NV3 Installation guide

Component guide

NVELOPE rainscreen cladding brackets and framework simplify the complexity of installing facades. NVELOPE systems are designed to provide a vertical support for most facade types. NVELOPE purpose-designed brackets allow for final alignment and adjustment.

Brackets

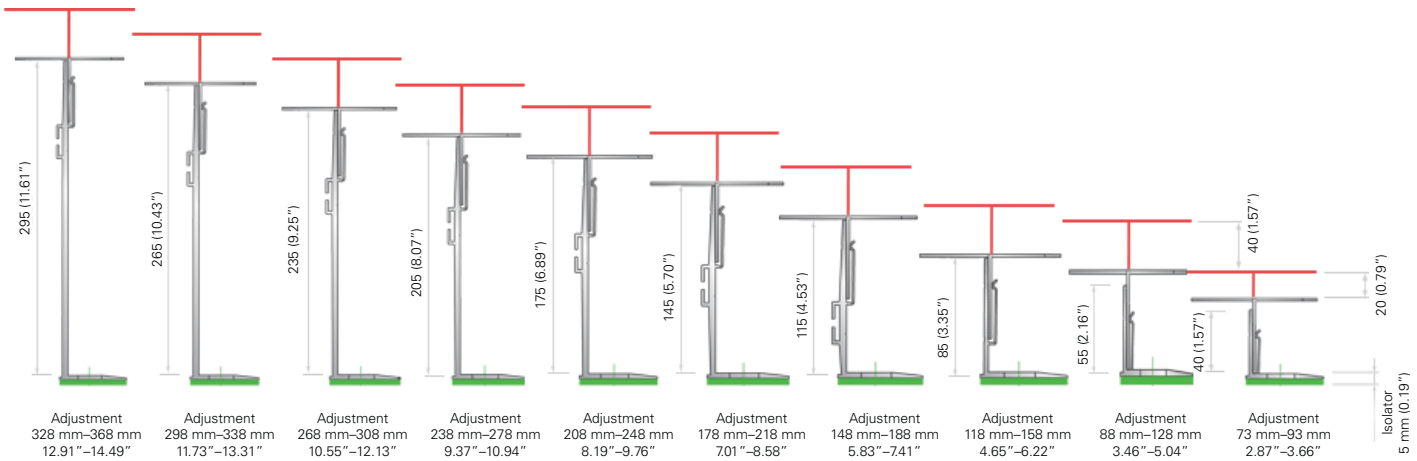
The NVELOPE bracket range includes single and double variations of each bracket size, the difference being the depth of the bracket (75 mm single, 150 mm double). A double bracket is capable of supporting higher cladding loads, and is used in the fixed point location for projects that feature more demanding wind or cladding loads.

The substrate slot variations on NVELOPE brackets are to suit a wide range of substrate materials. For steel and timber substrates 6.5 mm slots are used; for brick, block and concrete, the 11 mm slots are used. The single bracket includes both slot variations so is suitable for all substrates.

	Min system		Max system				
Size	(mm)	(in)	(mm)	(in)	Single (6.5/11 mm slot)	Double (6.5 mm slot)	Double (11 mm slot)
40	47	1.85"	67	2.64"	1582505	1521239	1521238
60	62	2.44"	102	4.01"	1582506	1521247	1521246
90	92	3.62"	132	5.19"	1582508	1521255	1521254
120	122	4.80"	162	6.37"	1582509	1521263	1521262
150	152	5.98"	192	7.56"	1582510	1521273	1521272
180	182	7.16"	222	8.74"	1582511	1521282	1521281
210	212	8.35"	252	9.92"	1582512	1521291	1521290
240	242	9.52"	282	11.10"	1582514	1521300	1521299
270	272	10.70"	312	12.28"	1582517	1521309	1521308
300	302	11.89"	342	13.46"	1582520	1521317	1521316
270 (+extension)*	332	13.07"	372	14.65"	1582517 (+1521188)	1521309 (+1521187)	1521308 (+1521187)
300 (+extension)*	362	14.25"	402	15.83"	1582520 (+1521188)	1521317 (+1521187)	1521316 (+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).

Cavity depths



Component guide

Profiles

Generally, profiles are cut to lengths that reflect the height of the panels that are going to be attached to them. Typically story-height profiles are cut so that the panels are located on one set of vertical profiles and do not 'bridge' the expansion gap between two profiles.

These are secured to the bracket using a secondary fastener.

SFS is able to offer an optimized solution, minimizing wastage on site by cutting profiles to length in our factory and delivering precut ready to install directly to the project.

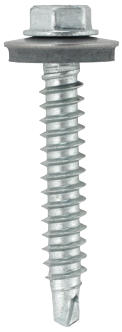
L profile

Type	Dimensions	Material number
L Profile	60 x 40 x 2.2 x 3000 mm (118.11")	1521357
L Profile	60 x 40 x 2.2 x 6000 mm (236.22")	1521375
NV3 Carrier Profile	3000 mm (118.11")	1521331
NV3 Carrier Profile	6000 mm (236.22")	1521334

Primary fasteners

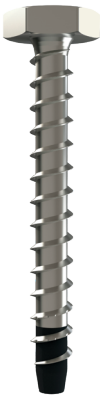
BMSD2-#14x2
1673590

SXW-S16-6,5x52
1123138



TCS-3/8x3"-304SS
1677827

MMS-Plus-SS-10x80
1204995



Secondary fastener

SDA5/5.5x22
1507572

*fastener images not to scale

Component guide

Hangers

Our hangers come in adjustable and fixed versions. They also have a second hole to lock panels into their final positions.

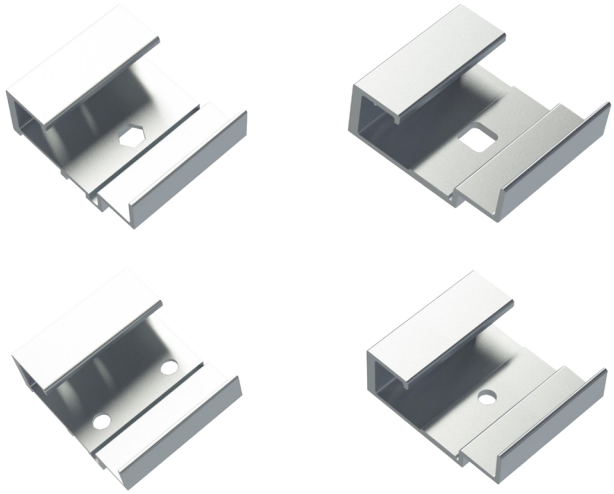
The number of hangers needed is determined by calculation, please contact our technical team for assistance.

SFS stocks hangers to suit a range of panel fixings, please get in touch to discuss your requirements.

For hanger installation guidance using the TUF-S fastener range, see our TUF-S Installation Guide.

NV3 hanger for TUF-S fasteners
Adjustable 3.5mm: 1549012 | Adjustable 5mm: 1549046
Fixed 3.5mm: 1549015 | Fixed 5mm: 1549047

Other NV3 hanger styles available
Get in touch for details



NV3 hanger adjustment screw
M6-20SS-A2
1521489

NV3 locking screw
#12 x 1–5/8" 304SS bi-metal self-drill
1134478

TUF-S fasteners
316SS hidden fastener for: Attachment of HPL or fiber cement panels

Installation guide

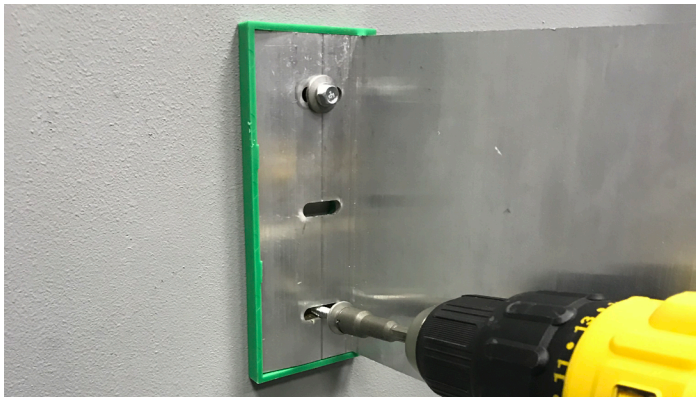
1. Secure NVELOPE brackets to substrate

1.1 Position the brackets as per the approved shop drawings.

1.2 Secure using the recommended primary fastener.

Note: Recommended primary fasteners vary dependent on the wall type. Please contact us for recommendations.

We recommend pull-out tests are carried out for attachment into blockwork and brick.

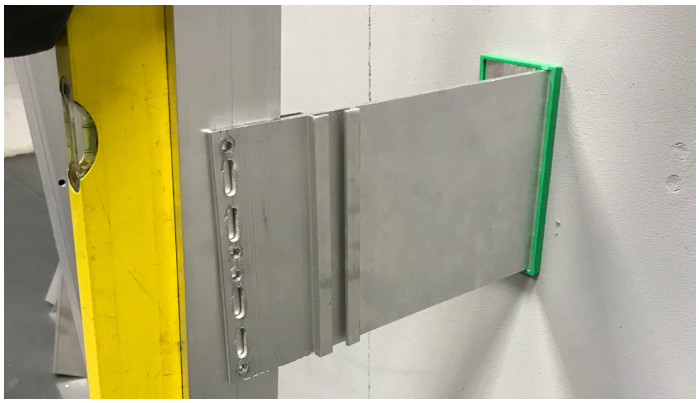


2. Insert profiles into brackets

2.1 Once the NVELOPE brackets are aligned in correct positions, fit the cut length profiles into the helping hand of the bracket, following the shop drawings.

2.2 Push the profile into the bracket's helping hand and adjust for line and level.

2.3 Check for line and level, ensuring a 1/2" (10-12 mm) gap between the ends of rails to allow for expansion.



3. Attach the profiles to the brackets

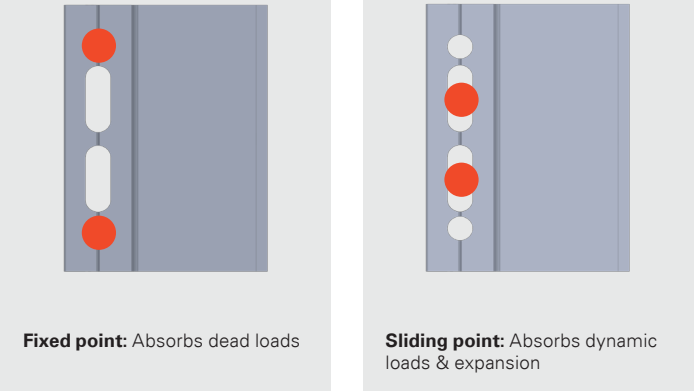
3.1 Secure the profiles in the correct location using the SDA5/5.5x22 stainless steel fastener. Observe the correct number and attachment location as advised on the shop drawings.

Note: Only one bracket per profile should have fasteners in the fixed points (round holes); all subsequent brackets should have fasteners in the sliding points (slots). See Figure 1.

Get in touch for project specific engineering services

Installation guide

Figure 1



Fixed point: Absorbs dead loads

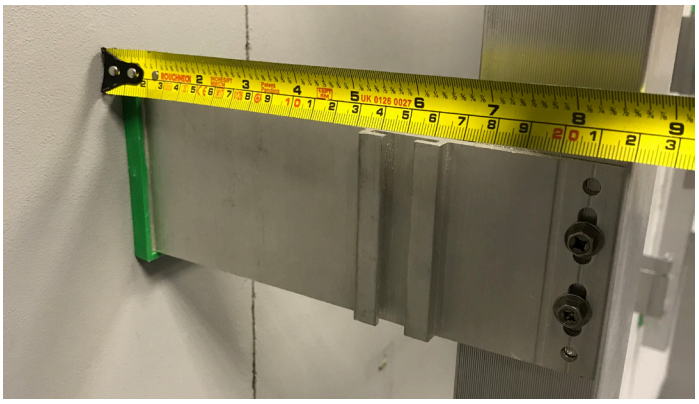
Sliding point: Absorbs dynamic loads & expansion

Contact our technical team: 844-NVELOPE (683-5673)

4. Check over

4.1 Once all brackets and profiles are installed to an area of cladding, final checks should be carried out:

- On the primary anchor torque settings
- To the line and level of the profiles in relation to each other
- To the number of fasteners and their position in each bracket



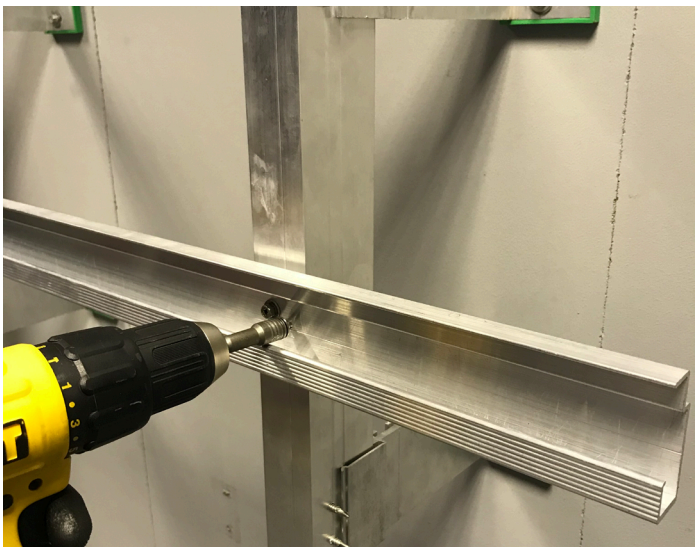
5. Install NV3 horizontal rail

5.1 Position the horizontal rail to align with the hanger fitted to the rear face of the panel.

5.2 Project horizontal datum lines across the elevation, and mark the position of the horizontal rail on to the vertical profile.

5.3 Affix each horizontal rail to the vertical profile using two SDA5/5.5x22 fixings.

Note: Rails can run past the last vertical support by a maximum distance of 11.81" (300 mm). If a rail needs jointing off, cuts of the rail 7.87" (200 mm length) can be used back to back. Please allow room for expansion.



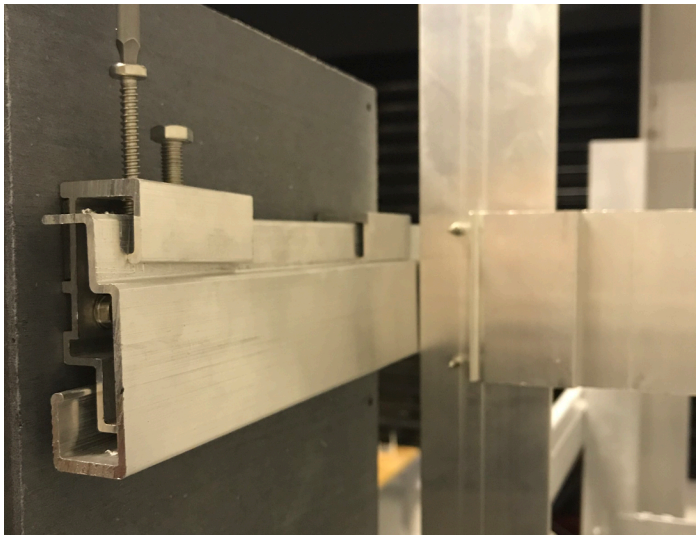
Installation guide

6. Install panels

6.1 Once the NV3 hangers have been attached to the rear of the panel (following panel manufacturers spacing recommendations), the panel can be positioned on the NV3 horizontal rail, ensuring all hangers align with the corresponding horizontal rail.

6.2 Position the panel into place and use M6 adjustment bolts to raise or lower the panel into the final position, checking panel gap distance. Adjustable hangers should be located on the top row of hangers only.

6.2 Once the panel has been adjusted, the locking screw can be inserted and secured into an adjustable hanger, either in the central position or the furthest left or right hanger. Ensure that the chosen location is repeated for all panels.



Note: The number of hangers and their vertical position will be specified to suit the size and material of the panels, the dynamic wind pressures (positive and negative), and the cladding load.

For hanger installation guidance using the TUF-S fastener range, see our TUF-S Installation Guide.

Notes

Fasteners

Suitable primary anchors are designed to attach the brackets to a pre-determined grid to suit the cladding panel layout. Stainless steel fasteners also assist in preventing bimetallic corrosion.

The size and type of primary fastener for the connectors will always be determined by the dynamic and dead loads they have to resist. Please get in touch if you need further details.

Insulation

Where insulation is specified, it should be cut and tightly butted around the brackets and secured with the appropriate fasteners. Sufficient insulation fasteners should be provided to ensure that the insulation cannot block the ventilated cavity.

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