NV3 Installation guide

Component guide

NVELOPE® rainscreen cladding brackets and framework simplify the complexity of installing façades. NVELOPE® systems are designed to provide a vertical support for most façade 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 (75mm single, 150mm 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.

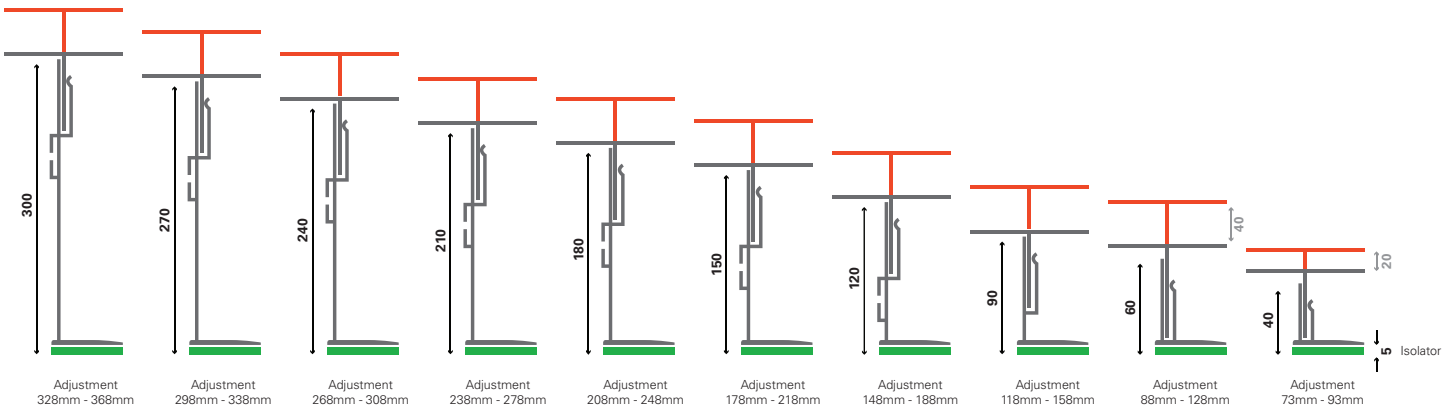
The substrate slot variations on NVELOPE® brackets are to suit a wide range of substrate materials. For steel and timber substrates 6.5mm slots are used; for brick, block and concrete, the 11mm slots are used. The single bracket includes both slot variations so is suitable for all substrates.

Size	Min system	Max system	Single (6.5/11mm slot)	Double (6.5mm slot)	Double (11mm slot)
40	73	93	1582505	1521239	1521238
60	88	128	1582506	1521247	1521246
90	118	158	1582508	1521255	1521254
120	148	188	1582509	1521263	1521262
150	178	218	1582510	1521273	1521272
180	208	248	1582511	1521282	1521281
210	238	278	1582512	1521291	1521290
240	268	308	1582514	1521300	1521299
270	298	338	1582517	1521309	1521308
300	328	368	1582520	1521317	1521316
270 (+extension)*	384	424	1582517 (+1521188)	1521309 (+1521187)	1521308 (+1521187)
300 (+extension)*	414	454	1582520 (+1521188)	1521317 (+1521187)	1521316 (+1521187)

Isolators are included as standard. If isolators are not required, reduce dimensions by 5mm.

*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



All measurements in mm

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Profiles

Generally, profiles are cut to lengths that reflect the height of the panels that are going to be fixed to them. Typically storey-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 fixing.

SFS are able to offer an optimised solution, minimising 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	1521357
L Profile	60 x 40 x 2.2 x 3600	1521365
L Profile	60 x 40 x 2.2 x 4850	1521370
L Profile	60 x 40 x 2.2 x 6000	1521375

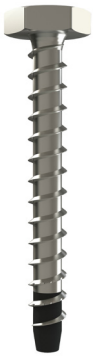
Primary fixings

SX3/28-S16-6.0x48
1575777

TDA-S-S16-6.5x60
1526326

SXR-10-80-FUS-A
1551174

MULTI-MONTI-10x85
1480024



Secondary fixings

SDA5/5.5x22
1507572

Third-level fixings

TUF-S
Speak to our technical team for specific codes.

*fixing images not to scale

All measurements in mm

Component guide

Hangers

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

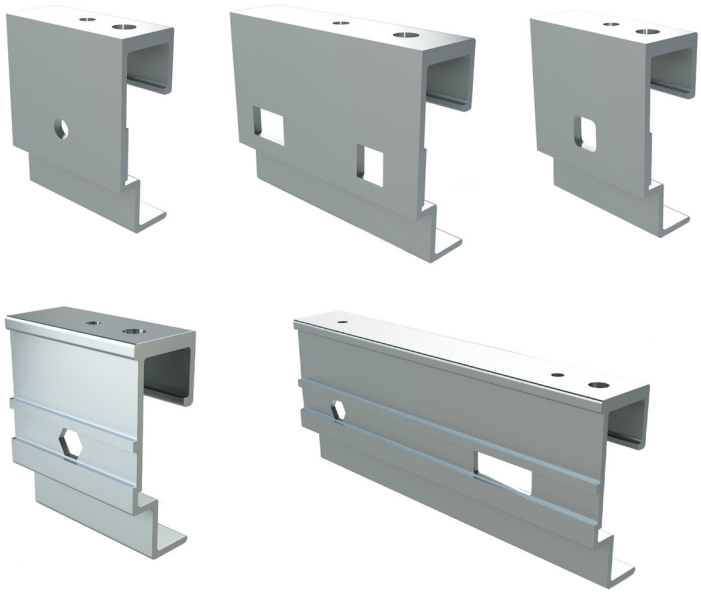
The number of hangers needed is determined by calculation, please contact our technical team for assistance.

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

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

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

Other NV3 hanger styles available
Get in touch for details



All measurements in mm

Installation guide

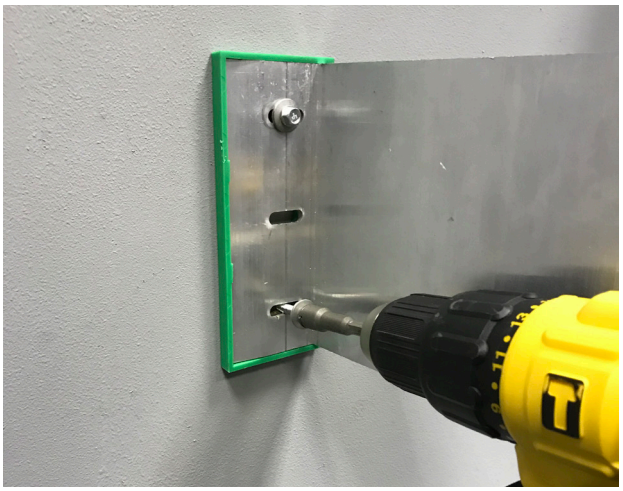
1. Secure NVELOPE® brackets to substrate

1.1 Position the brackets as per the NVELOPE® static calculation.

1.2 Secure using the recommended primary fixing.

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

We recommend pull-out tests are carried out for fixings into blockwork and brick. These tests can be arranged with our technical department.

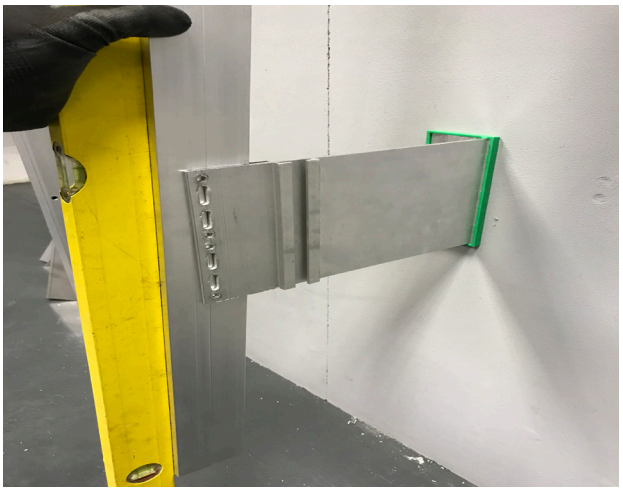


2. Insert profiles into brackets

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 static calculation.

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 10-12mm gap between the ends of rails to allow for expansion.



3. Fix the profiles to the brackets

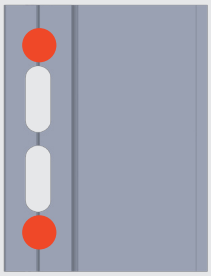
3.1 Secure the profiles in the correct location using the SDA5/5.5x22 stainless steel fixing. Observe the correct number and fixing location as advised on the static calculation.

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

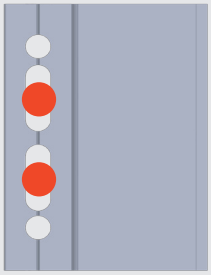
Get in touch for a project specific static calculation

Installation guide

Figure 1



Fixed point: Absorbs dead loads



Sliding point: Absorbs dynamic loads & expansion

Contact our technical team: 01707 333396

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 fixings and their position in each bracket

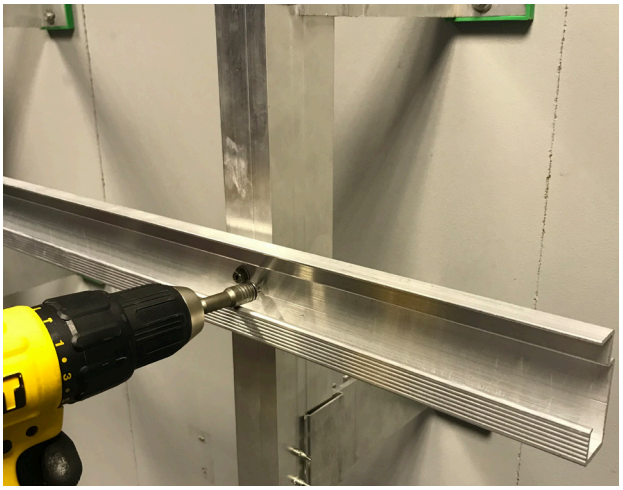
5. Install NV3 horizontal rail

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 300mm. If a rail needs jointing off, cuts of the rail (200mm length) can be used back to back. Please allow room for expansion.



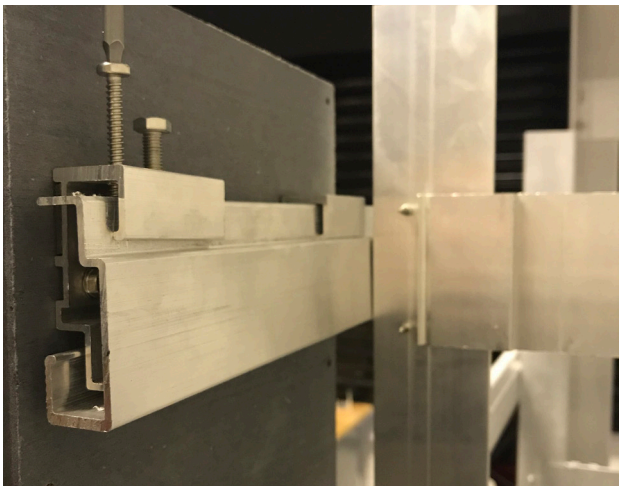
Installation guide

6. Install panels

6.1 Once the NV3 hangers have been fixed to the rear of the panel (following panel manufacturers spacing recommendations), the panel can be offered up to 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 fixed 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 fixing range, see our TUF-S Installation Guide.

Notes

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

The size and type of primary fixing 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 fixings. Sufficient insulation fixings should be provided to ensure that the insulation cannot block the ventilated cavity.

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