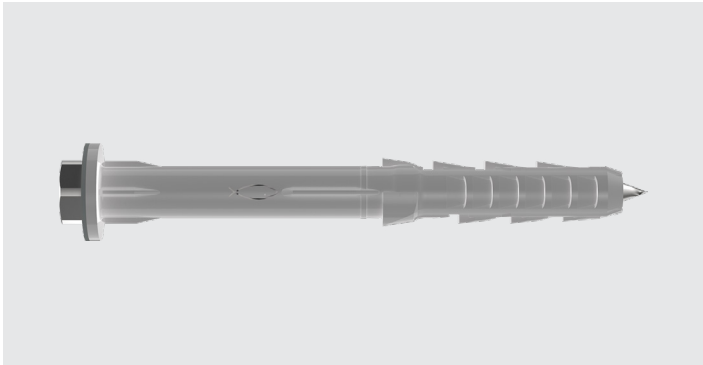
**Fixing Design and Specification considerations: NVELOPE® subframe systems can be used in conjunction with most types of primary wall substrates and includes: masonry – brick, concrete, block & stone; lightweight steel framing systems (SFS); Timber frame and Structural Insulated Panels (SIPS).**

The method of (Level 1) fixation depends on the type of substrate the NVELOPE® system is going to be fixed to. Our level 1 fixing range includes insulation fasteners and support anchors designed to fix to a variety of substrates including concrete, steel, and timber. To follow is further information on our core 1st level fixings.

Further consideration must also be made regarding the design loading capabilities of the level 1 fixings as defined by Technical Performance Values within European Technical Approval (ETA) standards or determined via On-Site “Pull-Out” strength testing. Windload evaluation and calculations derived from our Project Builder digital tool can be utilised to accurately predict the vertical and horizontal centres of our NVELOPE® subframe supporting brackets for any particular project.

**View on our website →**

# SXR-FUS



## Application

Fastening of a bracket onto substrate

| Component 1 (t <sub>i</sub> ) | Component 2 (t <sub>ii</sub> ) |
|-------------------------------|--------------------------------|
| Bracket                       | Substrate                      |

## Fastener material

Body: Polyamide PA6  
Fastener: Galvanized steel or austenitic stainless steel A4

## Approvals

CE<sub>07</sub>  
ETA-07/0121

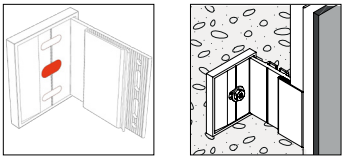
## Features and Benefits

- Anchor suitable for installation of a bracket onto various substrates
- Geometry of the expansion element enables the use in many substrates
- Short expansion element requires only a small drilling depth
- Distinctive rotation lock increases the ease of assembly and provides additional safety

## Documentation

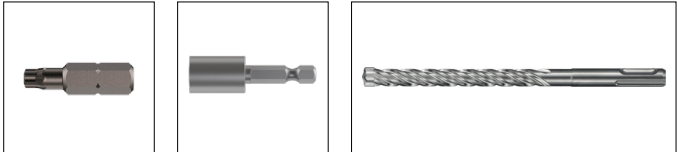
Approval document (ETA) | Declaration of performance (DoP)

All measures in mm



## Frame anchor in polyamide and A4 onto cladding panel

| Product code     | PU | L  | t <sub>fix</sub> | h <sub>nom</sub> | h <sub>2</sub> | d <sub>0</sub> |         |
|------------------|----|----|------------------|------------------|----------------|----------------|---------|
| SXR-10x60-FUS-A4 | 50 | 60 | 10               | 50               | 70             | 10             | 1333579 |
| SXR-10x80-FUS-A4 |    | 80 | 30               |                  | 90             |                | 1551174 |



## Accessories/Ancillaries

| Product code      | PU | L   | Drive | Head drive | D  | WL  | FL  |         |
|-------------------|----|-----|-------|------------|----|-----|-----|---------|
| T40-25-HEX ¼"     | 1  | 25  | ¼"    | T40        | –  | –   | –   | 769474  |
| E313-¼"-50        |    | 50  |       | HEX13      |    |     |     | 508029  |
| SDS-10x215/150-4C |    | 215 | –     | –          | 10 | 150 | 150 | 1487586 |

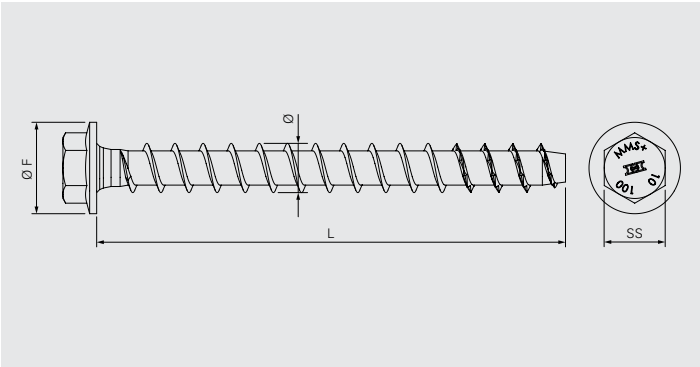
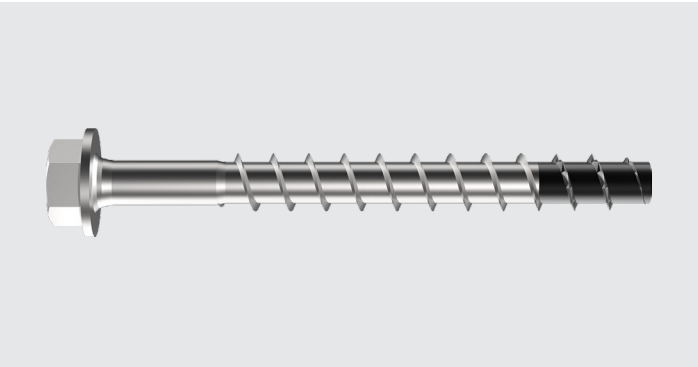
View on the website →

### All measures in mm

All information is non-binding and without guarantee. Before using the products, all specifications and calculations must be checked by a suitably qualified person and local regulations must be observed. This document is subject to revision. We reserve the right to make technical changes.



# MMS-plus-A4



### Application

Fastening of metal plates, profiles, brackets onto concrete

| Fastener Ø      | 7.50     | 10.0  | 12.0    |
|-----------------|----------|-------|---------|
| Pre-drill Ø     | 6.0      | 8.0   | 10.0    |
| Embedment depth | 40/55/75 | 70/85 | 100/115 |

### Fastener material

Austenitic stainless steel A4, case hardened tip

### Approvals

CE  
ETA-15/0784

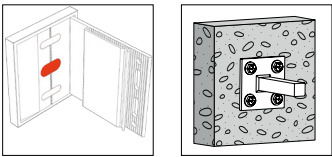
### Features and Benefits

- Self tapping fastener suitable for installation onto concrete
- Easy settable
- More flexibility given by two embedment depths
- Settable by means of power-tools and immediately loadbearing
- Highest demands and economical fixations given by reduced clearance hole displacements
- Faster setting due to toothed functional tip
- Multiple use in temporary fixations from diameter 10 mm
- Small spacing and edge distances thanks to no spreading effect

### Documentation

Approval document (ETA) | Declaration of performance (DoP)

All measures in mm



Fastener in A4  
onto concrete

| Product code          | PU | L  | t <sub>fix</sub> | Ø F  | Drive/Head |         |
|-----------------------|----|----|------------------|------|------------|---------|
| MMS-plus-A4-SS-7,5×75 | 50 | 75 | 0–20/35          | 14.5 | HEX10      | 1205112 |
| MMS-plus-A4-SS-10×85  | 25 | 85 | 0-15             | 19.5 | HEX13      | 1205146 |



Accessories/Ancillaries

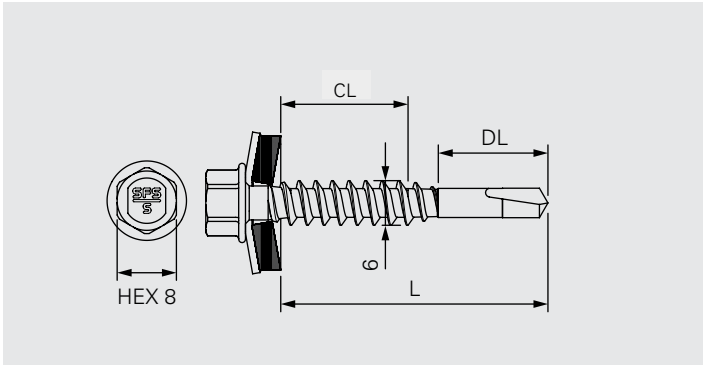
| Product code             | PU | Drive | Head Drive | D  | L   | WL  | FL  |         |
|--------------------------|----|-------|------------|----|-----|-----|-----|---------|
| SDS-6×215/150-4C         | 1  | –     | –          | 6  | 215 | 150 | 150 | 1487583 |
| SDS-8×215/150-4C         |    |       |            | 8  |     |     |     | 1487585 |
| SDS-10×215/150-4C        |    |       |            | 10 |     |     |     | 1487586 |
| E313-¼"-50               | 1  | ¼"    | HEX13      | –  | –   | –   | –   | 508029  |
| 10mm Magnetic Hex Socket |    |       | HEX10      |    |     |     |     | 1237597 |
| T30-25-HEX¼"             | 10 | ¼"    | T30        | –  | –   | –   | –   | 24010   |
| T40-25-HEX¼"             |    |       | T40        |    |     |     |     | 769474  |
| Bit holder ZA¼"          | 1  |       | ¼"         |    |     |     |     | 1162306 |
| T30-40-½"                | 10 | ½"    | T30        | –  | –   | –   | –   | 1489154 |
| T40-40-½"                |    |       | T40        |    |     |     |     | 1489155 |
| T45-40-½"                |    |       | T45        |    |     |     |     | 1489157 |
| T50-40-½"                |    |       | T50        |    |     |     |     | 1489158 |

View on our website →

All measures in mm

All information is non-binding and without guarantee. Before using the products, all specifications and calculations must be checked by a suitably qualified person and local regulations must be observed. This document is subject to revision. We reserve the right to make technical changes.

# SX3-6.0



## Application

Fastening of steel or aluminium sheet to steel or aluminium structure.

## Fastener material

Austenitic stainless steel A2/A4  
 Sealing washer: Austenitic stainless steel A2/A4, EPDM-seal

| Component 1 (t <sub>I</sub> ) |           | Component 2 (t <sub>II</sub> ) |             | Σ <sub>max</sub> t <sub>I</sub> + t <sub>II</sub> |
|-------------------------------|-----------|--------------------------------|-------------|---------------------------------------------------|
| Steel                         | 0.50–1.50 | Steel                          | 0.63–2.50   | 3.50                                              |
| Aluminium                     | 0.50–1.50 | Steel                          | 2×0.63–1.50 | 4.0                                               |
| –                             | –         | Aluminium                      | 1.0–2.50    | 3.50                                              |
| –                             | –         | Aluminium                      | 2×1.0–1.50  | 4.0                                               |

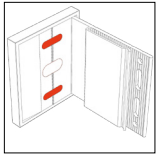
## Approvals

## Features and Benefits

- Self drilling fastener that fastens in one operation: drilling, thread forming and sealing
- Easy drilling through the whole clamping thickness given by the long drill point.

All measures in mm

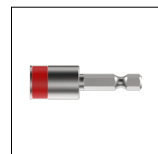




## Fastener in A4 onto steel and aluminium

| Product code       | PU  | L  | CL <sub>met</sub> | DL | S16     | S19 |
|--------------------|-----|----|-------------------|----|---------|-----|
| SX3-S16/A4-6x48-A4 | 100 | 48 | 0-28              | 9  | 1575777 | -   |

Material numbers shown are for mill finish items, contact a member of the team for painted variant codes.  
Product is available with S29 washer, contact a member of the team for material number.  
CL<sub>met</sub> = thickness of component I (sheet) and component II (substrate)



## Accessories/Ancillaries

| Product code        | PU | Drive | Head Drive | Length |         |
|---------------------|----|-------|------------|--------|---------|
| ZA1/4" drive bar*   | 1  | 1/4"  | 3/8"       | 50     | 7645    |
| Socket E380*        | 1  | 3/8"  | HEX8       | 34     | 8018    |
| Socket E308-1/4"-50 | 1  | 1/4"  | HEX8       | 50     | 1646160 |
| Socket E420-1/4"-74 | 1  | 1/4"  | Irius®     | 74     | 973316  |

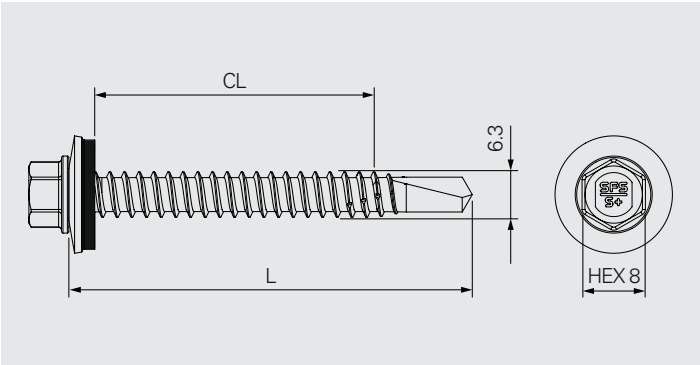
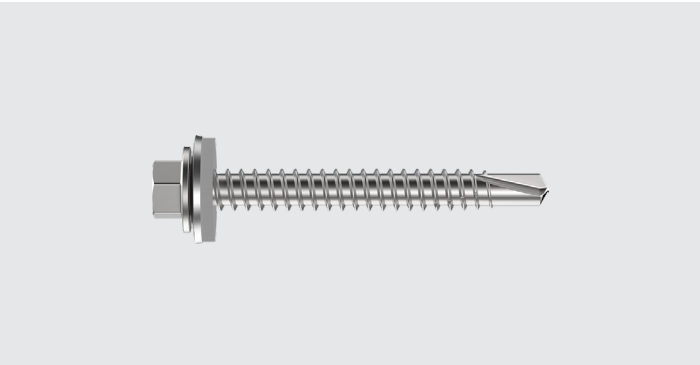
\*Socket E380 needs to be used in conjunction with the ZA1/4" drive bar.

[View on our website →](#)

### All measures in mm

All information is non-binding and without guarantee. Before using the products, all specifications and calculations must be checked by a suitably qualified person and local regulations must be observed. This document is subject to revision. We reserve the right to make technical changes.

# SX5-6.3



## Application

Fastening of bracket through cement bonded particle board to steel stud

| Component 1 (t <sub>1</sub> ) |       | Component 2 (t <sub>II</sub> ) |         |
|-------------------------------|-------|--------------------------------|---------|
| Bracket                       |       | Steel                          | 1.2–3.0 |
| Pre-drill Ø                   | 6.5   |                                |         |
| Cement bonded Particle board  | ≤16.0 |                                |         |

## Fastener material

Fastener: Austenitic stainless steel A4, case hardened drill point  
Washer: Austenitic stainless steel A4 with EPDM-seal

## Approvals



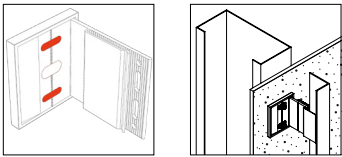
## Features and Benefits

- Self drilling fastener suitable for fastening bracket through cement bonded particle board sheeting onto steel stud
- Penetrates board and substructure in one operation without pre-drilling
- Versatile applications possible given by the large clamping range
- Optical recognition of whether fastener is properly tightened thanks to the washer

## Documentation

Approval document (ETA) | Declaration of performance (DoP)

All measures in mm



## Fastener in A4 onto steel

| Product code            | PU  | L  | CL   |         |
|-------------------------|-----|----|------|---------|
| SX5/36-S16/A4-6,3x55-A4 | 250 | 55 | 0-36 | 1570614 |



## Accessories/Ancillaries

| Product code | PU | L  | Drive | Head drive |         |
|--------------|----|----|-------|------------|---------|
| E308-1/4"-50 | 1  | 50 | 1/4"  | HEX8       | 1646160 |

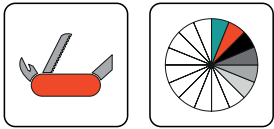
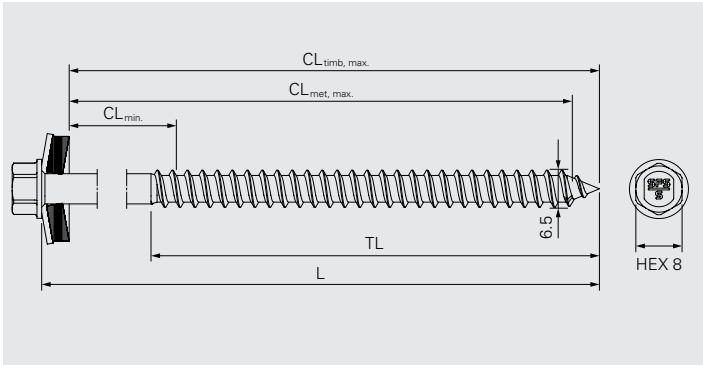
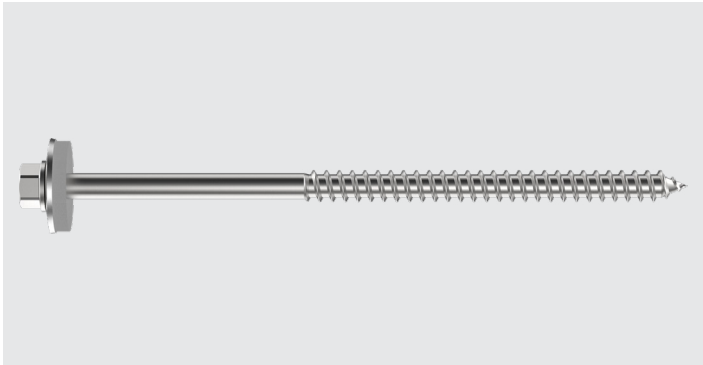
View on our website [→](#)

### All measures in mm

All information is non-binding and without guarantee. Before using the products, all specifications and calculations must be checked by a suitably qualified person and local regulations must be observed. This document is subject to revision. We reserve the right to make technical changes.



# TDA-S-6.5



### Application

Fastening of bracket into timber

| Component 1 (t <sub>I</sub> / t <sub>NII</sub> ) |           | Component 2 (t <sub>II</sub> ) |               | Σ <sub>max</sub> t <sub>I</sub> + t <sub>II</sub> |
|--------------------------------------------------|-----------|--------------------------------|---------------|---------------------------------------------------|
| Steel                                            | ≥0.40     | Steel                          | 0.63–3.0      | 4.50                                              |
| Aluminium                                        | 0.50–1.50 | Steel                          | 2×0.75-2×1.50 | 4.50                                              |
| –                                                | –         | Aluminium                      | 1.0–3.0       | 4.50                                              |
| –                                                | –         | Timber                         | ≥35.0         | –                                                 |

### Fastener material

Austenitic stainless steel A4  
Sealing washer: Austenitic stainless steel A4, EPDM-seal

### Approvals

CE<sub>22</sub>  
ETA-10/0198

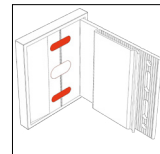
### Features and Benefits

- Self tapping fastener suitable for the installation of brackets back to timber.
- High quality EPDM sealing washer for long-term weather sealing.

### Documentation

Approval document (ETA) | Declaration of performance (DoP)

All measures in mm



# Fastener in A4 onto steel, timber and aluminium

| Product code               | PU  | L  | CLmet | S16     |
|----------------------------|-----|----|-------|---------|
| TDA-S-S16/A4-6,5 X 50 - A4 | 100 | 50 | 0-40  | 1671374 |

## Pre-drill diameter

| Application                    | Steel/Steel and Alu/Steel                                   |              |              |          | Steel/Timber        | Alu/Alu              |          |      |
|--------------------------------|-------------------------------------------------------------|--------------|--------------|----------|---------------------|----------------------|----------|------|
| Component 2 (t <sub>II</sub> ) | S280GD – S450GD (EN10346)<br>HX300LAD to HX460LAD (EN10346) |              |              |          | Timber<br>(EN14081) | Aluminium<br>(EN573) |          |      |
|                                | 0.63                                                        | 0.75         | 0.88–1.25    | 1.50–3.0 | ≥35.0               | 1.0–1.50             | 2.0–2.50 | 3.0  |
|                                |                                                             | 2×0.75–2×1.0 | 2×1.25–2×1.5 |          |                     |                      |          |      |
| Pre-drill Ø                    | 3.50                                                        | 4.0          | 4.50         | 5.0      | 4.0                 | 4.50                 | 5.0      | 5.30 |



## Accessories/Ancillaries

| Product code      | PU |         |
|-------------------|----|---------|
| ZA1/4" drive bar* | 1  | 7645    |
| Socket E380*      | 1  | 8018    |
| Socket E480       | 1  | 1646160 |

View on our website →

### All measures in mm

All information is non-binding and without guarantee. Before using the products, all specifications and calculations must be checked by a suitably qualified person and local regulations must be observed. This document is subject to revision. We reserve the right to make technical changes.

# DHM/DHM A2



## Application

Insulation support for pressure-resistant insulation boards

## Fastener material

Austenitic stainless steel/ grade A151 304/A2  
Carbon Steel, Aluzinc plated

## Features and Benefits

- The simpleammerset installation allows for a quick installation process and thus reduces workload.
- The shaft geometry allows setting in aerated concrete without pre-drilling, thus saving a stage of installation
- The metal installation insulation support achieves fire resistance F120.
- A2 material provides increased corrosion resistance

**All measures in mm**

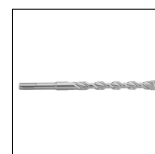


## A2 stainless steel fastener for insulation boards

| Product code         | PU  | D X L   |         |
|----------------------|-----|---------|---------|
| DHM 40 A2 (8 X 80)   | 250 | 8 X 80  | 1749575 |
| DHM 100 A2 (8 X 140) |     | 8 X 140 | 1749525 |
| DHM 130 A2 (8 X 170) |     | 8 X 170 | 1744742 |
| DHM 160 A2 (8 X 200) |     | 8 X 200 | 1745070 |
| DHM 210 A2 (8 X 250) |     | 8 X 250 | 1743083 |
| DHM 260 A2 (8 X 300) |     | 8 X 300 | 1749576 |

## Carbon Steel Fastener for insulation boards

| Product code      | PU  | D x L   |         |
|-------------------|-----|---------|---------|
| DHM 70 (8 x 110)  | 250 | 8 x 110 | 1746883 |
| DHM 100 (8 x 140) |     | 8 x 140 | 1746977 |
| DHM 130 (8 x 170) |     | 8 x 170 | 1744742 |



## Accessories/Ancillaries

| Product code       | PU | D X L       |         |
|--------------------|----|-------------|---------|
| SDS 8 X 215/150-4C | 1  | 8 X 215/150 | 1487585 |

[View on our website →](#)

### All measures in mm

All information is non-binding and without guarantee. Before using the products, all specifications and calculations must be checked by a suitably qualified person and local regulations must be observed. This document is subject to revision. We reserve the right to make technical changes.

# DHK



## Application

Plastic insulation support for soft insulaion

## Fastener material

Plug: Polypropylene

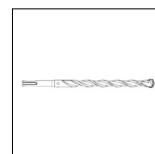
## Features and Benefits

- The optimised geometry of the expansion section ensures a low anchorage depth and reduces the amount of drilling required
- The simpleammerset installation allows for a quick installation process and thus reduces workload
- Flexible pins in the plate area adapt to the insulating material, and ensure a sustained contact pressure
- The colouring of the DHK means that it does not stand out on black clad insulating material in rear-ventilated facades.

**All measures in mm**

## Polypropylene fastener for insulation support

| Product code | D X L   | PU  | Setting depth |         |
|--------------|---------|-----|---------------|---------|
| DHK 60       | 8 X 85  | 500 | 25            | 1743065 |
| DHK 80       | 8 X 105 |     |               | 1744432 |
| DHK 100      | 8 X 125 |     |               | 1746976 |
| DHK 120      | 8 X 145 |     |               | 1749295 |
| DHK 140      | 8 X 165 |     |               | 1749574 |



## Accessories/Ancillaries

| Product code        | PU | D X L        |         |
|---------------------|----|--------------|---------|
| SDS 10 X 160/100-SP | 1  | 10 X 160/100 | 1407992 |
| SDS 10 X 210/150-SP |    | 10 X 210/100 | 1407993 |

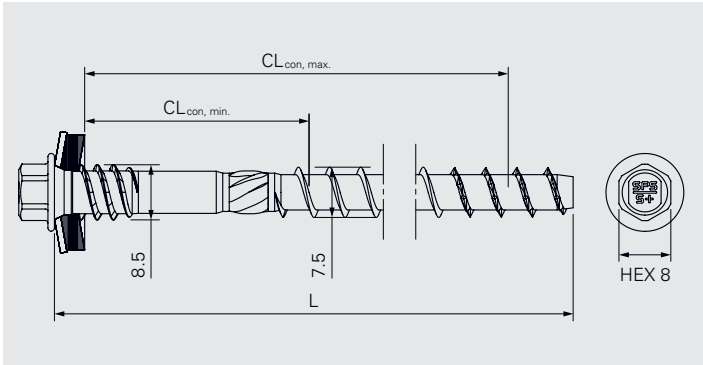
**View on the website →**

### All measures in mm

All information is non-binding and without guarantee. Before using the products, all specifications and calculations must be checked by a suitably qualified person and local regulations must be observed. This document is subject to revision. We reserve the right to make technical changes.



# MXC-7.5



## Application

Fastening of insulation onto concrete

|                 |       |
|-----------------|-------|
| Pre-drill Ø     | 6.0   |
| Embedment depth | 35/55 |

## Fastener material

Austenitic stainless steel A4, case hardened tip  
Sealing washer: Austenitic stainless steel A4, EPDM-seal

## Approvals

-

## Features and Benefits

- Self tapping fastener suitable for the installation of insulation onto concrete
- Optimized support function achieved by engineered double support thread and cut-off thread end.
- High bending capacity for absorption of thermal expansion
- Easy insertion and high load capacities given by the ideal core/thread geometry
- Reduced abrasion achieved by toother functional tip
- To be used with an IDR plate to spread retaining load.
- Available in lengths to accommodate insulation up to a thickness of 300mm

All measures in mm

## Fastener in A4 onto concrete

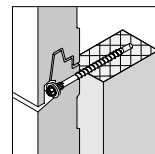
| Product code          | PU  | L   | CL <sub>con</sub> | t <sub>fix, con</sub> | S16/A4  |
|-----------------------|-----|-----|-------------------|-----------------------|---------|
| MXC-S19/A4-7,5×95-A4  | 100 | 95  | 20–92             | 20–27                 | 1596755 |
| MXC-S19/A4-7,5×115-A4 | 100 | 115 | 37–112            | 37–47                 | 1596786 |
| MXC-S19/A4-7,5×135-A4 | 100 | 135 | 57–132            | 57–67                 | 1596802 |
| MXC-S19/A4-7,5×155-A4 | 100 | 155 | 77–152            | 77–87                 | 1596812 |
| MXC-S19/A4-7,5×175-A4 | 100 | 175 | 97–172            | 97–107                | 1596862 |
| MXC-S19/A4-7,5×195-A4 | 100 | 195 | 117–192           | 117–127               | 1596947 |
| MXC-S19/A4-7,5×215-A4 | 100 | 215 | 137–212           | 137–147               | 1597023 |
| MXC-S19/A4-7,5×235-A4 | 100 | 235 | 157–232           | 157–167               | 1597028 |
| MXC-S19/A4-7,5×255-A4 | 100 | 255 | 177–252           | 177–187               | 1598678 |
| MXC-S19/A4-7,5×275-A4 | 100 | 275 | 197–272           | 197–207               | 1598722 |
| MXC-S19/A4-7,5×295-A4 | 100 | 295 | 217–292           | 217–227               | 1598733 |
| MXC-S19/A4-7,5×315-A4 | 100 | 315 | 237–312           | 237–247               | 1598798 |
| MXC-S19/A4-7,5×335-A4 | 100 | 335 | 257–332           | 257–267               | 1598917 |
| MXC-S19/A4-7,5×355-A4 | 100 | 355 | 277–352           | 277–287               | 1598993 |
| MXC-S19/A4-7,5×375-A4 | 100 | 375 | 297–372           | 297–307               | 1599216 |

Material numbers shown are for mill finish items, contact a member of the team for painted variant colours

### All measures in mm

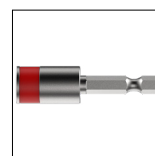
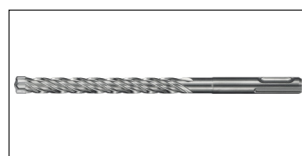
All information is non-binding and without guarantee. Before using the products, all specifications and calculations must be checked by a suitably qualified person and local regulations must be observed. This document is subject to revision. We reserve the right to make technical changes.

Without  
approval



## Fastener in A4 onto concrete

| Product code   | PU  | L   | CL <sub>con</sub> | t <sub>fix, con</sub> | No washer |
|----------------|-----|-----|-------------------|-----------------------|-----------|
| MXC-7,5×95-A4  | 100 | 95  | 23–95             | 23–30                 | 1596782   |
| MXC-7,5×115-A4 | 100 | 115 | 40–115            | 40–50                 | 1596801   |
| MXC-7,5×135-A4 | 100 | 135 | 60–135            | 60–70                 | 1596811   |
| MXC-7,5×155-A4 | 100 | 155 | 80–155            | 80–90                 | 1596820   |
| MXC-7,5×175-A4 | 100 | 175 | 100–175           | 100–110               | 1596891   |
| MXC-7,5×195-A4 | 100 | 195 | 120–195           | 120–130               | 1596957   |
| MXC-7,5×215-A4 | 100 | 215 | 140–215           | 140–150               | 1597026   |
| MXC-7,5×235-A4 | 100 | 235 | 160–235           | 160–170               | 1598675   |
| MXC-7,5×255-A4 | 100 | 255 | 180–255           | 180–190               | 1598720   |
| MXC-7,5×275-A4 | 100 | 275 | 200–275           | 200–210               | 1598728   |
| MXC-7,5×295-A4 | 100 | 295 | 220–295           | 220–230               | 1598795   |
| MXC-7,5×315-A4 | 100 | 315 | 240–315           | 240–250               | 1598816   |
| MXC-7,5×335-A4 | 100 | 335 | 260–335           | 260–270               | 1598972   |
| MXC-7,5×355-A4 | 100 | 355 | 280–355           | 280–290               | 1599215   |
| MXC-7,5×375-A4 | 100 | 375 | 300–375           | 300–310               | 1599219   |



## Accessories/Ancillaries

| Product code     | Drive | Head drive | PU  | D  | L   | WL  | FL  |         |
|------------------|-------|------------|-----|----|-----|-----|-----|---------|
| SDS-6x210/150-4C | –     | –          | 1   | 6  | 210 | 150 | 150 | 1487583 |
| SDS-6x310/250-4C | –     | –          | 1   | 6  | 210 | 250 | 250 | 1487584 |
| SDS-6x515/455-4C | –     | –          | 1   | 6  | 515 | 455 | 200 | 1608141 |
| E308-¼"-50       | ¼"    | HEX8       | 1   | –  | –   | –   | –   | 1646160 |
| E508-½"-40       | ½"    | HEX8       | 1   | –  | –   | –   | –   | 1648380 |
| IDR 70-12,0      | –     | –          | 100 | 12 | –   | –   | –   | 1281656 |

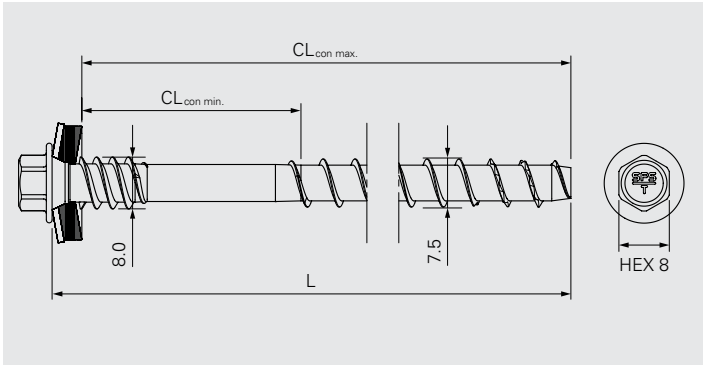
[View on website →](#)

All measures in mm





# MDC-7.5



Application

Fastening of insulation onto concrete

|                 |       |  |  |
|-----------------|-------|--|--|
| Fastener Ø      | 7.50  |  |  |
| Pre-drill Ø     | 6.0   |  |  |
| Embedment depth | 35/55 |  |  |

Fastener material

Carbon steel, Durocoat® 480  
Sealing washer: Austenitic stainless steel A2, EPDM-seal

|           |  |
|-----------|--|
| Approvals |  |
|           |  |

Features and Benefits

- Self tapping fastener suitable for the installation of insulation onto concrete
- Optimized support function achieved by engineered double support thread and cut-off thread end.
- High bending capacity for absorption of thermal expansion
- Easy insertion and high load capacities given by the ideal core/thread geometry
- Reduced abrasion achieved by toothed functional tip
- To be used with an IDR plate to spread retaining load.
- Available in lengths to accommodate insulation up to a thickness of 300mm
- High corrosion durability thanks to special galvanic zinc coating.

All measures in mm

Fastener in carbon steel  
onto concrete

| Product code    | PU  | L   | CL <sub>con</sub> | t <sub>fix, con</sub> | S16     |
|-----------------|-----|-----|-------------------|-----------------------|---------|
| MDC-S19-7,5×85  | 100 | 85  | 12–82             | 12–27/47              | 1574300 |
| MDC-S19-7,5×105 | 100 | 105 | 32–102            | 32–47/67              | 1574321 |
| MDC-S19-7,5×125 | 100 | 125 | 52–122            | 52–67/87              | 1574324 |
| MDC-S19-7,5×145 | 100 | 145 | 72–142            | 72–87/107             | 1574326 |
| MDC-S19-7,5×165 | 100 | 165 | 92–162            | 92–107/127            | 1574328 |
| MDC-S19-7,5×185 | 100 | 185 | 112–182           | 112–127/147           | 1574329 |
| MDC-S19-7,5×205 | 100 | 205 | 132–202           | 132–147/167           | 1574332 |
| MDC-S19-7,5×225 | 100 | 225 | 152–222           | 152–167/187           | 1574334 |
| MDC-S19-7,5×245 | 100 | 245 | 172–242           | 172–187/207           | 1574335 |
| MDC-S19-7,5×265 | 100 | 265 | 192–262           | 192–207/227           | 1574340 |
| MDC-S19-7,5×285 | 100 | 285 | 212–282           | 212–227/247           | 1574353 |
| MDC-S19-7,5×305 | 100 | 305 | 232–302           | 232–247/267           | 1574355 |
| MDC-S19-7,5×325 | 100 | 325 | 252–322           | 252–267/287           | 1574413 |
| MDC-S19-7,5×345 | 100 | 345 | 272–342           | 272–287/307           | 1574416 |
| MDC-S19-7,5×365 | 100 | 365 | 292–362           | 292–307/327           | 1574418 |

t<sub>fix, con</sub>: CL<sub>con, min.</sub> – (CL<sub>met, max.</sub> – h<sub>nom, min.</sub>)



Accessories/Ancillaries

| Product code     | Drive | Head drive | PU  | D  | L   | WL  | FL  |         |
|------------------|-------|------------|-----|----|-----|-----|-----|---------|
| SDS-6x210/150-4C | –     | –          | 1   | 6  | 210 | 150 | 150 | 1487583 |
| SDS-6x310/250-4C | –     | –          | 1   | 6  | 210 | 250 | 250 | 1487584 |
| SDS-6x515/455-4C | –     | –          | 1   | 6  | 515 | 455 | 200 | 1608141 |
| E308-¼"-50       | ¼"    | HEX8       | 1   | –  | –   | –   | –   | 1646160 |
| E508-½"-40       | ½"    | HEX8       | 1   | –  | –   | –   | –   | 1648380 |
| IDR70-12.0       | –     | –          | 100 | 12 | –   | –   | –   | 1281656 |

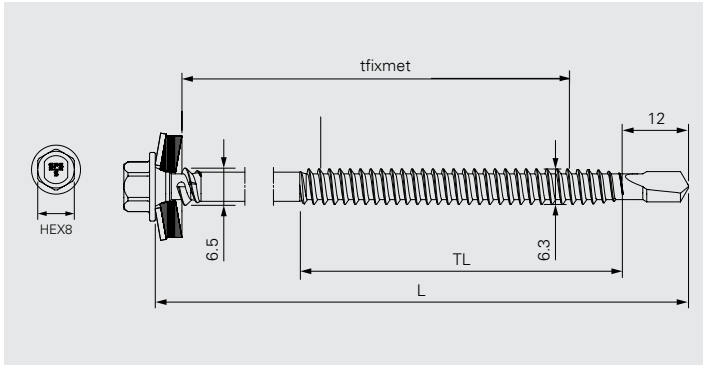
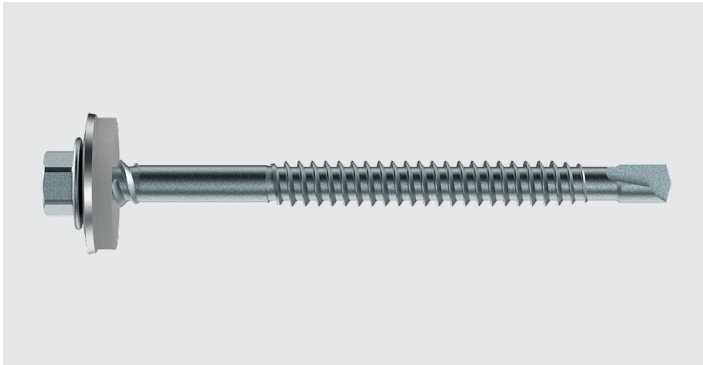
View on the website →

All measures in mm

All information is non-binding and without guarantee. Before using the products, all specifications and calculations must be checked by a suitably qualified person and local regulations must be observed. This document is subject to revision. We reserve the right to make technical changes.



# SXC5-6.3



## Application

Fastening of insulation through sheathing boards into steel or timber

Suitable performance must be checked specific to the sheathing board fitted.

| Component 1 (t <sub>i</sub> ) | Component 2 (t <sub>II</sub> ) | Σ <sub>max</sub> t <sub>i</sub> +t <sub>II</sub> |
|-------------------------------|--------------------------------|--------------------------------------------------|
| -                             | Steel 1.0–4.0                  | 5.0                                              |
| -                             | Steel 2×0.75–2×2.70            | 6.50                                             |
| -                             | Timber ≥35                     | –                                                |

## Fastener material

Austenitic stainless steel A2/A4, case hardened drill point

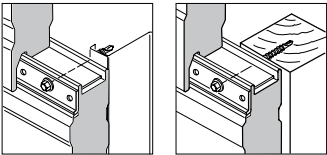
## Approvals

## Features and Benefits

- Self drilling fastener suitable for the installation of insulation through sheathing board into steel or timber.
- Optimized support function achieved by engineered double support thread
- Easy drilling through overlapped metal profiles given by the long point
- High tension resistance achieved by optimized fastener geometry
- High bending capacity for absorption of thermal expansion
- Available in lengths to accommodate insulation up to 300mm
- To be used with an IDR plate to spread the retaining load.
- Thread free zone preventing the top thread from stripping

All measures in mm

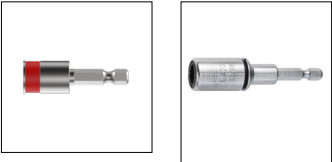
Without approval



Fastener in A4 onto steel and timber

| Product code    | PU  | L   | tfix met    | tfix timb | No washer |
|-----------------|-----|-----|-------------|-----------|-----------|
| SXC5-6,3×80-A4  | 100 | 80  | 30–50/54    | 15-40     | 1600004   |
| SXC5-6,3×100-A4 | 100 | 100 | 40–70/74    | 25-60     | 1600010   |
| SXC5-6,3×120-A4 | 100 | 120 | 50–90/94    | 35-80     | 1600025   |
| SXC5-6,3×140-A4 | 100 | 140 | 70–110/114  | 55-100    | 1600029   |
| SXC5-6,3×160-A4 | 100 | 160 | 90–130/134  | 75-120    | 1600045   |
| SXC5-6,3×190-A4 | 100 | 190 | 110–160/164 | 95-150    | 1600052   |
| SXC5-6,3×220-A4 | 100 | 220 | 140–190/194 | 125-180   | 1600058   |
| SXC5-6,3×250-A4 | 100 | 250 | 170–220/224 | 155-210   | 1600073   |
| SXC5-6,3×290-A4 | 100 | 290 | 210–260/264 | 195-250   | 1600137   |
| SXC5-6,3×345-A4 | 100 | 345 | 268–318/322 | 250-305   | 1600185   |

Material numbers shown are for mill finish items, contact a member of the team for painted variant codes.  
tfix = thickness of component l (sandwich panel)



Accessories/Ancillaries

| Product code        | PU  | Drive | Head Drive | Length | Diameter |
|---------------------|-----|-------|------------|--------|----------|
| ZA 1/4" drive bar*  | 1   | 1/4"  | 3/8"       | 50     | -        |
| Socket E380*        | 1   | 3/8"  | HEX8       | 34     | -        |
| Socket E308-1/4"-50 | 1   | 1/4"  | HEX8       | 50     | -        |
| Socket E420-1/4"-74 | 1   | 1/4"  | Irius®     | 74     | -        |
| IDR 70-6,8          | 100 | -     | -          | -      | 6,8      |

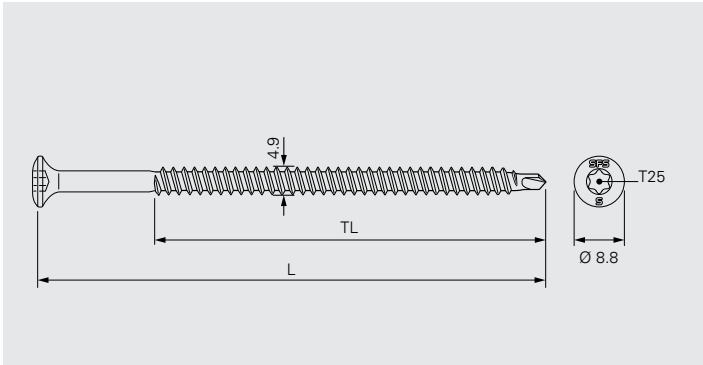
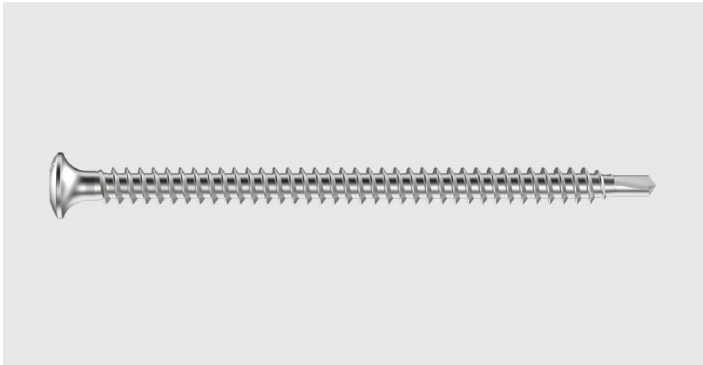
\*Socket E380 needs to be used in conjunction with the ZA1/4 drive bar.

View on the website →

All measures in mm

All information is non-binding and without guarantee. Before using the products, all specifications and calculations must be checked by a suitably qualified person and local regulations must be observed. This document is subject to revision. We reserve the right to make technical changes.

# BS-S-4,8



## Application

Fastening of insulation through sheathing board into steel or timber.

Suitable performance must be checked specific to the sheathing board being fitted.

## Fastener material

Austenitic stainless steel A4, case hardened drill point

## Steel

|                               |                              |
|-------------------------------|------------------------------|
| Substrate Material Thickness: | Min 0.6 mm<br>Max 2 x 1.0 mm |
| Setting Depth:                | Min 20 mm                    |

## Timber

|                               |           |
|-------------------------------|-----------|
| Substrate Material Thickness: | Min 18 mm |
| Setting Depth:                | Min 30 mm |

## Features and Benefits

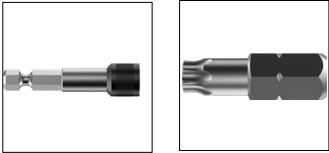
- Fast and easy installation due to optimised drill tip.
- To be used with an IDR 70-6,8 to spread the retaining load.
- Lengths available to fix insulation up to 160mm thick.

All measures in mm



## Fastener in A4 onto steel and timber

| Product code   | L   | TL | PU  |         |
|----------------|-----|----|-----|---------|
| BS-S-4,8 X 60  | 60  | 55 | 250 | 1341595 |
| BS-S-4,8 X 80  | 80  | 75 | 250 | 1341596 |
| BS-S-4,8 X 100 | 100 |    |     | 1341587 |
| BS-S-4,8 X 120 | 120 |    |     | 1341588 |
| BS-S-4,8 X 140 | 140 |    |     | 1341589 |
| BS-S-4,8 X 160 | 160 |    |     | 1341591 |
| BS-S-4,8 X 180 | 180 |    |     | 1341593 |
| BS-S-4,8 X 200 | 200 |    |     | 1341594 |



## Accessories/Ancillaries

| Product code     | PU  | Diameter | Drive |         |
|------------------|-----|----------|-------|---------|
| SDS-6x210/150-4C | 100 | 6.8      | –     | 1487583 |
| SDS-6x310/250-4C | 1   | –        | ¼"    | 1487584 |
| SDS-6x515/455-4C | 1   | –        | ¼"    | 1608141 |

View on the website →

### All measures in mm

All information is non-binding and without guarantee. Before using the products, all specifications and calculations must be checked by a suitably qualified person and local regulations must be observed. This document is subject to revision. We reserve the right to make technical changes.

# IDR70



## Application

Metal disc to increase surface area of retainment on soft insulation

## Fastener material

Stainless steel A2

## Features and Benefits

- Pressure resistant insulation boards, PIR, Phenolic, Mineral Wool
- Designed to accept any SFS fastener
- Suitable for fixing all insulation boards to LGSF, timber and sheathing boards
- Fastener should be selected based on substrate

All measures in mm

| Product code | Internal Dia. | D X L   | PU  | Article No. | Notes                             |
|--------------|---------------|---------|-----|-------------|-----------------------------------|
| IDR 70-6,8   | 6,8           | 70 X 70 | 100 | 1281659     | Suitable for BS-S and SXC5        |
| IDR 70-12,0  | 12,0          |         |     | 1281656     | Suitable for use with MXC and MDC |

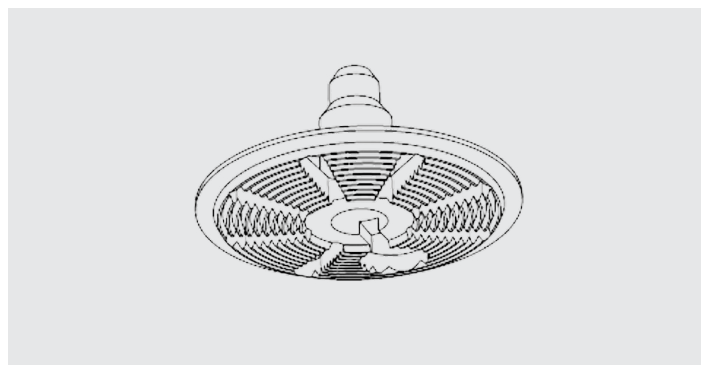
View on the website →

All measures in mm

All information is non-binding and without guarantee. Before using the products, all specifications and calculations must be checked by a suitably qualified person and local regulations must be observed. This document is subject to revision. We reserve the right to make technical changes.



# ISP



## Application

Plastic disc to increase surface area of retainment on insulation.

## Disc material

High quality universal polypropylene insulation retaining disc

## Features and Benefits

- Pressure resistant insulation boards, PIR, Phenolic, Mineral Wool
- Designed to accept any SFS fastener
- Suitable for fixing all insulation boards to LGSF, timber and sheathing boards
- Fastener should be selected based on substrate
- Can be applied to upstand a diameter of 18mm and a depth of 28mm

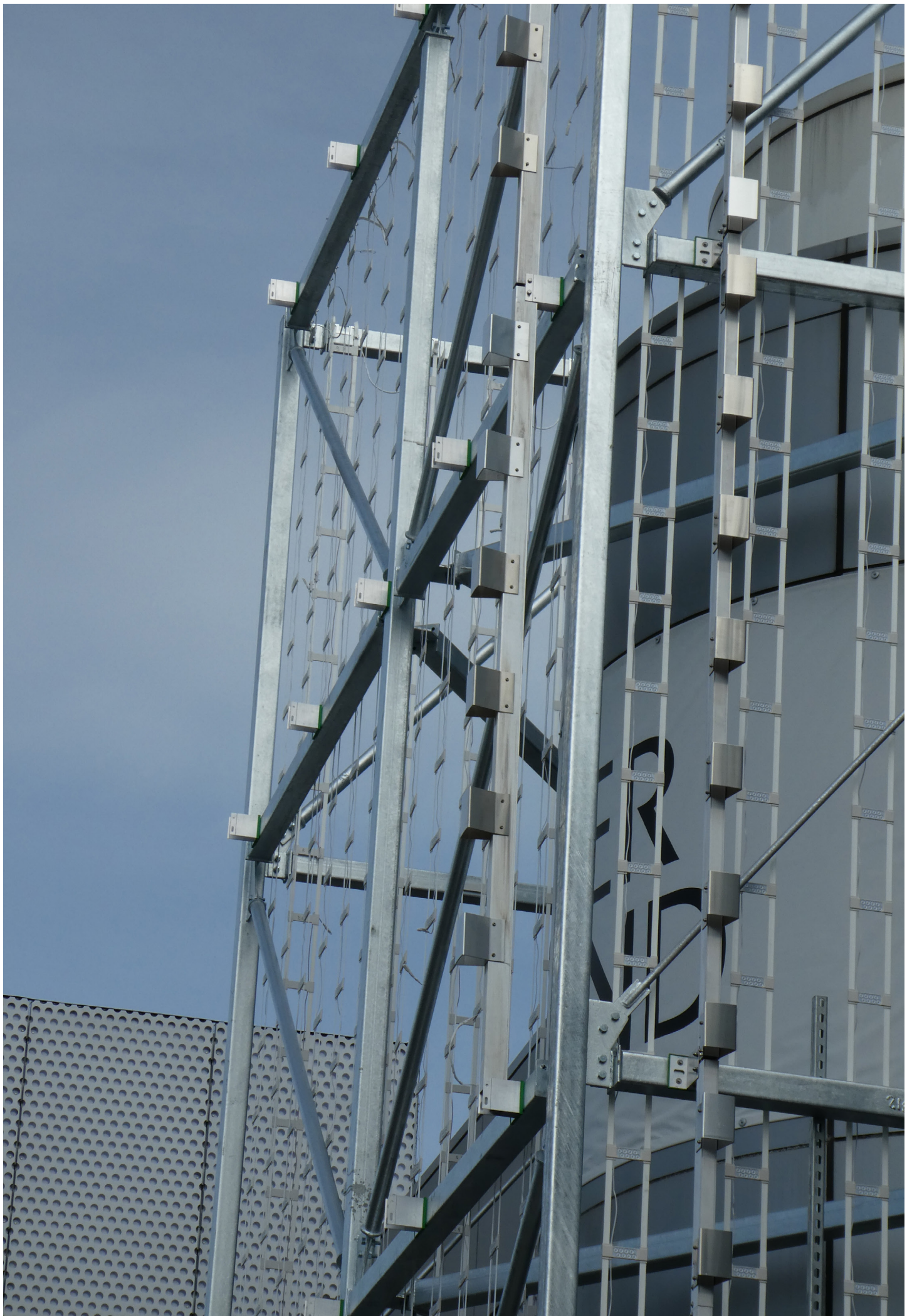
**All measures in mm**

| Product code  | Internal Dia. | D X L   | PU  |         |
|---------------|---------------|---------|-----|---------|
| ISP - 18 X 28 | 8,0           | 70 X 30 | 100 | 1342125 |

View on the website →

All measures in mm

All information is non-binding and without guarantee. Before using the products, all specifications and calculations must be checked by a suitably qualified person and local regulations must be observed. This document is subject to revision. We reserve the right to make technical changes.



# Profiles (Rails)

**SFS manufacture and supply a wide range of aluminium profiles (rails) engineered for specific use with our NVELOPE® aluminium or stainless steel bracket systems.**

Profiles (rails) are used in combination with all our bracket variations. The length of profiles used in vertical applications is dependent on the building storey height. Due to expansion dilation effects, the relationship between the cladding material and sub-frame support system must be considered.

The designer will consider the structural design or preliminary survey of the sub structure, to prepare a layout or grid for the positioning of the subframe (brackets and profiles).

SFS have identified a market need to move more activities “off-site” and we recognise the benefits that this brings. Our profile cutting service optimises material usage, reduces waste and lowers costs. View the Cutting service page (page 13) for more information.



# Profile overview

| Name      | Profile Size mm | Compatible Systems                           | Grade    | Available Lengths m    | Available Finishes | Thickness mm |
|-----------|-----------------|----------------------------------------------|----------|------------------------|--------------------|--------------|
| L Profile | 60×40           | NV1, NV2, NV3, NV4, NV5, NV8, NV10, NH3, NS1 | 6005A T6 | 3.0, 3.60<br>4.85, 6.0 | PC, An, MF         | 2.20         |

Key Features: Supports the face fix of intermediate panel spans and edges. Provides a permanent framework for many other NVELOPE® system profiles.

|           |        |          |          |                        |            |      |
|-----------|--------|----------|----------|------------------------|------------|------|
| T Profile | 60×80  | NV1, NV2 | 6005A T6 | 3.0, 6.0               | PC, An, MF | 2.20 |
|           | 60×100 |          |          | 3.0, 3.60<br>4.85, 6.0 |            |      |
|           | 40×100 |          |          | 3.0, 6.0               |            |      |
|           | 60×120 |          |          |                        |            |      |
|           | 60×140 |          |          |                        |            |      |

Key Features: Supports face fix at the vertical joints between two adjacent panels.

|                  |            |                    |          |          |            |      |
|------------------|------------|--------------------|----------|----------|------------|------|
| Lipped L Profile | 60×40×12.5 | NH3                | 6005A T6 | 3.0, 6.0 | PC, An, MF | 2.50 |
| Omega            | 25×120     | NV1, NV9, NH3, F2F | 6063 T6  |          |            | 2.40 |
|                  | 40×140     |                    |          |          |            |      |

Key Features: Provides the vertical framework that makes up NV9. Utilised horizontally, fixed to NV1 to receive faced fixed panels.

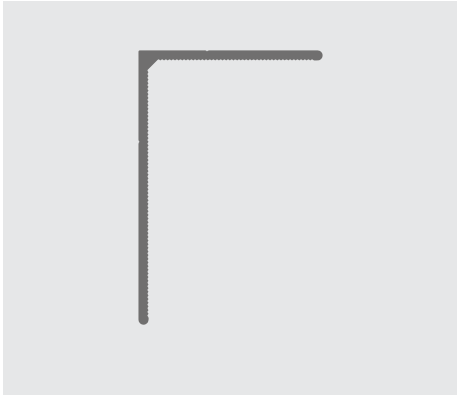
|     |          |                    |         |          |            |      |
|-----|----------|--------------------|---------|----------|------------|------|
| Zed | 25×45×30 | NV1, NV9, NH3, F2F | 6063 T6 | 3.0, 6.0 | PC, An, MF | 2.40 |
|     | 40×55×30 |                    |         |          |            |      |

Key Features: Provides the vertical framework that makes up NV9. Utilised horizontally, fixed to NV1 to receive faced fixed panels.

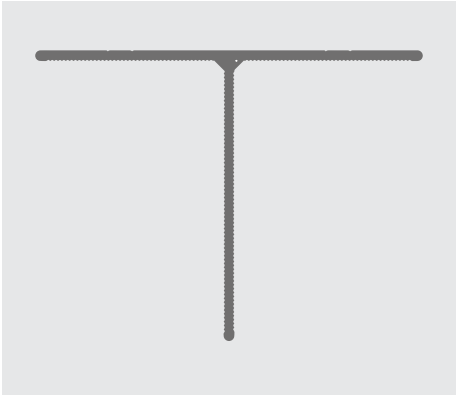
|                |                                     |                                                 |                      |          |            |           |
|----------------|-------------------------------------|-------------------------------------------------|----------------------|----------|------------|-----------|
| Corner Profile | 60×60                               | NV1                                             | 6005A T6             | 3.0, 6.0 | PC, An, MF | 2.20      |
| NV3 Profile    | 60×21                               | NV3, NV9, F2F                                   |                      |          |            |           |
| NV4 Profile    | 60×32                               | NV4, NV9, F2F                                   | 6063 T66<br>6005A T6 |          |            |           |
| NV5 Profile    | Start Rail 36×54<br>Main Rail 36×65 | NV5, NV9, F2F                                   | 6005 T6              |          | PC, An     | 2.0       |
| NV7 Profile    | 85×90                               | NV7                                             | 6063 T6              | 3.0      | PC, An, MF | 2.20–2.70 |
| NV8 Profile    | 24×86                               | NV8, F2F                                        | 6005A T6             | 3.0, 6.0 |            | 2.0       |
| NV10 Profile   | 52×21                               | NV10                                            |                      | 3.0      |            |           |
| F2F Box        | 75×46                               | F2F                                             |                      | 3.0, 6.0 |            | 3.0       |
| F2F T Box      | 75×125                              |                                                 |                      |          |            |           |
| Steel Top Hat  | 150×25                              | NV1, NV2, NV3, NV4,<br>NV5, NV6, NV7, NV8, NV10 | S280 GvS             | 3.0      | GvS        | 2.0       |

PC – Powder Coated An – Anodised MF –Mill Finish GvS – Galvanised Steel

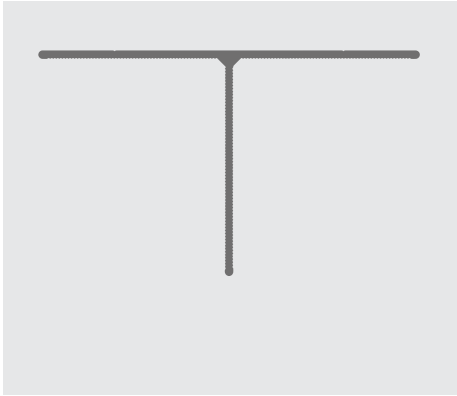
**L Profile 60x40**



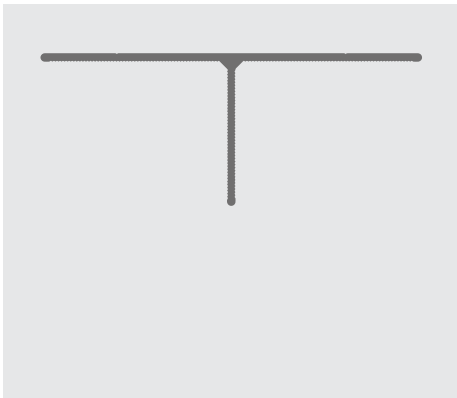
**T Profile 60x80**



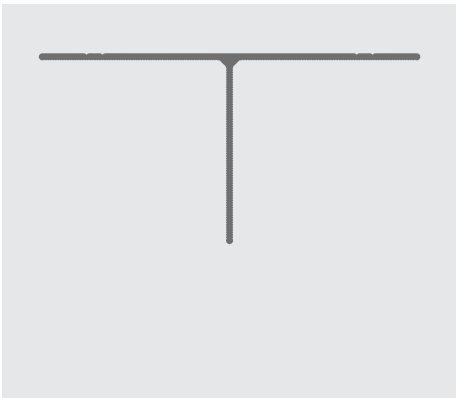
**T Profile 60x100**



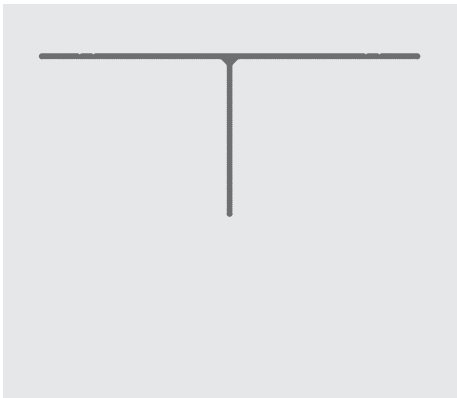
**T Profile 40x100**



**T Profile 60x120**



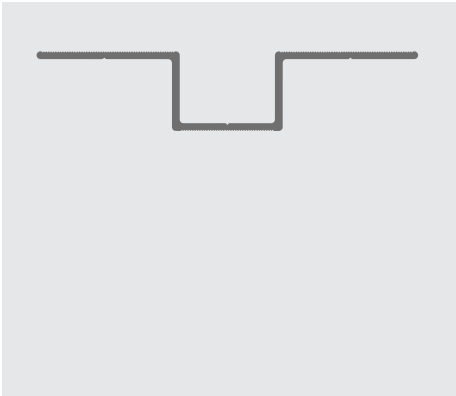
**T Profile 60x140**



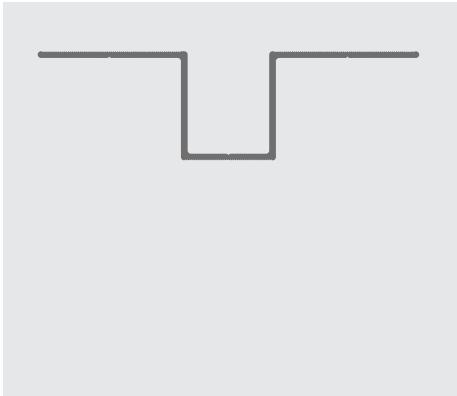
**Lipped L Profile**



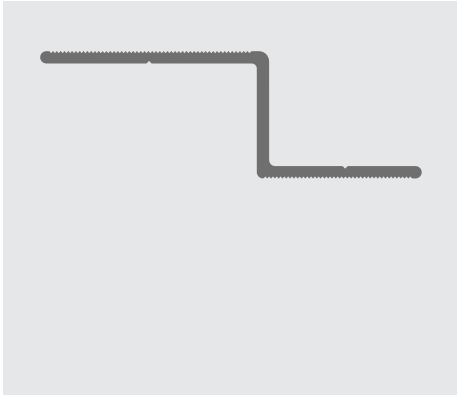
**Omega 25x120**



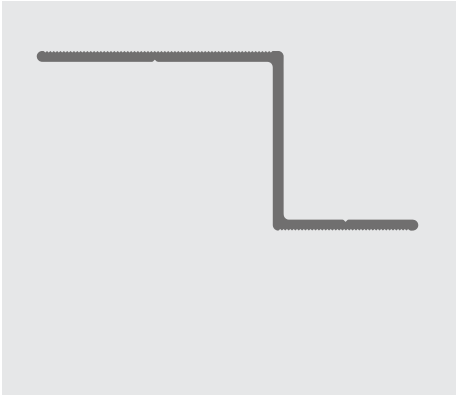
**Omega 40x140**



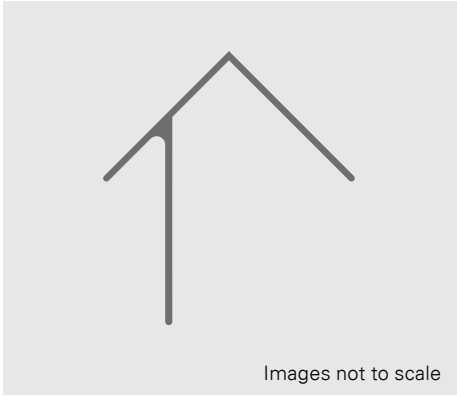
**Zed 25x45x30**



**Zed 40x55x30**

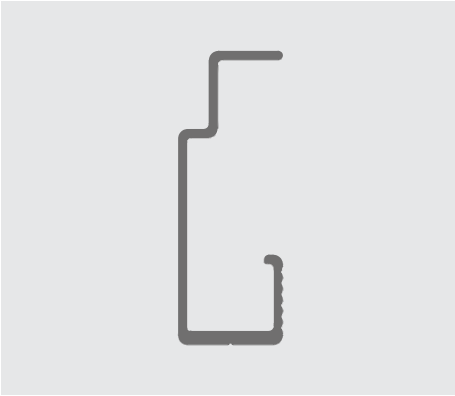


**Corner Profile**

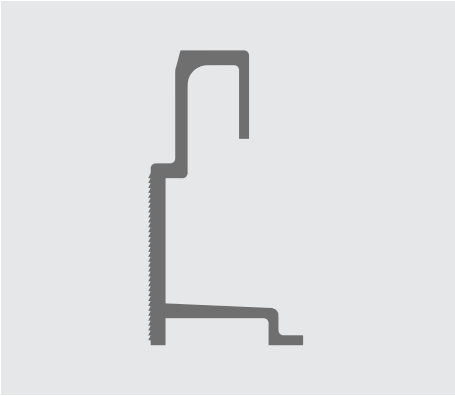


Images not to scale

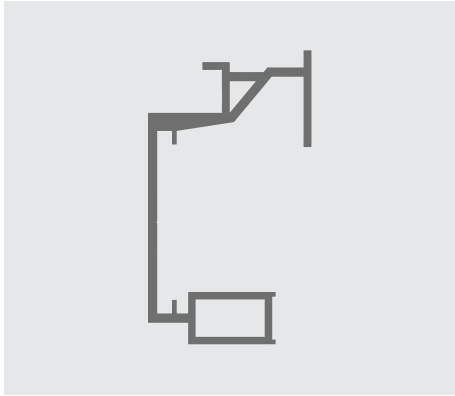
NV3 Profile



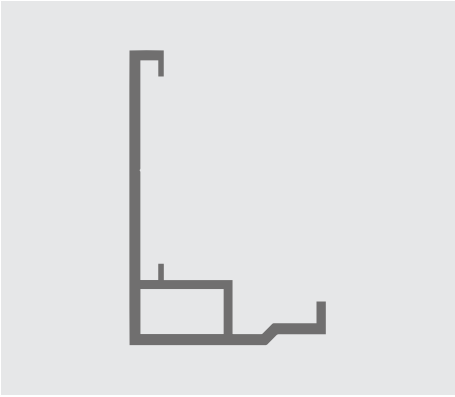
NV4 Profile



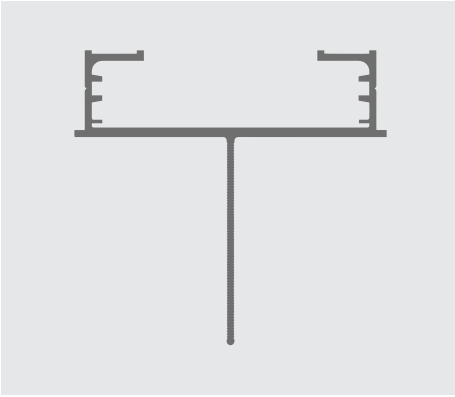
NV5 Profile – Main



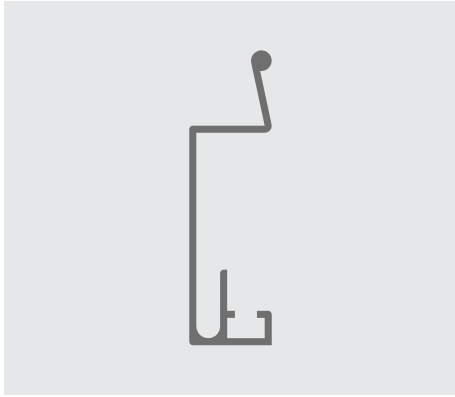
NV5 Profile – Starter



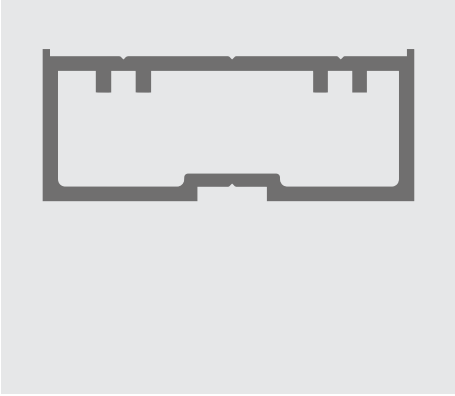
NV7 Profile



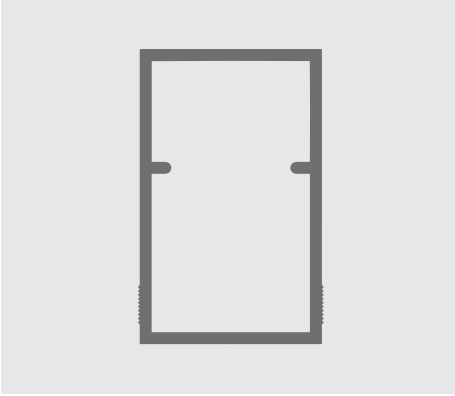
NV8 Profile



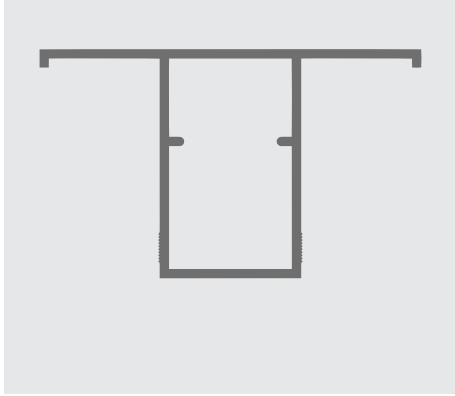
NV10 Profile



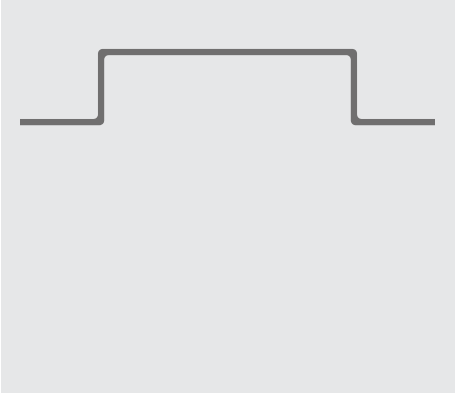
F2F Box



F2FT Box



Steel Top Hat









# Second Level Fixings



# Level 2 Fixings

## Fixing rails/brackets within the subframe.

**Fixing Design and Specification considerations: SFS Level 2 fixings are support structure fasteners and are used to connect our NVELOPE® profiles (rails) to each other and various bracket combinations.**

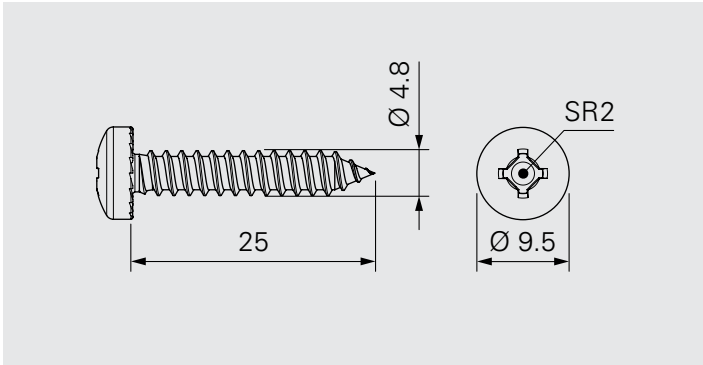
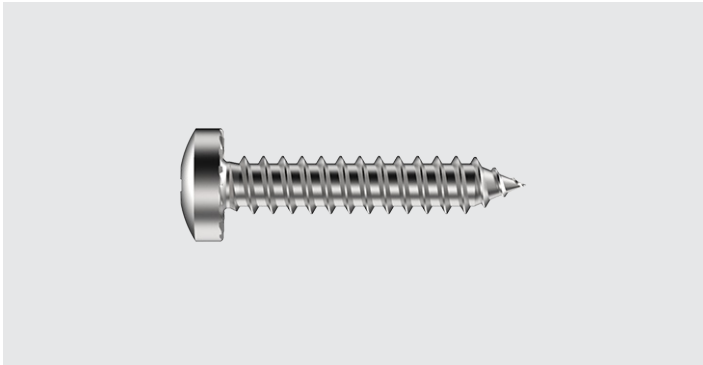
Our SFS fixings used for level 2 subframe applications assure:

- Long-term performance. All our fixings are available in corrosion resistant stainless steel and available as A4 (AISI 316).
- High shear loads offering greater security.
- Permanent fixation. Our SDA5 fixings feature a “unique thread geometry” which allows overwinding during installation and at the same time prevents unwinding once installed.

To follow is further information on our core 2ND level fixings.

**View on the website →**

# VAT-S



| Application                                              |
|----------------------------------------------------------|
| Fastening of pre-punched brackets back to timber battens |

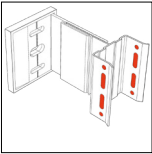
| Component 1 (t <sub>1</sub> ) | Component 2 (t <sub>2</sub> ) |
|-------------------------------|-------------------------------|
| Pre-punched bracket           | Timber                        |

| Fastener material                             |
|-----------------------------------------------|
| Austenitic stainless steel, grade AISI 304/A2 |

| Approvals |
|-----------|
| -         |

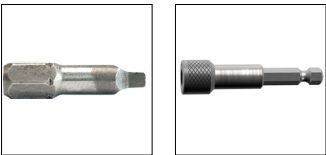
| Features and Benefits                                                                                                                                                                                                                                                                                               |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"><li>• Self-drilling fastener compatible with the NV6 subframe system.</li><li>• SR2 square drive to prevent fastener falling from the bit, providing a 'stick fit'.</li><li>• Thanks to the threaded tip, the fastener grips immediately and is pulled into the timber.</li></ul> |

All measures in mm



## Fastener in stainless steel A2 onto timber battens

| Product code            | CL | D x L    | PU  |        |
|-------------------------|----|----------|-----|--------|
| VAT-S-7049/SR2-4,8 X 25 | 20 | 4,8 x 25 | 500 | 848571 |



## Accessories/Ancillaries

| Product code        | PU | L   |         |
|---------------------|----|-----|---------|
| SR2-25-HEX¼"        | 10 | –   | 1646160 |
| Bit holder ZA¼" 58  | 1  | 58  | 1146918 |
| Bit holder ZA¼" 300 | 1  | 300 | 1162306 |

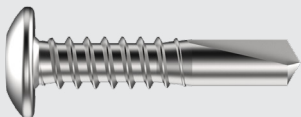
View on the website →

### All measures in mm

All information is non-binding and without guarantee. Before using the products, all specifications and calculations must be checked by a suitably qualified person and local regulations must be observed. This document is subject to revision. We reserve the right to make technical changes.



# SN3

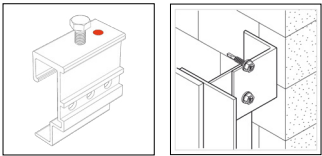


| Application                                                                                                                    | Component 1 (t <sub>i</sub> ) | Component 2 (t <sub>ii</sub> ) |
|--------------------------------------------------------------------------------------------------------------------------------|-------------------------------|--------------------------------|
| Self-drilling fastener for fixing pre-punched stainless steel or pre-punched aluminium cladding support to aluminium framework | Cladding panel                | Aluminium 2.0 - 3.0            |

| Fastener material                             | Approvals |
|-----------------------------------------------|-----------|
| Austenitic stainless steel, grade AISI 316/A4 | -         |

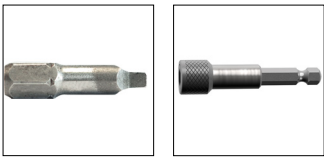
| Features and Benefits                                                                                                                                                                                        |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"><li>• SR2 square drive to prevent fastener falling from the bit, providing a 'stick fit.'</li><li>• Fully stainless fastener, optimised for the application use.</li></ul> |

All measures in mm



## Fastener in stainless steel A4 onto aluminium frameworks

| Product code       | Max drilling capacity | CL | D x L    |        |
|--------------------|-----------------------|----|----------|--------|
| SN3/11-S--7049/SR2 | 3                     | 11 | 4,2 x 19 | 858655 |



## Accessories/Ancillaries

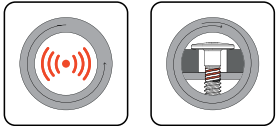
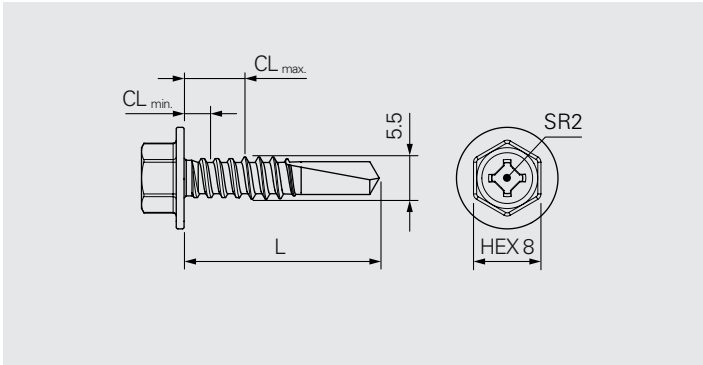
| Product code        | PU | L   |         |
|---------------------|----|-----|---------|
| SR2-25-HEX¼"        | 10 | –   | 1646160 |
| Bit holder ZA¼" 58  | 1  | 58  | 1146918 |
| Bit holder ZA¼" 300 | 1  | 300 | 1162306 |

View on the website →

### All measures in mm

All information is non-binding and without guarantee. Before using the products, all specifications and calculations must be checked by a suitably qualified person and local regulations must be observed. This document is subject to revision. We reserve the right to make technical changes.

# SDA5-5.5



### Application

- Fastening of pre-punched bracket to aluminium rail
- Fastening of aluminium rail to aluminium rail
- Fastening of a hanger to an aluminium rail

| Component 1 (t <sub>I</sub> ) |         | Component 2 (t <sub>II</sub> ) |         | Σ <sub>max</sub> t <sub>I</sub> +t <sub>II</sub> |
|-------------------------------|---------|--------------------------------|---------|--------------------------------------------------|
| Aluminium                     | ≥2.0    | Aluminium                      | 1.5–4.0 | 5.0                                              |
| Aluminium                     | ≥2.0    | Aluminium                      | 1.5–4.0 | –                                                |
| Pre-drill Ø                   | 5.2–5.5 |                                |         |                                                  |
| Steel                         | ≥1.5    | Aluminium                      | 1.5–4.0 | –                                                |
| Pre-drill Ø                   | 5.5     |                                |         |                                                  |

### Fastener material

Austenitic stainless steel A4/316

### Approvals

ETA-22/0793

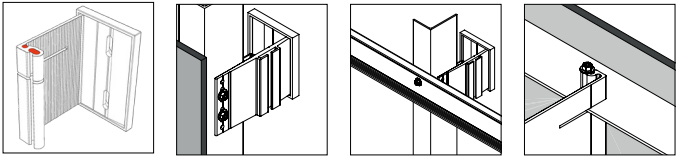
### Features and Benefits

- Self drilling fastener suitable for installation of metal bracket or aluminium profile onto aluminium structure
- Secured against rattling given by reduced thread and perfectly matched clamping length
- No torque control required given by reduced thread
- Secured against unwinding given by reduced thread
- Connecting components are pulled together during setting process given by reduced thread
- Fastener can be over-tightened

### Documentation

Approval document (ETA) | Declaration of performance (DoP)

All measures in mm



Fastener in A4  
onto aluminium

| Product code             | PU  | L  | CL        |         |
|--------------------------|-----|----|-----------|---------|
| SDA5/3,5-6-H13-S4-5,5×20 | 500 | 20 | 3.5–6.0   | 1499657 |
| SDA5/3,5-8-H13-S4-5,5×22 |     | 22 | 3.5–8.0   | 1507572 |
| SDA5/25-28-H13-S4-5,5×45 |     | 45 | 25.0–28.0 | 1645134 |



Accessories/Ancillaries

| Product code    | PU | L  | Drive | Head drive |         |
|-----------------|----|----|-------|------------|---------|
| E308-¼"-50      | 1  | 50 | ¼"    | HEX8       | 1646160 |
| SR2-25-HEX¼"    | 10 | –  |       | SR2        | 1146918 |
| Bit holder ZA¼" | 1  | 58 |       | ¼"         | 1162306 |

View on the website →

All measures in mm

All information is non-binding and without guarantee. Before using the products, all specifications and calculations must be checked by a suitably qualified person and local regulations must be observed. This document is subject to revision. We reserve the right to make technical changes.



# M8 Bolt Kit



## Application

Fastening of Floor to Floor box profiles to Floor to Floor brackets

## Fastener material

Austenitic stainless steel, grade A4/316 Bolt

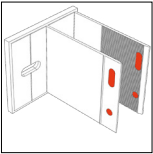
Stainless Steel washer

Nylon Washer and Insert

## Features and Benefits

- Designed to compensate for the heavier loads of Floor to Floor systems
- Security against unwinding from vibrations, thanks to the addition of the nylon insert.

All measures in mm



## Fastener in stainless bolt kit for Floor to Floor Sytems

| Product code | Head | L (for bolt) | PU |         |
|--------------|------|--------------|----|---------|
| M8 Bolt Kit  | HEX  | 70           | 1  | 1600079 |

## Accessories/Ancillaries

| Product code | PU | L  | Drive | Head Drive |        |
|--------------|----|----|-------|------------|--------|
| E313-1/4"-50 | 1  | 50 | ¼     | HEX13      | 508029 |

View on the website →

### All measures in mm

All information is non-binding and without guarantee. Before using the products, all specifications and calculations must be checked by a suitably qualified person and local regulations must be observed. This document is subject to revision. We reserve the right to make technical changes.





# Third Level Fixings



# Level 3 Fixings

## Fixing Facade Panels to Rails/Hangers

**Fixing Design and Specification considerations: SFS Level 3 fixings are designed to fix façade panels back to our NVELOPE® rails and hangers.**

A variety of fasteners that can provide both visible and secret fixing methods.

AP rivets are ideal for visible fixing high performance cladding panels to aluminium support systems and can be colour matched to leading OEM's panels.

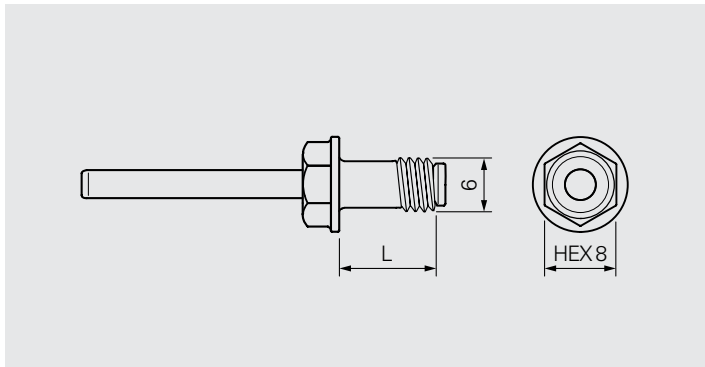
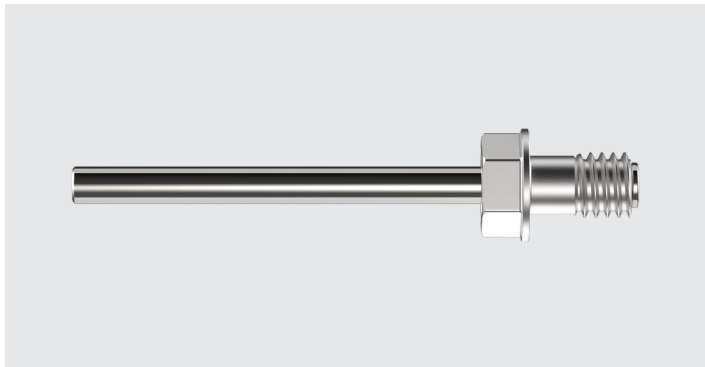
The TUF-S blind fastening range from SFS is the superior solution to the concealed attachment of HPL or fibre cement cladding panels with regards to installation and long-term security. Installation is performed quickly and securely by one person, without the need of special tools. Installation time is also reduced by up to 50% when compared to conventional blind attachments.

To follow is further information on our core 3RD level fixings.

**View on the website →**



# TU-S



## Application

Concealed fastener for fixing a metal hanger to cladding panel

## Component 1 (t<sub>1</sub>)

Metal hanger  
Pre-drill Ø 6.5–7.0

## Component 2 (t<sub>II</sub>)

Cladding panel –  
Pre-drill Ø 5.9–6.0

## Fastener material

Body: Austenitic stainless steel A4  
Mandrel: Carbon steel

## Approvals

ETA-18/0883  
(Rockpanel Premium A2)

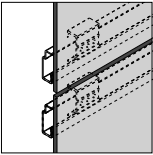
## Features and Benefits

- Concealed fastener suitable for installation of a metal hanger onto cladding panel
- Secured against unwinding
- Time saving installation compared to conventional blind attachments
- Simple standard blind hole sufficient - no complex undercut hole required
- Quick and easy installation with battery rivet gun
- Blind holes can even be drilled on site
- Removable is possible via hex head

## Documentation

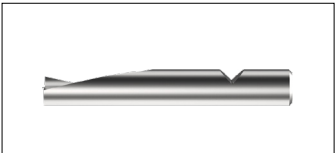
Approval document (ETA) | Declaration of performance (DoP)

All measures in mm



## Fastener in A4 onto cladding panel

| Product code | PU  | L  |         |
|--------------|-----|----|---------|
| TU-S-6x11-A4 | 250 | 11 | 1692258 |
| TU-S-6x13-A4 |     | 13 | 1692260 |



## Accessories/Ancillaries

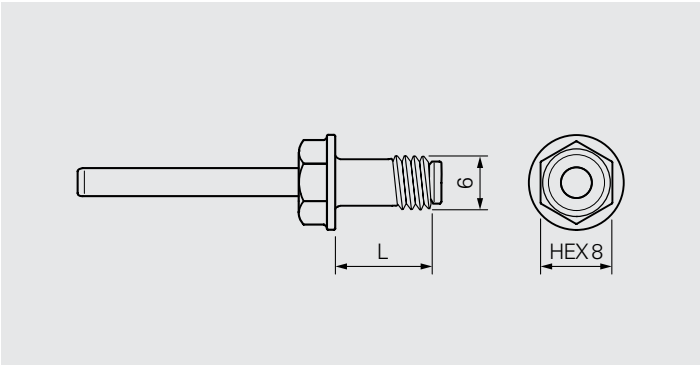
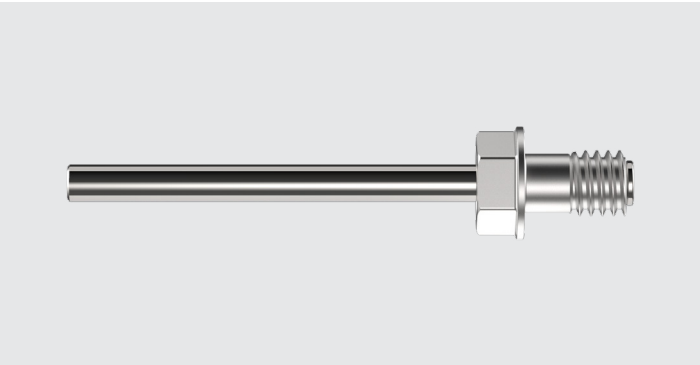
| Product code                 | PU | L    | Drill depth | Drive | D |         |
|------------------------------|----|------|-------------|-------|---|---------|
| Accu-Bird®                   | 1  | –    | –           | –     | – | 1679661 |
| Depth locator universal      |    |      |             | HEX8  |   | 1478567 |
| VHM-6,0x40                   |    | 40   | 5           | –     | 6 | 1615070 |
| VHM-6,0x40,5                 |    | 40.5 | 5.5         |       |   | 1586737 |
| VHM-6,0x41                   |    | 41   | 6           |       |   | 1615072 |
| VHM-6,0x41,5                 |    | 41.5 | 6.5         |       |   | 1615073 |
| VHM-6,0x42                   |    | 42   | 7           |       |   | 1615074 |
| VHM-6,0x42,5                 |    | 42.5 | 7.5         |       |   | 1615075 |
| VHM-6,0x43                   |    | 43   | 8           |       |   | 1615077 |
| VHM-6,0x43,5                 |    | 43.5 | 8.5         |       |   | 1615078 |
| VHM-6,0x45                   |    | 45   | 10          |       |   | 1479984 |
| MEASURING-SET-DRILLS-5.9-6.0 |    | –    | –           |       | – | 1715384 |

View on the website →

### All measures in mm

All information is non-binding and without guarantee. Before using the products, all specifications and calculations must be checked by a suitably qualified person and local regulations must be observed. This document is subject to revision. We reserve the right to make technical changes.

# TUF-S



### Application

Concealed fastener for fixing a metal hanger to cladding panel

| Component 1 (t <sub>1</sub> ) |         | Component 2 (t <sub>II</sub> ) |         |
|-------------------------------|---------|--------------------------------|---------|
| Metal hanger                  |         | Cladding panel                 | –       |
| Pre-drill Ø                   | 6.5–7.0 | Pre-drill Ø                    | 5.9–6.0 |

### Fastener material

Body: Austenitic stainless steel A4  
Mandrel: Carbon steel

### Approvals

ETA-15/0476

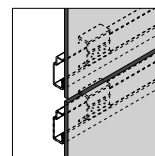
### Features and Benefits

- Concealed fastener suitable for installation of a metal hanger onto cladding panel
- Secured against unwinding
- Time saving installation compared to conventional blind attachments
- Simple standard blind hole sufficient - no complex undercut hole required
- Quick and easy installation with battery rivet gun
- Blind holes can even be drilled on site
- Removable is possible via hex head

### Documentation

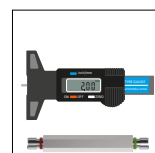
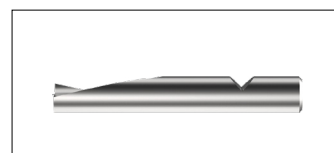
Approval document (ETA) | Declaration of performance (DoP) | Technical Data

All measures in mm



## Fastener in A4 onto cladding panel

| Product code   | PU  | L   |         |
|----------------|-----|-----|---------|
| TUF-S-6×7-A4   | 250 | 7   | 1692229 |
| TUF-S-6×7.5-A4 |     | 7.5 | 1692230 |
| TUF-S-6×8-A4   |     | 8   | 1692241 |
| TUF-S-6×8.5-A4 |     | 8.5 | 1692243 |
| TUF-S-6×9-A4   |     | 9   | 1692245 |
| TUF-S-6×10-A4  |     | 10  | 1692253 |
| TUF-S-6×11-A4  |     | 11  | 1692254 |
| TUF-S-6×12-A4  |     | 12  | 1692255 |
| TUF-S-6×13-A4  |     | 13  | 1692256 |



## Accessories/Ancillaries

| Product code                 | PU | L    | Drill depth | Drive | D |         |
|------------------------------|----|------|-------------|-------|---|---------|
| Accu-Bird®                   | 1  | –    | –           | –     | – | 1679661 |
| Depth locator universal      |    | –    | –           | HEX8  | – | 1478567 |
| VHM-6,0×40                   |    | 40   | 5           | –     | 6 | 1615070 |
| VHM-6,0×40,5                 |    | 40.5 | 5.5         | –     | 6 | 1586737 |
| VHM-6,0×41                   |    | 41   | 6           | –     | 6 | 1615072 |
| VHM-6,0×41,5                 |    | 41.5 | 6.5         | –     | 6 | 1615073 |
| VHM-6,0×42                   |    | 42   | 7           | –     | 6 | 1615074 |
| VHM-6,0×42,5                 |    | 42.5 | 7.5         | –     | 6 | 1615075 |
| VHM-6,0×43                   |    | 43   | 8           | –     | 6 | 1615077 |
| VHM-6,0×43,5                 |    | 43.5 | 8.5         | –     | 6 | 1615078 |
| VHM-6,0×45                   |    | 45   | 10          | –     | 6 | 1479984 |
| MEASURING-SET-DRILLS-5.9-6.0 |    | –    | –           | –     | – | 1715384 |

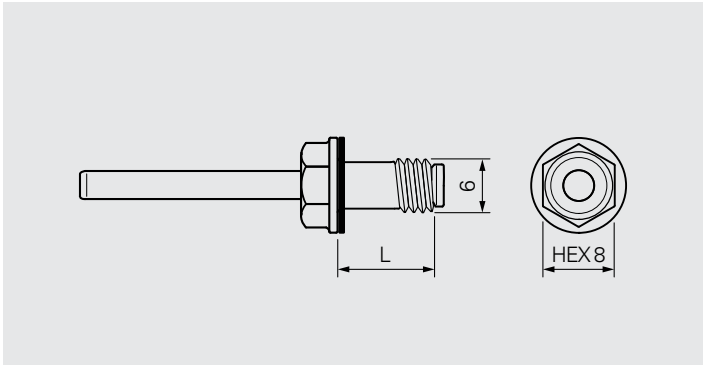
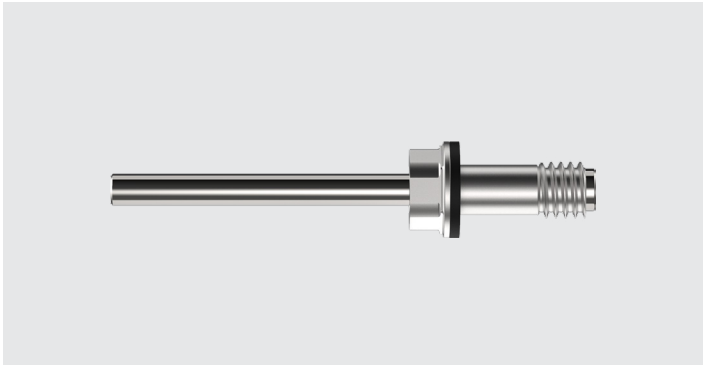
[View on the website →](#)

### All measures in mm

All information is non-binding and without guarantee. Before using the products, all specifications and calculations must be checked by a suitably qualified person and local regulations must be observed. This document is subject to revision. We reserve the right to make technical changes.



# TUC-S



### Application

Concealed fastener for fixing a metal hanger to cladding panel

| Component 1 (t <sub>1</sub> ) |         | Component 2 (t <sub>II</sub> ) |         |
|-------------------------------|---------|--------------------------------|---------|
| Metal hanger                  |         | Cladding panel                 |         |
| Pre-drill Ø                   | 6.5–7.0 | Pre-drill Ø                    | 5.9–6.1 |

### Fastener material

Body: Austenitic stainless steel A4  
Mandrel: Carbon steel  
Washer: EPDM

### Approvals

—

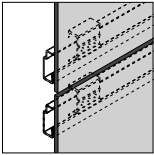
### Features and Benefits

- Concealed fastener suitable for installation of a metal hanger onto cladding panel
- Secured against unwinding
- Time saving installation compared to conventional blind attachments
- Simple standard blind hole sufficient - no complex undercut hole required
- Quick and easy installation with battery rivet gun
- Blind holes can even be drilled on site
- Removable is possible via hex head

### Documentation

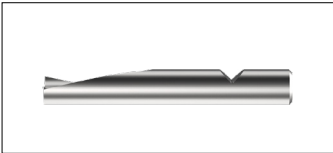
Technical Data

All measures in mm



# Fastener in A4 onto cladding panel

| Product code      | PU  | L  |         |
|-------------------|-----|----|---------|
| TUC-S-W10-6×14-A4 | 250 | 14 | 1745715 |



## Accessories/Ancillaries

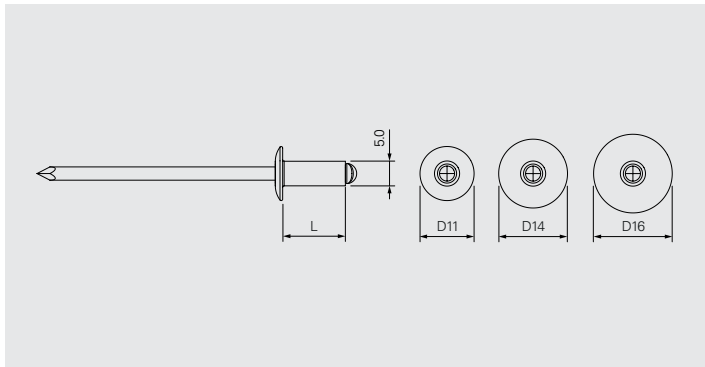
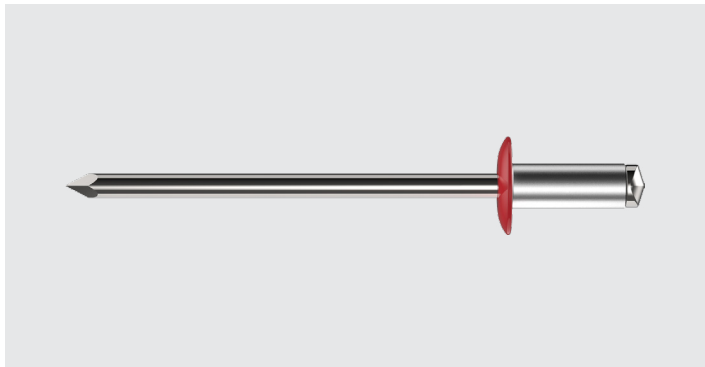
| Product code                 | PU | Drill depth | Drive |         |
|------------------------------|----|-------------|-------|---------|
| AccuBird®Pro                 | 1  | –           | –     | 1679661 |
| Depth locator universal      |    |             | HEX8  | 1478567 |
| VHM-6,0×45                   |    | 10.0        | –     | 1479984 |
| MEASURING-SET-DRILLS-5,9–6,1 |    | –           |       | 1715384 |

View on the website →

### All measures in mm

All information is non-binding and without guarantee. Before using the products, all specifications and calculations must be checked by a suitably qualified person and local regulations must be observed. This document is subject to revision. We reserve the right to make technical changes.

# AP-5.0



## Application

Fastening of cladding panel to aluminium profile

## Component 1 (t<sub>1</sub>)

Cladding panel

## Component 2 (t<sub>II</sub>)

|             |      |
|-------------|------|
| Aluminium   | ≥1.0 |
| Pre-drill Ø | 5.1  |

## Fastener material

Body: Aluminium AlMg5  
Mandrel: Austenitic stainless steel A2

## Approvals

ETA-21/0951

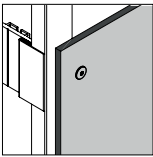
## Features and Benefits

- Blind rivet suitable for installation of pre-drilled cladding panels onto pre-drilled aluminium structure
- High clamping range with clamping force independent of the clamping thickness
- Non-detachable and vibration-resistant connection

## Documentation

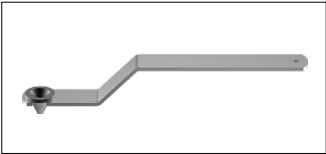
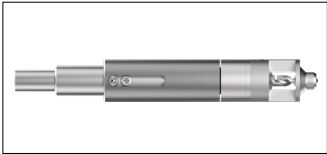
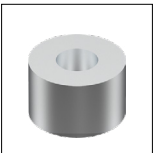
Approval document (ETA)

All measures in mm



Blind rivet in aluminium  
onto aluminium

| Product code | PU  | L  | CL        | Head | Coloured |
|--------------|-----|----|-----------|------|----------|
| AP11-50120-S | 250 | 12 | 2.0–8.0   | D11  | 1363826  |
| AP11-50180-S |     | 18 | 7.0–13.5  | D14  | 1363851  |
| AP14-50120-S |     | 12 | 2.0–8.0   |      | 1363853  |
| AP14-50160-S |     | 16 | 6.0–12.0  |      | 1363854  |
| AP14-50180-S |     | 18 | 7.0–13.5  |      | 1363855  |
| AP14-50210-S |     | 21 | 10.0–16.0 |      | 1363856  |
| AP14-50230-S |     | 23 | 12.0–18.0 |      | 1363857  |
| AP16-50120-S |     | 12 | 2.0–8.0   | D16  | 1648414  |
| AP16-50160-S |     | 16 | 6.0–12.0  |      | 1363858  |
| AP16-50180-S |     | 18 | 7.0–13.5  |      | 1363859  |
| AP16-50210-S |     | 21 | 10.0–16.0 |      | 1363861  |



Accessories/Ancillaries

| Product code                  | PU | Pre-drill Ø panel |                         |
|-------------------------------|----|-------------------|-------------------------|
| AccuBird®Pro                  | 1  | –                 | 1679661                 |
| FP-A Sleeves                  | –  |                   | "Please See FP Sleeves" |
| NOSEPIECE-MOVING-POINT AP/ASO | 1  |                   | 974620                  |
| DG-146×20-7,0                 |    | 7.0–7.9           | 1320657                 |
| DG-146×20-8,0                 |    | 8.0–8.9           | 1320658                 |
| DG-146×20-9,0                 |    | 9.0–9.9           | 1320659                 |
| DG-146×20-10,0                |    | 10.0–10.9         | 1321704                 |
| ZL-5,1/7-18                   |    | 7.0–18.0          | 701532                  |

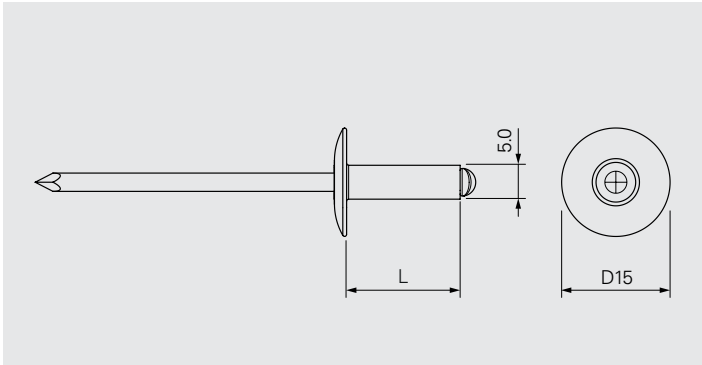
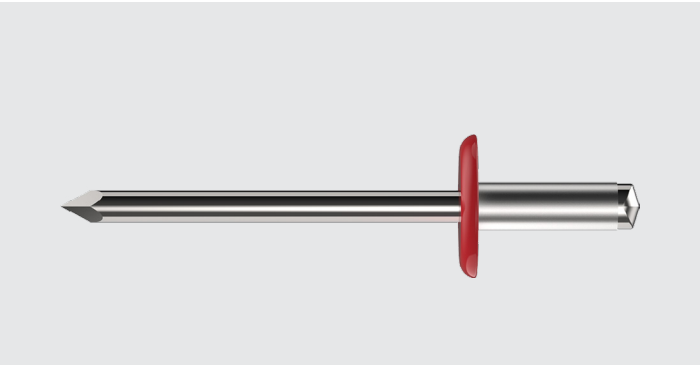
View on the website →

All measures in mm

All information is non-binding and without guarantee. Before using the products, all specifications and calculations must be checked by a suitably qualified person and local regulations must be observed. This document is subject to revision. We reserve the right to make technical changes.



# SSO-5.0



## Application

Fastening of cladding panel to aluminium or steel rail

| Component 1 (t <sub>1</sub> ) | Component 2 (t <sub>2</sub> ) |      |
|-------------------------------|-------------------------------|------|
| Cladding panel                | Aluminium                     | ≥1.0 |
|                               | Pre-drill Ø                   | 5.1  |
| Cladding panel                | Steel                         | ≥1.0 |
|                               | Pre-drill Ø                   | 5.1  |

## Fastener material

Body: Austenitic stainless steel A4  
Mandrel: Austenitic stainless steel A4

## Approvals

CE<sub>22</sub>  
ETA-10/0198

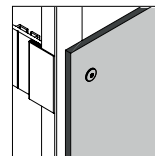
## Features and Benefits

- Blind rivet suitable for installation of pre-drilled cladding panels onto pre-drilled aluminium or steel structure
- High clamping range with clamping force independent of the clamping thickness
- Non-detachable and vibration-resistant connection

## Documentation

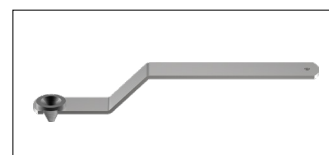
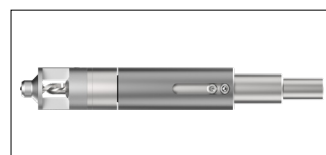
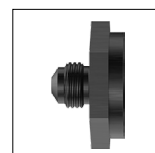
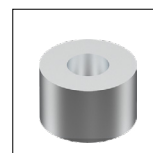
Approval document (ETA) | Declaration of performance (DoP)

All measures in mm



## Blind rivet in A4 onto aluminium and steel

| Product code  | PU  | L  | CL        |         | Coloured |
|---------------|-----|----|-----------|---------|----------|
| SSO-D15-50140 | 250 | 14 | 4.0–9.5   | 1262436 | 1363885  |
| SSO-D15-50180 |     | 18 | 8.0–13.5  | 1262437 | 1363886  |
| SSO-D15-50220 |     | 22 | 12.0–18.0 | 1262439 | 1363887  |
| SSO-D15-50270 |     | 27 | 17.0–22.0 | –       | 1685313  |



## Accessories/Ancillaries

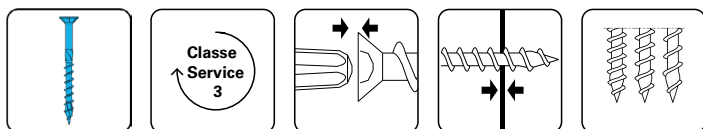
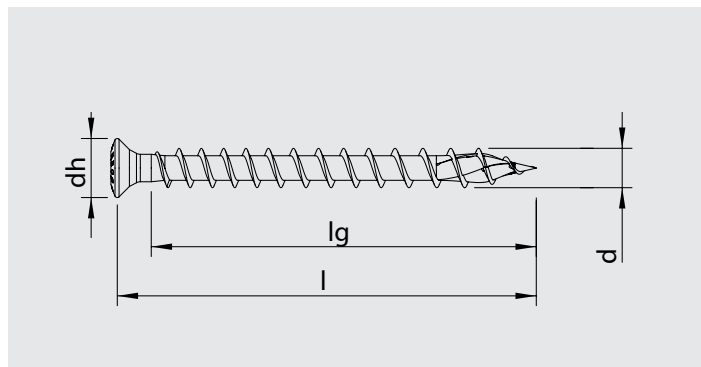
| Product code                        | PU | Pre-drill Ø panel |         |
|-------------------------------------|----|-------------------|---------|
| AccuBird®Pro                        | 1  | –                 | 1679661 |
| FP-S Sleeves                        | –  |                   | –       |
| NOSEPIECE-MOVING-POINT-SSO-D15-50xL | 1  |                   | 1291200 |
| DG-146x20-7,0                       |    | 7.0–7.9           | 1320657 |
| DG-146x20-8,0                       |    | 8.0–8.9           | 1320658 |
| DG-146x20-9,0                       |    | 9.0–9.9           | 1320659 |
| DG-146x20-10,0                      |    | 10.0–10.9         | 1321704 |
| ZL-5,1/7-18                         |    | 7.0–18.0          | 701532  |

**View on the website** →

### All measures in mm

All information is non-binding and without guarantee. Before using the products, all specifications and calculations must be checked by a suitably qualified person and local regulations must be observed. This document is subject to revision. We reserve the right to make technical changes.

# HTP-S-FS-VFT



## Application

Timber cladding

## Approval

CE<sub>19</sub>  
ETA-19/0553

## Material

Austenitic stainless steel A2

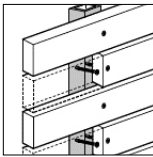
## Features and benefits

- Small raised countersunk head improve aesthetics
- 'Stick fit' when using HD20-HECO drive 'Gripfit'
- Full thread with patented 'magic close' pulls fixtures together on installation.

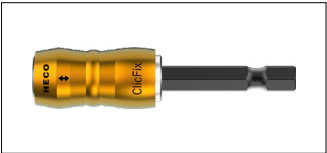
## Documentation

Approval document (ETA) | Declaration of performance (DoP)

All measures in mm



| Product code           | d   | L  | I <sub>g</sub> | d <sub>h</sub> | Recess | PU  | Code    |
|------------------------|-----|----|----------------|----------------|--------|-----|---------|
| HTP-S-FS-VFT-4,5×50/45 | 4.5 | 50 | 45             | 7.2            | HD-20  | 200 | 1205534 |
| HTP-S-FS-VFT-4,5×60/55 |     | 60 | 55             |                |        |     | 1205536 |
| HTP-S-FS-VFT-4,5×70/65 |     | 70 | 65             |                |        |     | 1205538 |
| HTP-S-FS-VFT-4,5×80/75 |     | 80 | 75             |                |        |     | 1205540 |
| HTP-S-FS-VFT-5,0×40/34 | 5.0 | 40 | 34             | 7.2            | HD-20  | 200 | 1205546 |
| HTP-S-FS-VFT-5,0×50/44 |     | 50 | 44             |                |        |     | 1205552 |
| HTP-S-FS-VFT-5,0×60/54 |     | 60 | 54             |                |        |     | 1205556 |
| HTP-S-FS-VFT-5,0×70/64 |     | 70 | 64             |                |        |     | 1205560 |
| HTP-S-FS-VFT-5,0×80/74 |     | 80 | 74             |                |        |     | 1205564 |



Accessories/Ancillaries

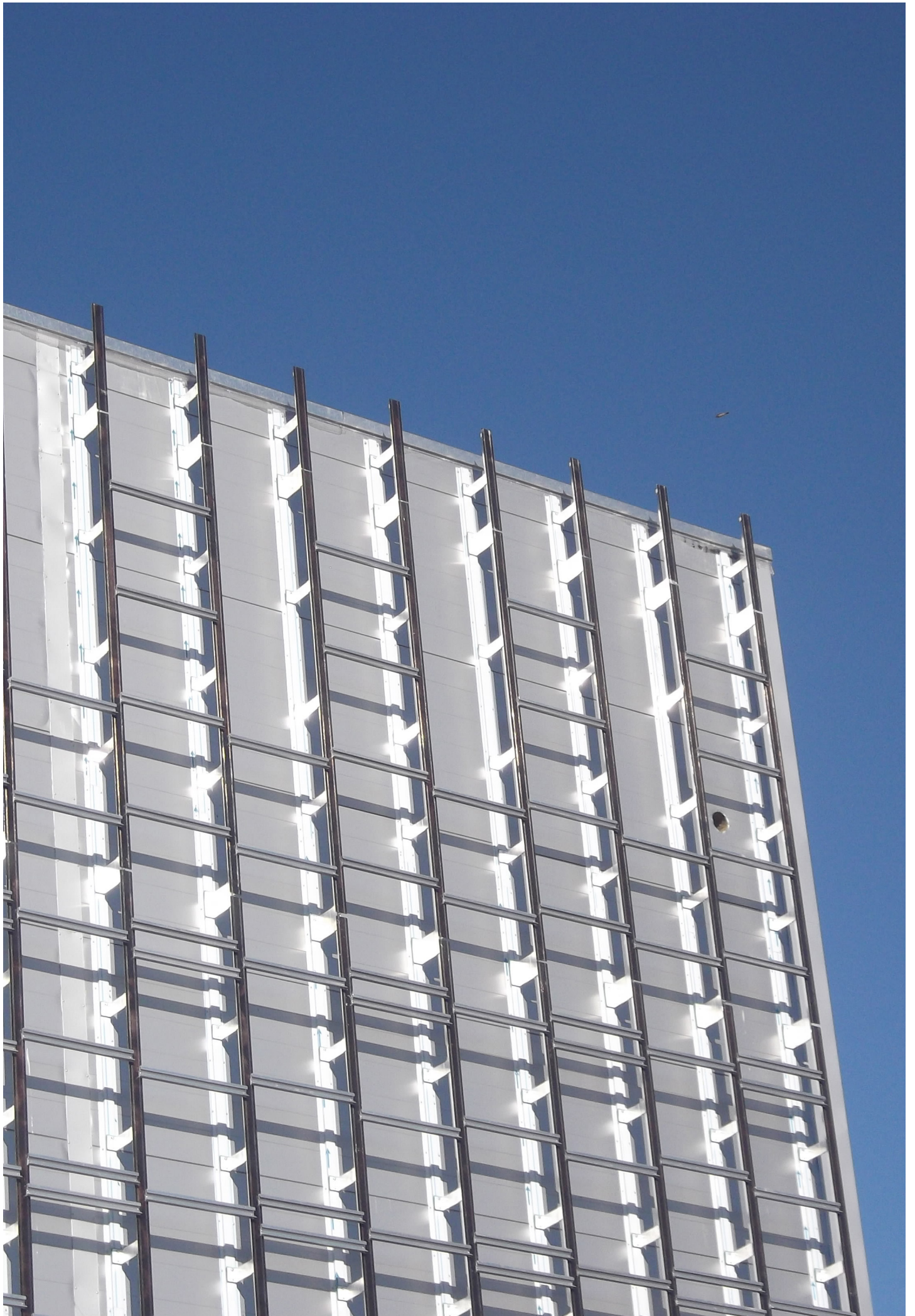
| Product code       | PU | L  | Page |         |
|--------------------|----|----|------|---------|
| HD20-25-HEX¼"-HECO | 10 | 25 | 104  | 1205164 |

View on the website →

All measures in mm

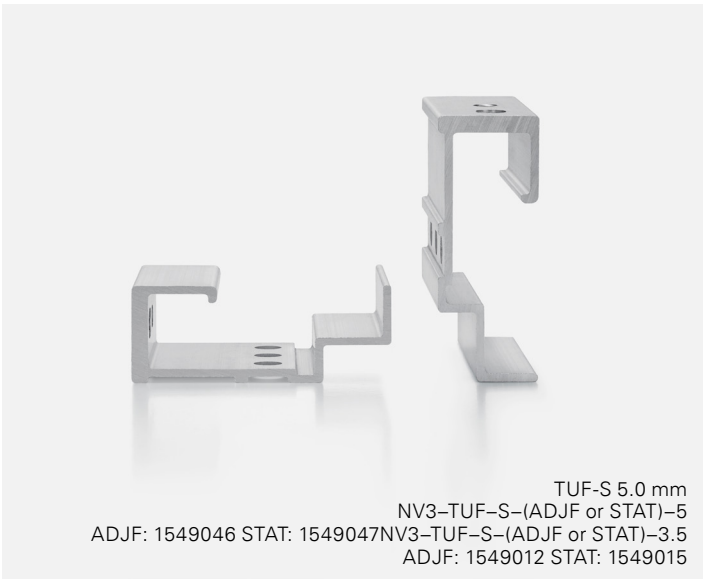
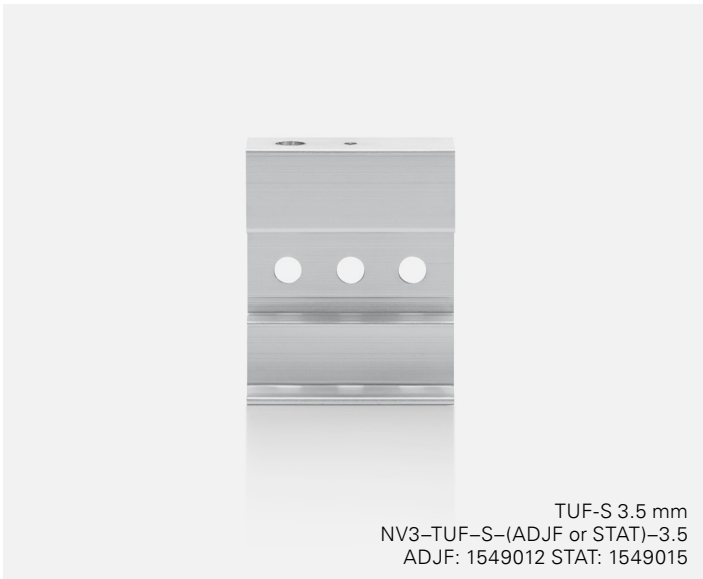
All information is non-binding and without guarantee. Before using the products, all specifications and calculations must be checked by a suitably qualified person and local regulations must be observed. This document is subject to revision. We reserve the right to make technical changes.





# NV3 – Hanger Options

NV3 is the NVELOPE® subframe system suitable for concealed fix/mechanically secret fixed applications. The NVELOPE® NV3 system is compatible with high-pressure laminate (HPL), ceramic and thin stone including fibre cement. Horizontal NVELOPE® carrier profiles are fixed to the vertical profiles. Rainscreen panels are hung from and secured with hangers.



Additional Hangers Available

| Name        | Product Code               | ADJF    | STAT    |
|-------------|----------------------------|---------|---------|
| PTS         | NV3-PTS-(ADJF or STAT)     | 1521457 | 1521459 |
| Keil        | NV3-KEIL-(ADJF or STAT)    | 1521454 | 1521456 |
| Keil 150 mm | NV3-KEIL-ADJF-150          | 1521455 | –       |
| Tergo       | NV3-TER-(ADJF or STAT)     | 1521465 | 1521468 |
| Tergo Plus  | NV3-TER-TEC-(ADJF or STAT) | 1521469 | 1521470 |

# Accessories





# Accessories

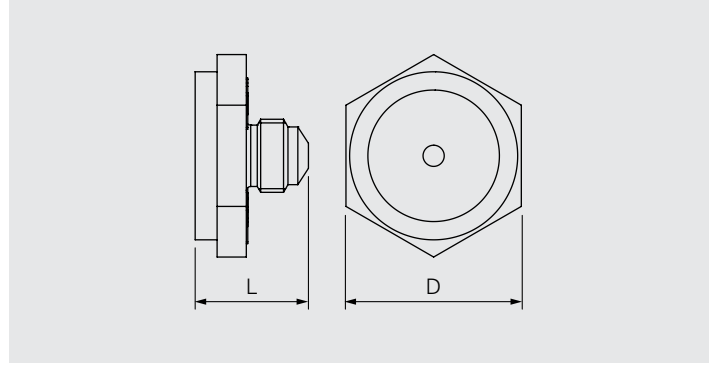
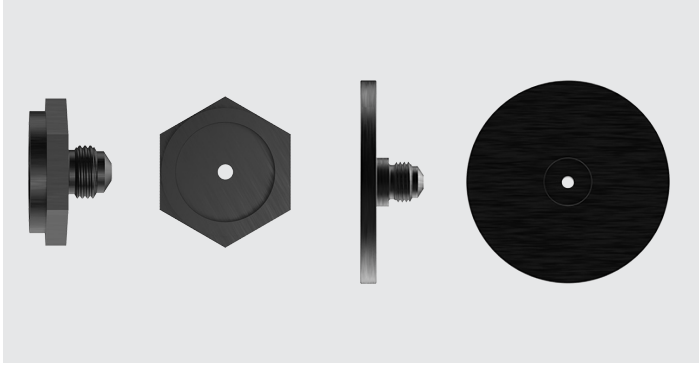
NVELOPE® have a range of accessories which can be used in conjunction with many of our subframe systems. They include adaptors, extenders, connectors, corner brackets and corner rails and a useful rail cover. Whilst these component probably won't be needed for many projects they can offer a useful remedy to a particular design requirement.

| Item             | Description                                                                                                     | Supported Systems              | Product Code       |
|------------------|-----------------------------------------------------------------------------------------------------------------|--------------------------------|--------------------|
| Adaptor Washers  | Available in sizes 11 mm to 6.50 mm and 11 mm to 8.50 mm.                                                       | NV1-NV8, NV10, NVF2F, NH3, NS1 | 1623696            |
| Bracket Extender | Single and Double sizes. Will extend any bracket by 60 mm.                                                      | NV1-NV8, NV10                  | 1521187<br>1521188 |
| Rail Connector   | This can be used on any rail to join two pieces together.                                                       | NV1-NV5,NV8, NV10              | 1521190            |
| NV3 Rail Cover   | This can be used to cover NV3 rail at open panel joints.<br>This saves powder coating the complete rail length. | NV3, NV4, NV10                 | 1623696            |
| Corner Bracket   | Undrilled, single and double corner bracket.                                                                    | NV1, NV2, NV6                  | 1521185<br>1521186 |
| Corner Rail      | For use with the corner bracket.                                                                                | NV1, NV2                       | 1607594<br>1607596 |

View on the website →



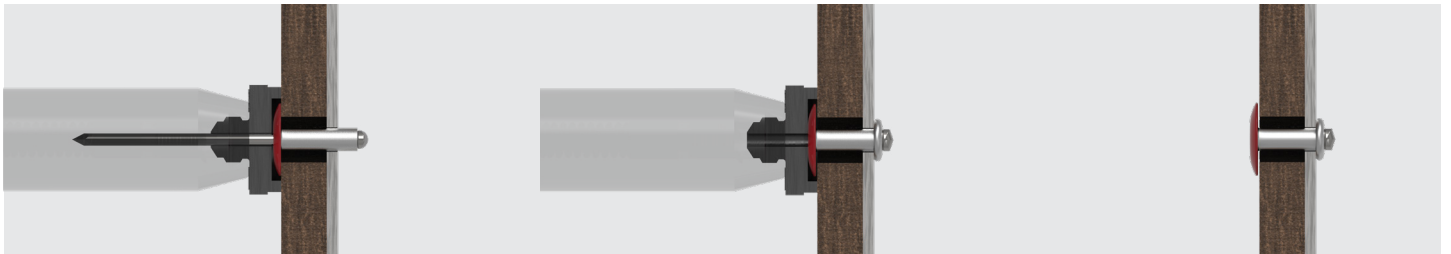
# Nosepiece



## Application

Nosepiece for a correct installation of a rivet

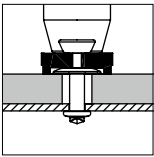
## Installation instruction



## Features and Benefits

- Nosepiece suitable for installation of a rivet
- Ensures a small gap between the rivet-head and the panel surface
- Movement of the panel is possible thanks to the constraint-free installation of the rivet
- Compatible with the AccuBird® and PowerBird® riveting tools from GESIPA®
- Nosepiece in big outer-diameter for use in ACM panels
- Can easily be screwed onto the riveting tool

All measures in mm



Nosepiece

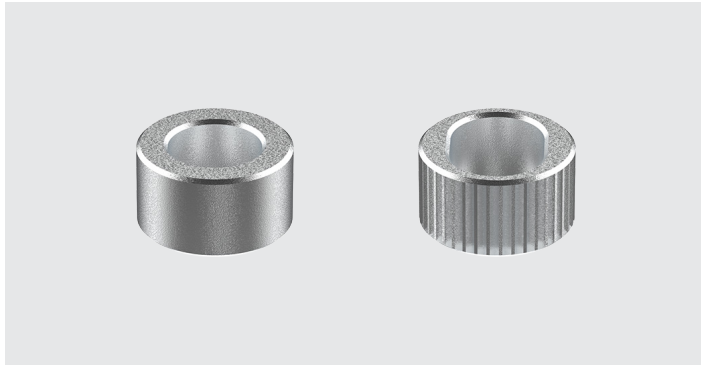
| Product code                        | PU | L    | D  | To be used for rivets |     |     |         |     |         |         |
|-------------------------------------|----|------|----|-----------------------|-----|-----|---------|-----|---------|---------|
|                                     |    |      |    | AP-5.0                |     |     | ASO-5.0 |     | SSO-5.0 |         |
|                                     |    |      |    | D11                   | D14 | D16 | D11     | D14 | D15     |         |
| NOSEPIECE-MOVING-POINT AP/ASO       | 1  | 15.5 | 23 | ✓                     | ✓   | ✓   | ✓       | ✓   | ✗       | 974620  |
| NOSEPIECE-MOVING-POINT-SSO-D15-50×L |    |      | 30 | ✗                     | ✗   | ✗   | ✗       | ✗   | ✓       | 1291200 |

View on the website →

All measures in mm

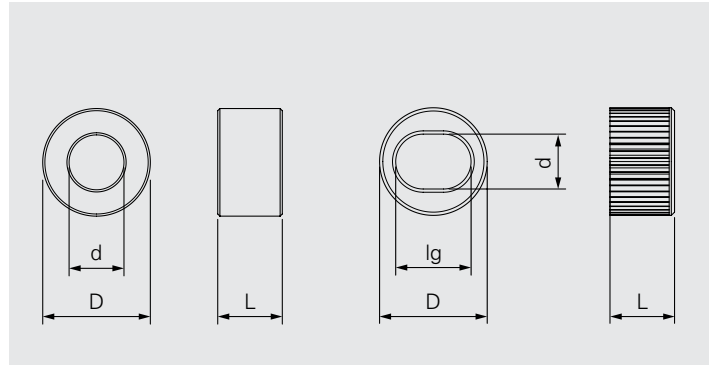
All information is non-binding and without guarantee. Before using the products, all specifications and calculations must be checked by a suitably qualified person and local regulations must be observed. This document is subject to revision. We reserve the right to make technical changes.

# FP and GP Sleeves



## Application

Sleeve to create a fixed point in a pre-drilled cladding panel



## Material

A = Aluminium

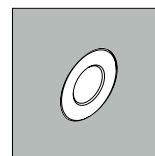
## Installation of a gliding point sleeve



## Features and Benefits

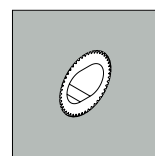
- Sleeve suitable for creating a fixed-point in a pre-drilled panel
- Uniform pilot drilling diameter for all pilot holes in a cladding panel
- Fixed point can be defined on-site, therefore very flexible
- Longevity of the fixed-point sleeves as a result of using aluminium

All measures in mm



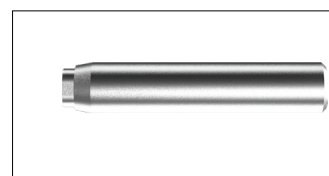
## Fixed point sleeves in Aluminium

| Product code   | PU  | L | D = Pre-drill Ø | d   |         |
|----------------|-----|---|-----------------|-----|---------|
| FP-A-7,9x6     | 100 | 6 | 8               | 5.1 | 1343278 |
| FP-A-8.5x6-5,1 |     |   | 8.5             |     | 1677455 |
| FP-A-9,4x6     |     |   |                 |     | 1364621 |



## Gliding point sleeves in Aluminium

| Product code     | PU  | L   | D = Pre-drill Ø | d   | lg  |         |
|------------------|-----|-----|-----------------|-----|-----|---------|
| GP-A-8,0x7,5-5,1 | 100 | 7.5 | 8               | 5.1 | 6.2 | 1677532 |
| GP-A-10,0x6-5.2  |     | 6   | 10              | 5.2 | 7.8 | 1677531 |



## Accessories/Ancillaries

| Product code | PU | D  | L |         |
|--------------|----|----|---|---------|
| GP-H-8,0     | 1  | 8  | — | 1677534 |
| GP-H-10,0    |    | 10 |   | 1677533 |

**View on the website** →

### All measures in mm

All information is non-binding and without guarantee. Before using the products, all specifications and calculations must be checked by a suitably qualified person and local regulations must be observed. This document is subject to revision. We reserve the right to make technical changes.



# EPDM-Tape



**Application**

EPDM-base membrane used for sealing interfaces to provide airtight or weather tight seals.

**Material**

Elastomer sheet made of black EPDM rubber

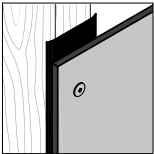
**Technical characteristics**

| Property                                 | Test Method                                                                                        | Result                     |
|------------------------------------------|----------------------------------------------------------------------------------------------------|----------------------------|
| Fire classification                      | EN13501-1                                                                                          | Class E                    |
| Tensile Strength                         | DIN 53504                                                                                          | >6.5 N/mm <sup>2</sup>     |
| Elongation                               |                                                                                                    | >300%                      |
| UV Resistance                            | DIN53504                                                                                           | >24 months                 |
| Water Vapour Resistance Factor (μ value) | DIN52615                                                                                           | 32'000 μ                   |
| Moisture Vapour Permeability (sd value)  | DIN 4108-3                                                                                         | 24 m (0.75 mm (thickness)) |
| Airtightness                             | EN 12207                                                                                           | >Class 4                   |
| Watertightness                           | EN 12208                                                                                           | > Class 9A                 |
| Resistance to Windloading                | EN 12210                                                                                           | >Class 3                   |
| Dynamic Puncture Resistance              | EN 12691                                                                                           | tight (10 mm punch)        |
| Static Puncture Resistance               | EN 12730                                                                                           | >250N                      |
| Flammability Class                       | DIN 4102-1                                                                                         | B2 P-NDS04-531             |
| Temperature Resistance                   |                                                                                                    | -40°C to +130°C            |
| Application Temperature                  |                                                                                                    | +5°C to + 35°C             |
| Storage                                  | Store in dry shaded conditions between +5°C and +25°C                                              |                            |
| Shelf Life                               | Unlimited when stored as recommended in original unopened packaging: 24 months with self-adhesives |                            |

All measures in mm

Features and Benefits

- High resistance to mechanical damage
- Excellent movement capability in both transverse and longitudinal direction with excellent material recovery after elongation.
- Excellent weathering, ageing and UV radiation resistance
- Excellent moisture vapour barrier.
- Does not contain any solvents which could later migrate into adjacent surfaces.



Sealing tape EPDM

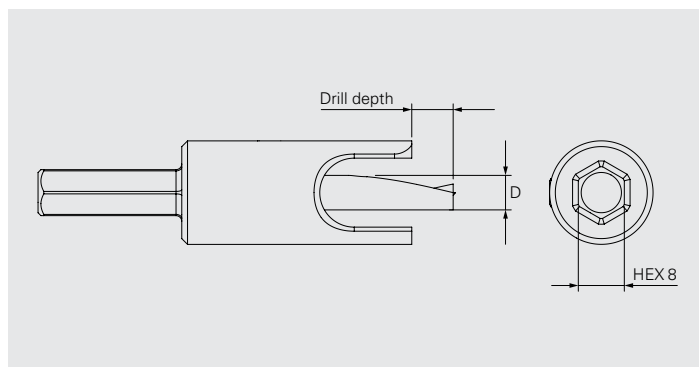
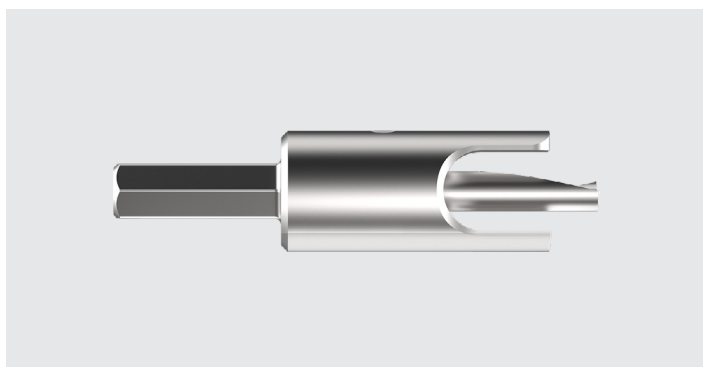
| Product code                | PU | Wide tape (mm) | Thickness tape (mm) | Roll length (m) |         |
|-----------------------------|----|----------------|---------------------|-----------------|---------|
| EPDM-TAPE-60x0.75x25-ME220  | 1  | 60             | 0.75                | 25              | 114738  |
| EPDM-TAPE-80x0.75x25-ME220  |    | 80             |                     |                 | 1335291 |
| EPDM-TAPE-100x0.75x25-ME220 |    | 100            |                     |                 | 1144760 |
| EPDM-TAPE-120x0.75x25-ME220 |    | 120            |                     |                 | 1335298 |

View on the website →

All measures in mm

All information is non-binding and without guarantee. Before using the products, all specifications and calculations must be checked by a suitably qualified person and local regulations must be observed. This document is subject to revision. We reserve the right to make technical changes.

# Depth locator



## Application

Depth locator and drill bits for a correct blind hole

## Life expectancy of the drills

|                                               | in HPL     | in Fibrecement |
|-----------------------------------------------|------------|----------------|
| VHM-6.0                                       | 500 drills | 500 drills     |
| Recommended rotation-speed max. 1500–1800 rpm |            |                |

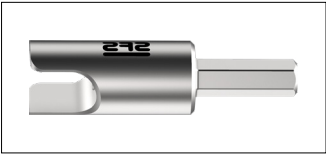
## Installation instruction



## Features and Benefits

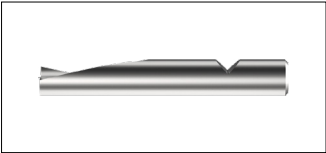
- Depth locator and corresponding drill bits to create a correct blind hole
- Defined drill depth, no adjustment needed
- Drill bit can easily be exchanged

All measures in mm



## Depth locator

| Product code                          | PU |         |
|---------------------------------------|----|---------|
| Depth locator for drill bit universal | 1  | 1478567 |



## Drill bits

| Product code | PU | L    | Drill depth | D |         |
|--------------|----|------|-------------|---|---------|
| VHM-6,0×40   | 1  | 40   | 5           | 6 | 1615070 |
| VHM-6,0×40,5 |    | 40.5 | 5.5         |   | 1586737 |
| VHM-6,0×41   |    | 41   | 6           |   | 1615072 |
| VHM-6,0×41,5 |    | 41.5 | 6.5         |   | 1615073 |
| VHM-6,0×42   |    | 42   | 7           |   | 1615074 |
| VHM-6,0×42,5 |    | 42.5 | 7.5         |   | 1615075 |
| VHM-6,0×43   |    | 43   | 8           |   | 1615077 |
| VHM-6,0×43,5 |    | 43.5 | 8.5         |   | 1615078 |
| VHM-6,0×45   |    | 45   | 10          |   | 1479984 |

View on the website →

### All measures in mm

All information is non-binding and without guarantee. Before using the products, all specifications and calculations must be checked by a suitably qualified person and local regulations must be observed. This document is subject to revision. We reserve the right to make technical changes.



# Bits, sockets and drive bars



## Bit holder and different T-drives

| Product code    | PU | Drive | Head drive | L  |         |                                                                                       |
|-----------------|----|-------|------------|----|---------|---------------------------------------------------------------------------------------|
| Bit holder ZA¼" | 1  | ¼"    | ¼"         | 58 | 1162306 |  |
| T20-25-HEX¼"    | 10 |       | T20        | 25 | 769471  |  |
| T20W-25-HEX¼"   | 1  |       | T20W       |    | 895280  |                                                                                       |
| T25W-25-HEX¼"   |    |       | T25W*      |    | 7662    |                                                                                       |
| T25P-25-HEX¼"   | 10 |       | T25P**     |    | 1658024 |                                                                                       |
| T30-25-HEX¼"    |    |       | T30        |    | 24010   |                                                                                       |
| T40-25-HEX¼"    |    |       | T40        |    | 769474  |                                                                                       |
| SR2-25-HEX¼"    |    |       | SR2        |    | 1146918 |  |
| T30-40-½"       |    | ½"    | T30        | 40 | 1489154 |  |
| T40-40-½"       |    |       | T40        |    | 1489155 |                                                                                       |
| E308-¼"-50      | 1  | ¼"    | HEX8       | 50 | 1646160 |  |
| E313-¼"-50      |    |       | HEX13      |    | 508029  |  |
| E420-¼"-74      |    |       | L12        | 74 | 973316  |  |
| E508-½"-40      |    | ½"    | HEX8       | 40 | 1648380 |  |
| E513-½"-78      |    |       | HEX13      | 78 | 1649258 |  |

\*W-Bit for wet painted fasteners | \*\*P-Bit for powder painted fasteners

All measures in mm

Sockets

| Product code     | PU | Drive | Head drive | L  |         |                                                                                                   |
|------------------|----|-------|------------|----|---------|---------------------------------------------------------------------------------------------------|
| E308-¼"-50       | 1  | ¼"    | HEX8       | 50 | 1646160 |        |
| E466-¼"-40       |    |       | Square     | 40 | 858496  |        |
| E313-¼"-50       |    |       | HEX13      | 50 | 508029  |        |
| E420-¼"-74       |    |       | irius®     | 74 | 973316  |        |
| E416-½"-38       |    | ½"    | HEX16      | 38 | 1389740 |        |
| E508-½"-40       |    |       | HEX8       | 40 | 1648380 |       |
| E513-½"-78       |    |       | HEX13      | 78 | 1649258 |      |
| E516-½"-78-red   |    |       | HEX16      |    | 1649257 |  |
| SOK-IT-¼"-57-6NM |    | ¼"    | HEX8       | 57 | 1667323 |  |
| SOK-IT-¼"-57-8NM |    |       |            |    | 1667322 |  |
| E320-¼"-25       |    |       |            | 25 | 675725  |      |
| E380-⅜"-34       |    | ⅜"    |            | 34 | 8018    |      |
| ZA-¼"-50         |    | ¼"    | ⅜"         | 50 | 7645    |      |

View on the website →

All measures in mm

All information is non-binding and without guarantee. Before using the products, all specifications and calculations must be checked by a suitably qualified person and local regulations must be observed. This document is subject to revision. We reserve the right to make technical changes.



SFS Group Fastening Technology Ltd | 153 Kirkstall Road | Leeds LS4 2AT | [ukenquiries@sfs.com](mailto:ukenquiries@sfs.com) | [uk.sfs.com](http://uk.sfs.com)

All information is non-binding and without guarantee. Before using the products, all specifications and calculations must be checked by a suitably qualified person and local regulations must be observed. This document is subject to revision. We reserve the right to make technical changes.