

NVELOPE Installation Guide NV8.



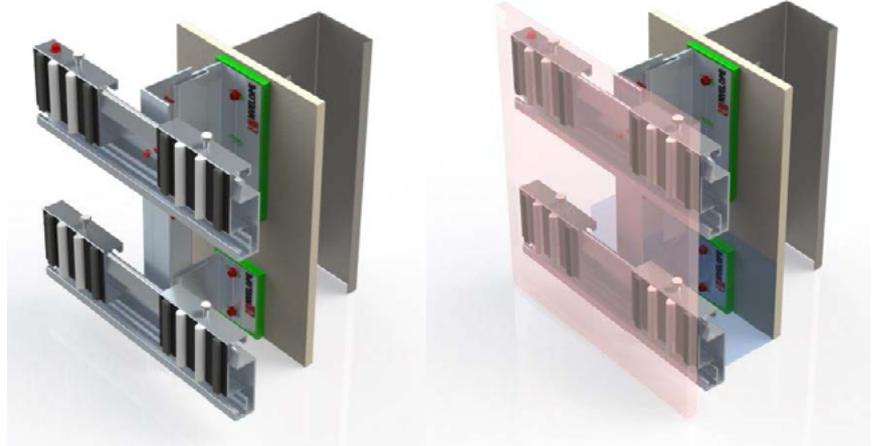
Hook on System.

NVELOPE profiles and components are designed to provide a vertical support framework for a number of different types of flat boards/panels, to any suitable building facade. These profiles are anchored to the building using a purpose-designed bracket that allows final alignment and adjustment.

For further information, please see:

www.nvelope.com

Also download/refer to:



NVELOPE Brackets

NVELOPE Brackets are supplied in different sizes ranging from 40mm – 300mm (see table for cavity depths that can be formed) with the NV8 system.

The brackets are available with hole-sizes 11mm or 6.5mm depending on the diameter of the primary anchor (11mm – Block/Masonry – 6.5mm – Steel/Timber).

NV8 horizontal hanging profile carrier profile and adjustable/fixed cleats.

Min – Max Adjustment – With Isolator		
Bracket Size (mm)	Min (mm)	Max (mm)
NVELOPE 40	73	93
NVELOPE 60	88	128
NVELOPE 90	118	158
NVELOPE 120	148	188
NVELOPE 150	178	218
NVELOPE 180	208	248
NVELOPE 210	238	278
NVELOPE 240	268	308
NVELOPE 270	298	338
NVELOPE 300	328	368

Min – Max Adjustment – Without Isolator		
Bracket Size (mm)	Min (mm)	Max (mm)
NVELOPE 40	68	88
NVELOPE 60	83	123
NVELOPE 90	113	153
NVELOPE 120	143	183
NVELOPE 150	173	213
NVELOPE 180	203	243
NVELOPE 210	233	273
NVELOPE 240	263	303
NVELOPE 270	293	333
NVELOPE 300	323	363

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Primary Fixings.


 NV8

NVELOPE brackets are secured directly to a new or existing substrate of; concrete, brickwork or blockwork or steel frames. Suitable primary anchors are employed to position the brackets to a pre-determined grid to suit the panel layout – please liaise directly with preferred NVELOPE primary fixing supplier regarding pull-out data.

In addition, if there is no sheathing board, the isolation of two different metals must be considered for two reasons; 1: bimetallic corrosion 2: thermal bridging. The use of NVELOPE isolator pad will achieve this.

Please see:
www.nvelope.com/documents/Nvelope_Isolator_M

Or please liaise with NVELOPE
 Technical Department:
project@nvelope.com

If lightweight steel framing systems like Purlins or a Track/Stud framework is employed for this system, then it is important that this framework is erected to the same grid as the finished panel layout and that an engineered fixing device is used to fix the brackets.

Important: 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 liaise with primary fixing supplier.

Primary Fixings

- 1 JA3 or equivalent – timber substrate.
- 2 JT3 or equivalent – steel substrate.
- 3 MBRK or equivalent – concrete/block work substrate.

Suitable primary anchors are designed to fix the brackets to a pre-determined grid to suit the cladding panel layout. Please liaise directly with preferred primary fixing supplier and/or panel manufacturer re pull-out. NVELOPE can assist here.

Important

The size and type of primary fixing for the brackets will always be determined by the dynamic and dead loads they have to resist.



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Vertical Rails.


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Vertical Rails

Once a line of vertical brackets is installed, a 60 x 40 'L' profile/'T' profile can be attached using the helping hand at each bracket position. (As the panels will follow any irregularity or miss-alignment of profiles, it is important that time is taken to align/level the framework to a high standard).

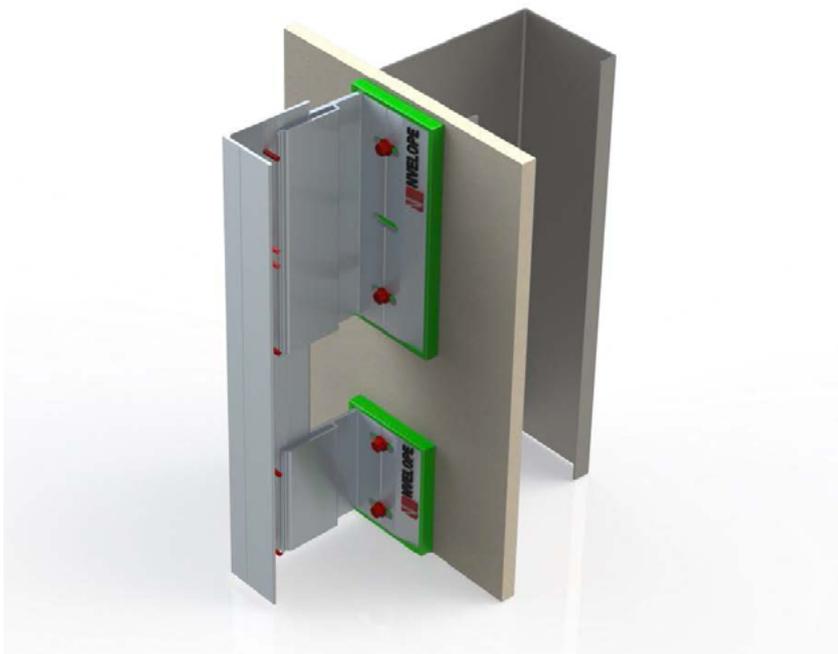
- Each 'L' or "T" profile should be cut to the required length.
- Place the profiles in each of the brackets using the helping hand.
- Move the profile into its vertical position – allowing 10mm 'expansion' between profiles.
- The profile can then be eased outwards to form the specified cavity depth.
- Check for line and level.
- Secure the profile using screws or rivets in the 'holes' or 'slots'**. The correct combination or 'mix' of single brackets/double brackets may be determined by our response to a completed 'Project Builder' (see www.nvelope.com) which will differentiate between single/double brackets/ fixed point/sliding point fixing and horizontal/vertical bracket positioning – speak to NVELOPE Technical: project@nvelope.com

Important

Generally, profiles are cut to lengths that reflect the height of the panel(s) that are going to be hung on them. Typically storey-height profiles are cut so that the panel(s) are located on one set of vertical profiles and do not 'bridge' an expansion gap between two profiles.

**As each profile is secured to the brackets, one near the centre of the profile must be connected with fixings going through the holes. (Fixed Point) all other brackets should then be fixed in the slots (Sliding Point).

For precise fixed point and sliding points – speak to NVELOPE for a project specific static calculation to be prepared.



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Rails, Clips & Panels.


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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 NVELOPE profiles in relation to each other.
- To the number of screws and their position in each NVELOPE bracket.

NV8 Horizontal Rail

The position of the rails should align with the 'hook' clip fitted to the rear face of the panel.

Horizontal datum lines should be projected across the elevation and the position of the profile should be marked on to the vertical rail.

Then the profile can be screwed/riveted to their required position.

Rails can run past the last vertical support by 300mm max if a rail needs jointing off-cuts of the rail (200mm length) can be used back-to-back. Please allow room for expansion.

NV8 Hanger

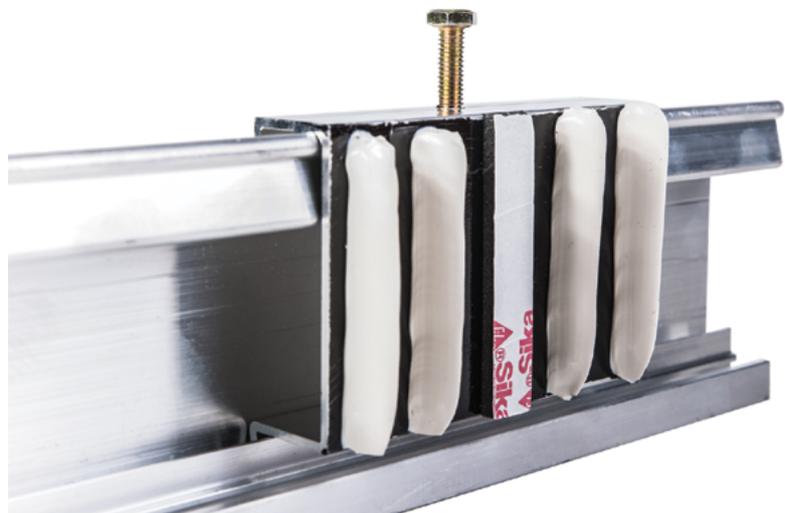
Numbers of hangers are depending on panel material and fixing type to be used.

For panel adjustment, a hole must be drilled in the top of the hanger to correspond with the channel below.

By sliding an M6 nut into the channel, an M6 bolt can be aligned and screwed in or out to push against the carrier rail to adjust the panel.

Bonding

The below image shows a typical arrangement for bonding the hangers to the rear of the panel. Sufficient quantity of vertical runs of Sika adhesive to match 2x the panel height in adhesive length. Please refer to Sika for advice on amount of adhesive required for your application.



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Rails, Clips & Panels.


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Panels

The number of hangers and their vertical position will be specified to suit the size and material of the panels and the Dynamic Wind Pressures (positive and negative).

The top row of hangers should be the adjustable fitted with height adjustment screw – this gives the ability to adjust the level and height of each panel individually.

The additional hole is for final locking of the panel, and should only be required in one hanger per panel.

This needs to be screwed to the rail either on the centre line of the panel or nearest to either all left or all right if only 2 hangers are on the panel to 'move' with expansion, the subsequent rows of hangers are non-adjustable.

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.

Panel Installation (General)

- Refer to Sikatack® installation guide for adhesive application.
- Check profile positions in relation to actual panel clips.
- Raise the panel and support in vertical position.
- Lower on to rails and check that all 'hooks' have engaged.
- Adjust level and height of panel before fitting next panel above. If the screw adjustment raises the panel too high, remove the panel and adjust the main rail to suit (max adjustment 12mm).
- Panel joints should follow the manufactures' recommendations re joint gaps horizontal and vertical.
- On final fixing the top row of panels should have self-drilling/self-tapping screws fixed through the plain hole in top of the clip to prevent panel from being lifted or sliding off.
- A 'lift' gap (see below) of no less than 20mm needs to be left above the top panel for ease of removal/disengagement.

Panel Removal (General)

- Working from top panel down – undo self-drilling self-tapping screw/s.
- Lift panel – a 'lift' of 15mm will allow the NV8 clip to clear the NV8 rail – therefore a 'lift' of c. 20mm should be allowed for when disengaging the panel.

NVELOPE Site Checklist.

NV8

Site Checklist

To help with a smooth installation of our rainscreen support systems there are a few things to be taken into account. Please see check list below:



Has a project specific project builder been completed?

➤ www.nvelope.com/project-builder-landing



If you or colleagues are new to our system, have you requested a tool box talk?

➤ www.nvelope.com/nvelope-contact-us



Have you referred to our data sheets and installation guides available on our website?

➤ www.nvelope.com/nvelope-our-downloads-system-guide



Has a successful pull out test been completed?

➤ www.nvelope.com



Once these tasks have been completed and installation starts you can send our team a photo of a selection of brackets for technical to sign off or advise.

➤ sitesupport@nvelope.com

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NV1

Also download/refer to NV1