NVS RP

Non-penetrating subframe bracket system used to secure Kingspan AlphaCore® Pad to the rainscreen facade.

Working in collaboration with Kingspan Insulation

Contents

Introduction

Energy efficiency and conservation within the construction industry is a fundamental driver as the major economies strive to achieve carbon neutrality. The UK are obligated to reduce carbon emissions by 80% by 2050[1] and we have some way to go to maintain this improvement.

NVELOPE® Thermal Solutions describes a range of subframe brackets which further support the majority of the existing NVELOPE® systems for rainscreen and cladding building envelopes. Critically the SFS design guards against thermal degradation caused by compression of our Thermal Pad. Fully supported by the SFS range of fasteners, the systems are specifically designed to simplify the specification and installation process by offering a range of thermal performance aligned to budget expectations.

NVELOPE® Thermal Solutions are included within the Project Builder estimating tool which can be viewed by visiting www.uk.sfs.com/connectsuite

SFS are now adding two new additional systems within the range specifically created for the Kingspan AlphaCore® Pad.

1. Climate Change Act 2008

Safe
Secure
Sustainable

Working in collaboration with Kingspan Insulation

SFS have a longstanding relationship with Kingspan Insulation in the UK and internationally.

As innovators in our respective fields, SFS and Kingspan Insulation have a strong presence in the building envelope market. We both have sustainability and safety at the heart of what we do.

The Challenges

Kingspan Insulation continues to research and develop their range of insulation solutions to suit the needs of the market. The latest rainscreen solution from Kingspan Insulation is Kingspan AlphaCore® – a microporous silica-based insulation with a thermal conductivity of just 0.020 W/mK and a Euroclass rating of A2,s1-d0.

SFS were charged with developing a range of fixing concepts designed to complement and enhance the particular features and benefits of Kingspan AlphaCore® Pad.

View the collaboration video


COMPEGO

The Solution
NVS RP & NVS RP+Thermal

The SFS solution assures and complements the performance of Kingspan AlphaCore® Pad in the following ways:

- Enhances the thermal performance of Kingspan AlphaCore® Pad by minimising the effects of thermal bridging (point loss reduction – chi)
- Offer a primary support of Kingspan AlphaCore® Pad system which allows the elimination of traditional direct insulation fixings
- Offer a versatile solution which can support a range of Kingspan AlphaCore® Pad thicknesses and normal tolerances

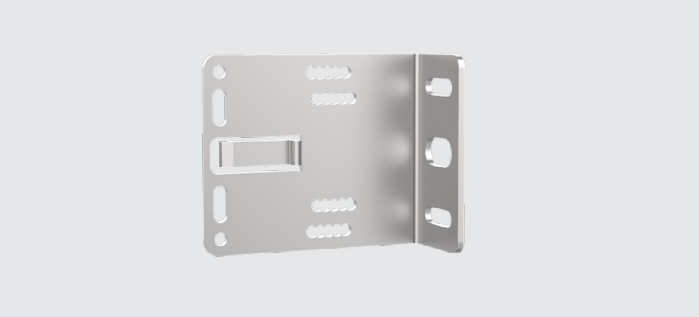
Safe – Euroclass fire classification of A2-s1,d0 reaction to fire
Secure – Static load calculations through Project Builder to optimise performance
Sustainable – Made from A4 316 stainless steel for longevity and thermal performance

The Range

Based around two of the NVELOPE® Thermal Solutions bracket range:

NVS RP
NVS RP+Thermal

- NVS describes our exisiting stainless-steel bracket available in sizes from 90mm and upwards dependent on the cladding zone required – available as Singles and Doubles.
- RP equates to Retaining Plate, 3 variants exist – Single, Double and End Plates.
- Our SFS NVELOPE® Thermal Pad can be added to any of the bracket options to achieve the 'best level' of thermal performance.
- Retaining Plates assure support at all thicknesses and compensates for normal tolerances.
- NVS RP Starter brackets are utilised to support the Kingspan AlphaCore® Pad at ground floor level and at every other alternate floor.

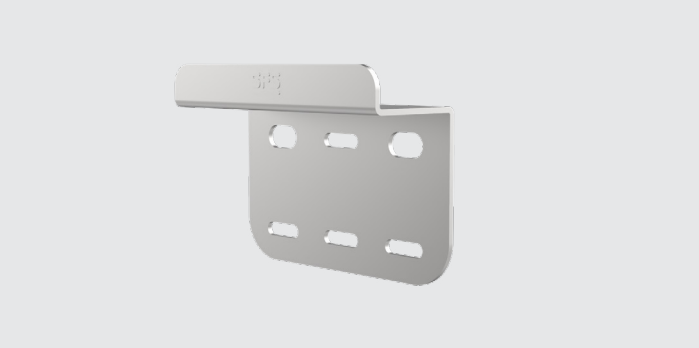


NVS Single Bracket

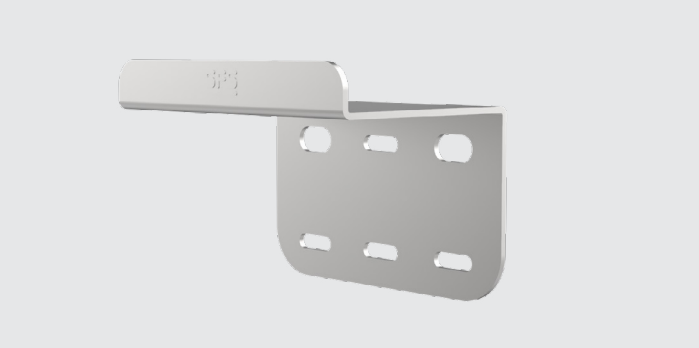
NVS Double Bracket

NVS+Thermal Single Bracket

NVS+Thermal Double Bracket



NVS Starter Bracket Small



NVS Starter Bracket Large

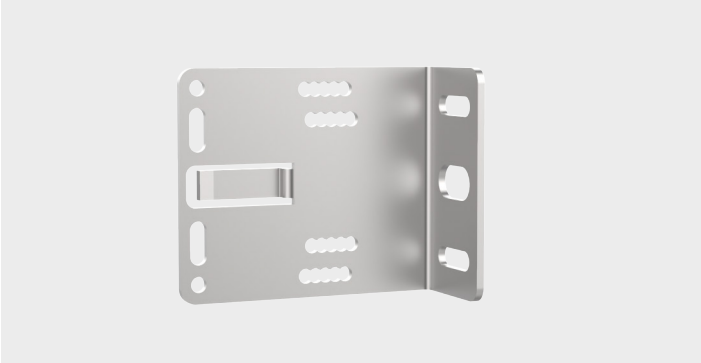
NVS RP Single

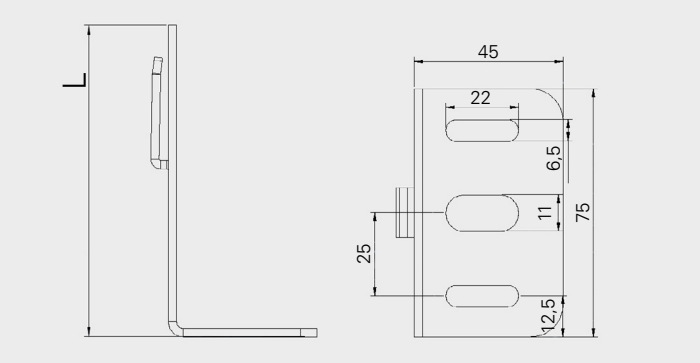
NVS RP Double

NVS End Plate Single

NVS End Plate Double

NVELOPE® NVS Single





Application

Subframe bracket used for ventilated rainscreen cladding facades. Supports Kingspan AlphaCore® Pad insulation within the rainscreen buildup.

Approvals

CE BBA

Technical Information

Item	Description
Material	Stainless Steel 316 / A4 1.2mm
Approval Documentation	DoP to EN1090-1
Thermal Conductivity	16.3W/mK
Reaction to fire classificiation	A1 in accordance with EC Directive 1996D0603

Features & Benefits

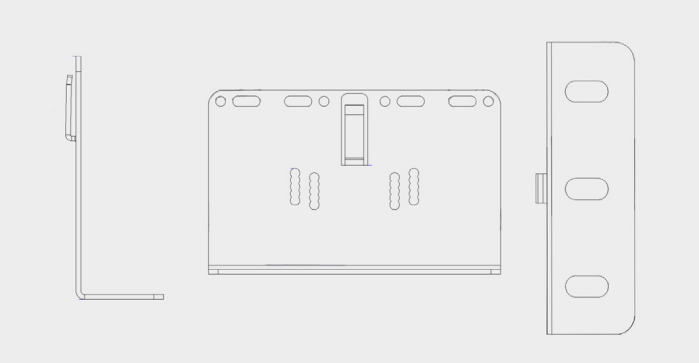
- A stainless steel subframe bracket system for rainscreen applications offering optimum thermal performance
- Offers a highly thermally efficient system minimising the optimal rainscreen build-up whilst also assuring minimal point loss (chi) via the elimination of direct fixings
- A wide range of bracket lengths are available to optimise the cladding zone
- Brackets available as single or double versions
- Available in combination with the SFS NVELOPE® Thermal Pad to provide our highest level of thermal performance
- Fully supported via SFS NVELOPE® Project Builder
- Can be utilised in combination with the NVS RP system to securely support Kingspan AlphaCore® Pad insulation without the need for secondary mechanical direct fixings
- The NVS RP & Kingspan AlphaCore® Pad can maximise space by minimising the rainscreen wall build-up creating more useable internal floor space, whilst assuring the desired level of thermal peformance

Bracket Size	Insulation Depth Range	Cladding Depth Range (60x40 L)*
90mm	15mm–32mm	110mm–140mm
100mm	25mm–42mm	120mm–150mm
110mm	35mm–52mm	130mm–160mm
120mm	45mm–62mm	140mm-170mm
130mm	55mm–72mm	150mm-180mm
140mm	65mm–82mm	160mm–190mm
150mm	75mm–92mm	170mm–200mm
160mm	85mm–102mm	180mm–210mm
170mm	95mm–112mm	190mm–220mm
180mm	105mm–122mm	200mm–230mm
190mm	115mm–132mm	210mm–240mm
200mm	125mm–142mm	220mm–250mm
210mm	135mm–152mm	230mm–260mm

*Assumes the 60mm leg of a 60:40 profile rail is inserted into the bracket

NOTE: Remember to add 10mm to the overall cladding zone to account for the NVELOPE® Thermal Pad.

NVELOPE® NVS Double



Application

Subframe bracket used for ventilated rainscreen cladding facades. Supports Kingspan AlphaCore® Pad insulation within the rainscreen build-up.

Approvals

CE BBA

Technical Information

Item	Description
Material	Stainless Steel 316 / A4 1.2mm
Approval Documentation	DoP to EN1090-1
Thermal Conductivity	16.3W/mK
Reaction to fire classificiation	A1 in accordance with EC Directive 1996D0603

Features & Benefits

- A stainless steel subframe bracket system for rainscreen applications offering optimum thermal performance
- A wide range of bracket lengths are available to optimise the cladding zone
- Brackets available as single or double versions
- Available in combination with the SFS NVELOPE® Thermal Pad to provide our highest level of thermal peformance
- Fully supported via SFS NVELOPE® Project Builder
- Can be utilised in combination with the NVS RP systems to securely support Kingspan AlphaCore® Pad insulation without the need for secondary mechanical direct fixings
- The NVS RP & Kingspan AlphaCore® Pad can maximise space by minimising the rainscreen wall build-up creating more useable internal floor space whilst assuring the desired level of thermal performance

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150mm	75mm–92mm	170mm–200mm
160mm	85mm–102mm	180mm–210mm
170mm	95mm–112mm	190mm–220mm
180mm	105mm–122mm	200mm–230mm
190mm	115mm–132mm	210mm–240mm
200mm	125mm–142mm	220mm–250mm
210mm	135mm–152mm	230mm–260mm

*Assumes the 60mm leg of a 60:40 profile rail is inserted into the bracket

NOTE: Remember to add 10mm to the overall cladding zone to account for the NVELOPE® Thermal Pad.

NVELOPE® NVS+Thermal Single

Application

Subframe bracket used for ventilated rainscreen cladding facades utilising the SFS NVELOPE® Thermal Pad. Supports Kingspan AlphaCore® Pad insulation within the rainscreen build-up.

Approvals

CE

Technical Information

Item	Description
Material	Stainless Steel 316 / A4 2.5mm Aerogel Thermal Pad incorporating ceramic bead compression control technology (Patent GB2583558).
Approval Documentation	DoP to EN1090-1
Thermal Conductivity	16.3W/mK (Stainless Steel) 0.020 W/mK (Aerogel)
Reaction to fire classificiation	A1 in accordance with EC Directive 1996D0603 - Steel A2-s1.d0 tested to requirements of EN13501-1 - Thermal Pad System comprising of (Stainless Steel / Aerogel Insulant / Ceramic Beads / Stainess Steel Rivets).

Features & Benefits

- A stainless steel subframe bracket system for rainscreen applications offering optimum thermal performance
- Offers a highly thermally efficient system minimising the optimal rainscreen build-up
- A wide range of bracket lengths are available to optimise the cladding zone
- Brackets available as single or double versions
- Combines with the SFS NVELOPE® Thermal Pad (Patent GB2583558) to provide our highest level of thermal performance
- Fully supported via SFS NVELOPE® Project Builder
- The Thermal Pad adds 10mm to the cladding zone
- Can be utilised in combination with the NVS RP system to securely support Kingspan AlphaCore® Pad insulation without the need for secondary mechanical direct fixings
- The NVS RP & Kingspan AlphaCore® Pad can maximise space by minimising the rainscreen wall build-up creating more useable internal floor space, whilst assuring the desired level of thermal peformance

Bracket Size	Insulation Depth Range	Cladding Depth Range (60x40 L)*
90mm	15mm–32mm	110mm–140mm
100mm	25mm–42mm	120mm–150mm
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150mm	75mm–92mm	170mm–200mm
160mm	85mm–102mm	180mm–210mm
170mm	95mm–112mm	190mm–220mm
180mm	105mm–122mm	200mm–230mm
190mm	115mm–132mm	210mm–240mm
200mm	125mm–142mm	220mm–250mm
210mm	135mm–152mm	230mm–260mm

*Assumes the 60mm leg of a 60:40 profile rail is inserted into the bracket

NOTE: Remember to add 10mm to the overall cladding zone to account for the NVELOPE® Thermal Pad.

NVELOPE® NVS+Thermal Double

Application

Subframe bracket used for ventilated rainscreen cladding facades. Supports Kingspan AlphaCore® Pad insulation within the rainscreen build-up.

Approvals

CE

Technical Information

Item	Description
Material	Stainless Steel 316 / A4 2.5mm Aerogel Thermal Pad incorporating ceramic bead compression technology (Patent GB2583558).
Approval Documentation	DoP to EN1090-1
Thermal Conductivity	16.3W/mK (Stainless Steel) 0.020 W/mK (Aerogel)
Reaction to fire classificiation	A1 in accordance with EC Directive 1996D0603 - Steel A2-s1.d0 tested to requirements of EN13501-1 - Thermal Pad System comprising of (Stainless Steel / Aerogel Insulant / Ceramic Beads / Stainless Steel Rivets).

Features & Benefits

- A stainless steel subframe bracket system for rainscreen applications offering optimum thermal performance
- Offers a highly thermally efficient system minimising the rainscreen build-up
- A wide range of bracket lengths are available to optimise the cladding zone
- Brackets available as single or double versions
- Combines with the SFS NVELOPE® Thermal Pad (Patent GB2583558) to provide our highest level of thermal performance
- Fully supported via SFS NVELOPE® Project Builder
- The Thermal Pad adds 10mm to the cladding zone
- Can be utilised in combination with the NVS RP systems to securely support Kingspan AlphaCore® Pad insulation without the need for secondary mechanical direct fixings
- The NVS RP & Kingspan AlphaCore® Pad can maximise space by minimising the rainscreen wall build-up creating more useable internal floor space whilst assuring the desired level of thermal performance

Component 1

Bracket Size	Insulation Depth Range	Cladding Depth Range (60x40 L)*
90mm	15mm–32mm	110mm–140mm
100mm	25mm–42mm	120mm–150mm
110mm	35mm–52mm	130mm–160mm
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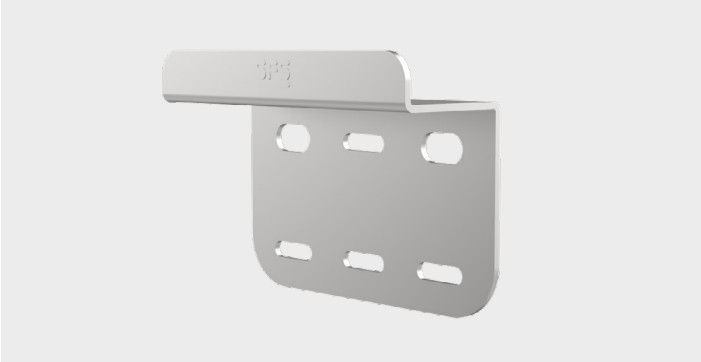
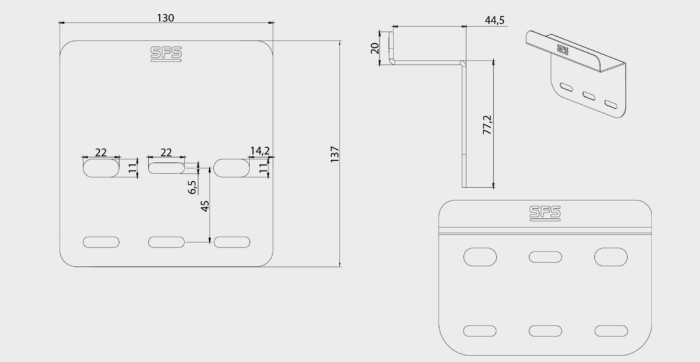
200mm	125mm–142mm	220mm–250mm
210mm	135mm–152mm	230mm–260mm

*Assumes the 60mm leg of a 60:40 profile rail is inserted into the bracket

NOTE: Remember to add 10mm to the overall cladding zone to account for the NVELOPE® Thermal Pad.

NVELOPE® NVS Starter Bracket Small





Application

Used for ventilated rainscreen cladding facades, NVS RP Starter Brackets support Kingspan AlphaCore® Pad insulation within the rainscreen build-up when used in combination with NVELOPE® NVS or NVS+Thermal Stainless Steel brackets.

Approvals

CE

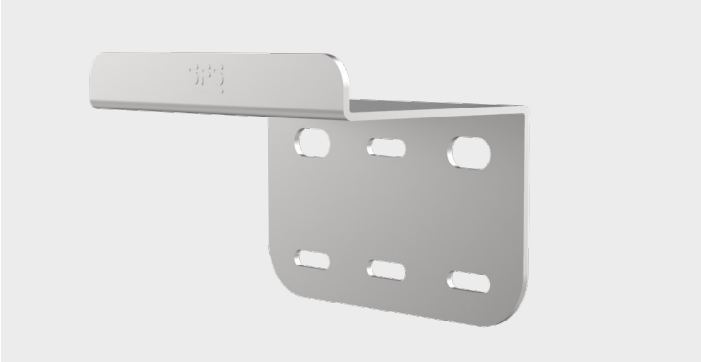
Technical Information

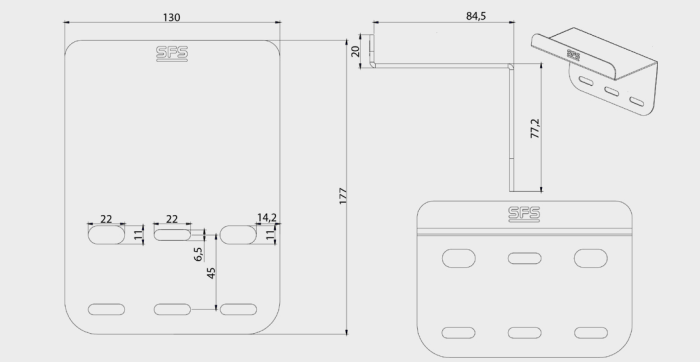
Item	Description
Material	Stainless Steel 316 / A4 2.5mm
Approval Documentation	DoP to EN1090-1
Thermal Conductivity	16.3W/mK
Reaction to fire classificiation	A1 in accordance with EC Directive 1996D0603

Features & Benefits

- Utilised horizontally to support the deadweight of installed Kingspan AlphaCore® Pad without the need for secondary mechanical direct fixings
- Recommended to use 2 NVS RP Starter Brackets for each column of Kingspan AlphaCore® Pad
- NVS RP Starter Brackets should be installed at ground level and thereafter on each alternate floor
- Offers a highly thermally efficient system minimising the optimal rainscreen buildup whilst also assuring minimal point loss (Chi) via the elimination of direct fixings
- Used in combination with NVELOPE® NVS or NVS+Thermal Stainless Steel subframe brackets
- The NVS RP & Kingspan AlphaCore® Pad can maximise space by minimising the rainscreen wall build-up creating more useable internal floor space whilst assuring the desired level of thermal performance
- Available in Small, up to 40mm insulation thickness and Large, up to 80mm insulation thickness

NVELOPE® NVS Starter Bracket Large





Application

Used for ventilated rainscreen cladding facades, NVS RP Starter Brackets support Kingspan AlphaCore® Pad Insulation within the rainscreen build-up when used in combination with NVELOPE® NVS or NVS+Thermal Stainless Steel brackets.

Approvals

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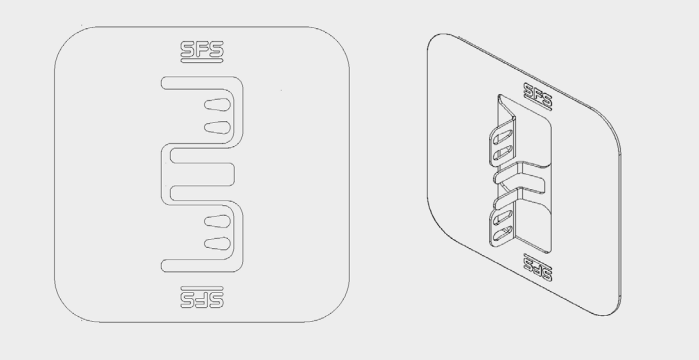
Technical Information

Item	Description
Material	Stainless Steel 316 / A4 2.5mm
Approval Documentation	DoP to EN1090-1
Thermal Conductivity	16.3W/mK
Reaction to fire classificiation	A1 in accordance with EC Directive 1996D0603

Features & Benefits

- Utilised horizontally to support the deadweight of installed Kingspan AlphaCore® Pad without the need for secondary mechanical direct fixings
- Recommended to use 2 NVS RP Starter Brackets for each column of Kingspan AlphaCore® Pad
- NVS RP Starter Brackets should be installed at ground level and thereafter on each alternate floor
- Offers a highly thermally efficient system minimising the optimal rainscreen buildup whilst also assuring minimal point loss (Chi) via the elimination of direct fixings
- Used in combination with NVELOPE® NVS or NVS+Thermal Stainless Steel subframe brackets
- The NVS RP & Kingspan AlphaCore® Pad can maximise space by minimising the rainscreen wall build-up creating more useable internal floor space whilst assuring the desired level of thermal performance
- Available in Small, up to 40mm insulation thickness and Large, up to 80mm insulation thickness

NVELOPE® NVS RP Single



Application

Used for ventilated rainscreen cladding facades. Retaining Plates supports Kingspan AlphaCore® Pad insulation within the rainscreen build-up when used in combination with NVELOPE® NVS or NVS+Thermal stainless steel brackets.

Approvals

CE

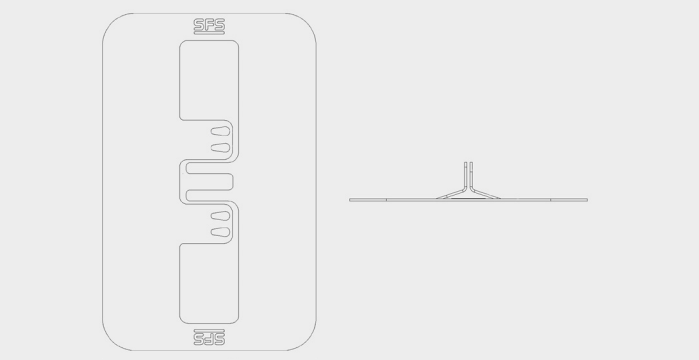
Technical Information

Item	Description
Material	Stainless Steel 316 / A4 1.2mm
Approval Documentation	DoP to EN1090-1
Thermal Conductivity	16.3W/mK
Reaction to fire classificiation	A1 in accordance with EC Directive 1996D0603

Features & Benefits

- Utilised to securely support Kingspan AlphaCore® Pad insulation without the need for secondary mechanical fixings
- Offers a highly thermally efficient system minimising the optimal rainscreen build-up whilst also assuring minimal point loss (Chi) via the elimination of direct fixings
- Used in combination with NVS Single and Double brackets. Can be installed either way round
- Used in combination with NVELOPE® NVS or NVS+Thermal stainless steel subframe brackets
- The NVS RP & Kingspan AlphaCore® Pad can maximise space by minimising rainscreen wall build-up creating more useable internal floor space whilst assuring the desired level of thermal performance
- Available as single or double versions

NVELOPE® NVS RP Double



Application

Used for ventilated rainscreen cladding facades. Retaining Plates supports Kingspan AlphaCore® Pad insulation within the rainscreen build-up when used in combination with NVELOPE® NVS or NVS+Thermal stainless steel brackets.

Approvals

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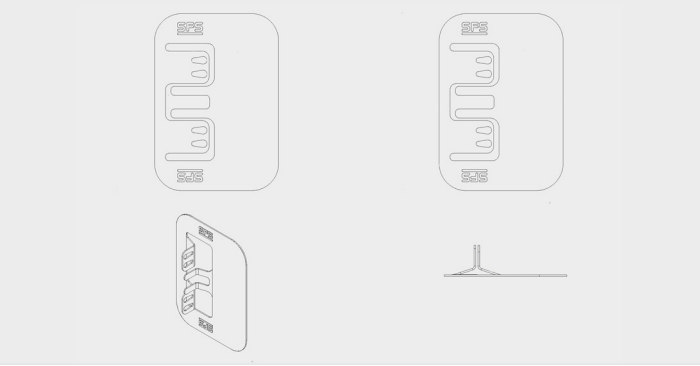
- Offers a highly thermally efficient system minimising the optimal rainscreen build-up whilst also assuring minimal point loss (Chi) via the elimination of direct fixings
- Used in combination with NVS Single and Double brackets. Can be installed either way round
- Used in combination with NVELOPE® NVS or NVS+Thermal stainless steel subframe brackets
- The NVS RP & Kingspa AlphaCore® Pad can maximise space by minimising rainscreen wall build-up creating more useable internal floor space whilst assuring the desired level of thermal performance
- Available as single or double versions

NVELOPE® NVS RP End Plate Single



Application

Used for ventilated rainscreen cladding facades. Retaining Plates supports Kingspan AlphaCore® Pad insulation within the rainscreen build-up when used in combination with NVELOPE® NVS or NVS+Thermal stainless steel brackets.

Approvals

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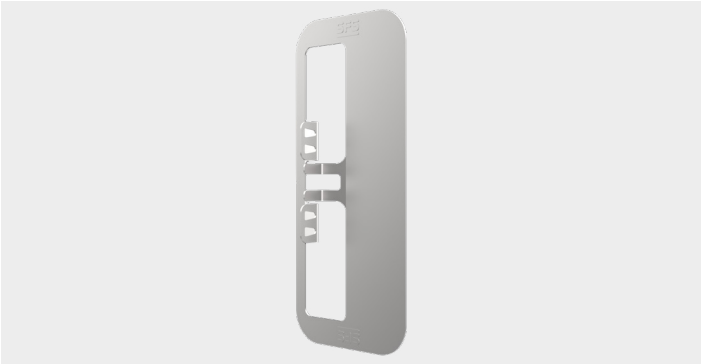
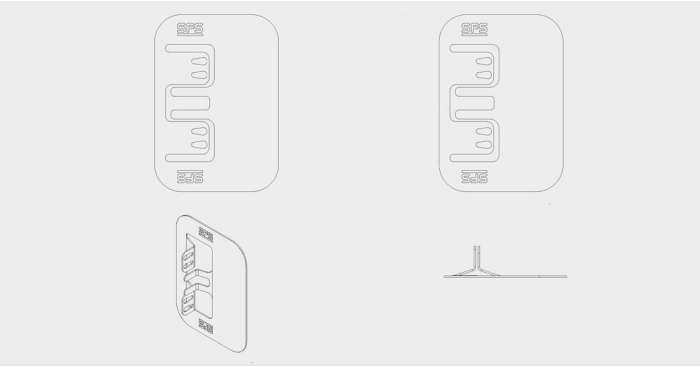
- Used in combination with NVS Single and Double brackets. Can be installed either way round
- Used in combination with NVELOPE® NVS or NVS+Thermal stainless steel subframe brackets
- The NVS RP & Kingspan AlphaCore® Pad can maximise space by minimising rainscreen wall build-up creating more useable internal floor space whilst assuring the desired level of thermal performance
- Available as single or double versions

NVELOPE® NVS RP End Plate Double





Application

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Approvals

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- Used in combination with NVELOPE® NVS or NVS+Thermal stainless steel subframe brackets
- The NVS RP & Kingspan AlphaCore® Pad can maximise space by minimising rainscreen wall build-up creating more useable internal floor space whilst assuring the desired level of thermal performance
- Available as single or double versions


SFS


146601_MT PANEL (LWB-EMIX) ALPHACORE Pad 1000X600X20mm

SFS Group Fastening Technology Ltd.
Division Construction
153 Kirkstall Road
Leeds, LS4 2AT
ukenquiries@sfs.com
www.uk.sfs.com