# **CodeMark**>>>

Certificate no: CMNZ10008

Version: 02

Original issue date: 15 May 2020 Version date: 29 May 2025

## 1. Certificate Holder Details



Velux New Zealand Ltd 62b Princes Street Onehunga Auckland, 1061

Tel: 0800 650 445 Email: <u>info@velux.co.nz</u> Web: www.velux.co.nz

## 2. Product Certification Body

### **BRANZ Limited**

1222 Moonshine Road RD1, Porirua 5381 Private Bag 50 908 Porirua 5240 New Zealand

Tel: 04 237 1170

Email: assuranceservices@branz.co.nz

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Complaints: The complaints process for this

certificate can be found here:

https://www.branz.co.nz/codemark-info/complaints-and-appeals/



# **Product Certificate**

## Velux Skylights

## 3. Description of Building Method or Product

Velux Skylights are double-glazed skylights with wooden frames and an aluminium exterior for use on roofs to provide natural light into interior spaces within buildings. Velux Skylights come in two ranges - low-pitch models include the FCM, VCM and VCS series, suitable for use on roof pitches between 0° and 60°, and FS, VS, VSE and VSS series which are for use with roof pitches between 15° and 60°. Some models can be openable and can be used to provide ventilation.

Velux Skylights (FS, VS, VSE and VSS series) are manufactured from softwood frames and sashes. The FCM Low-Pitch Skylight has a PVDF lacquered aluminium frame to the perimeter of the insulated glass unit. The VCM and VCS Low-Pitch Skylights have aluminium frames and sashes with white PVC interior frames. All Velux Skylights are finished on the interior faces with a white semi-gloss paint.

Velux Skylights can be identified by their brand markings on both the units themselves and the packaging.

## 4. Intended use of Building Method or Product

Velux Skylights are intended for use as skylights to provide natural daylight into buildings and controllable ventilation.

## 5. New Zealand Building Code Provisions

Clause B1 STRUCTURE: Performance B1.3.1, B1.3.2 and B1.3.4 for the relevant physical conditions of B1.3.3 (g), (h) and (j) [i.e. loads arising from snow, wind and impact].

Clause B2 DURABILITY: Performance B2.3.1 (b) 15 years.

Clause E2 EXTERNAL MOISTURE: Performance E2.3.1 and E2.3.2.

Clause F2 HAZARDOUS BUILDING MATERIALS: Performance F2.3.1. and F2.3.3 (a).

Clause G4 VENTILATION: Performance G4.3.1 and G4.3.3 (contributes).

Clause G7 NATURAL LIGHT: Performance G7.3.1 and G7.3.2 (contributes).

Clause G9 ELECTRICITY: Performance G9.3.1.

Clause H1 ENERGY EFFICIENCY: Performance H1.3.1 and H1.3.2E (contributes).



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#### 6. Conditions and Limitations of Use

Velux Skylights (FS, VS, VSE and VSS series) are for use on roofs of buildings to provide natural light into spaces in buildings within the following scope:

- the scope limitations of NZBC Acceptable Solution E2/AS1, Paragraph 1.1 with regard to building height and maximum floor plan area;
   and.
- with roof structures designed and constructed to meet the requirements of the NZBC; and,
- with masonry tile, pressed metal tile and profiled metal roof cladding systems complying with NZBC Acceptable Solution E2/AS1; and,
- with a roof pitch between 15° and 60°; and,
- situated in NZS 3604 Wind Zones up to, and including, Extra High.

Velux Low-Pitch Skylights (FCM, VCM and VCS series) are for use on roofs of buildings to provide natural light into spaces in buildings within the following scope:

- the scope limitations of NZBC Acceptable Solution E2/AS1, Paragraph 1.1 with regard to building height and maximum floor plan area; and,
- with roof structures designed and constructed to meet the requirements of the NZBC; and,
- with pitched roof cladding types and profiles and minimum pitches as specified in NZBC Acceptable Solution E2/AS1; or,
- for use on flat or nominally flat roofs making use of membrane roof systems; and,
- with a roof pitch between 0° and 60°; and,
- situated in NZS 3604 Wind Zones, up to and including, Extra High.

### HANDLING AND STORAGE

Handling and storage of all components of Velux Skylights is under the control of the skylight installer. Components must be kept dry and under cover at all times. Care must be taken to avoid surface damage to the skylight components and flashings during the installation process.

## INSTALLATION SKILL LEVEL REQUIREMENT

The installation of Velux Skylights must be completed by installers trained by Velux New Zealand Ltd or by competent, experienced tradespeople with an understanding of roof window installation and weathertightness details.

Velux Skylights must be installed in accordance with the Reference Document supplied by Velux New Zealand Ltd, and this Product Certificate.



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### REFERENCE DOCUMENT

This Product Certificate must be read in conjunction with:

Technical Manual for Velux Skylights, dated May 2025.

## 7. Health and Safety Information

Velux Skylights meet the safety glass requirements of NZS 4223.4 for sloped glazing up to an installed height above floor level of not more than 5 m. (Note: The installed height means the height to the highest part of the glazing.)

Manufacturer's instructions and typical practices for working with, handling and maintaining glazing should be observed.

There are no particular health and safety issues relating to the installation or use of Velux Skylights. Installers must observe safe working practices for working on roofs and at heights.

### 8. Basis for Certification

#### TESTING

The following tests have been carried out on Velux Skylights:

- Resistance to impact loads, snow loads and resistance to wind pressure (non-cyclonic regions). These assessments have been reviewed by BRANZ and were found to be satisfactory.
- Dynamic weather resistance testing by a National Association of Testing Authorities (NATA) registered laboratory in Australia. Velux Skylights have also been subjected to dynamic weather resistance testing by BRANZ.

### **EXPERT JUDGEMENT**

- Opinions on durability, strength and stability of the joinery, and the thermal performance of Velux Skylights have been given by BRANZ technical experts.
- The Velux Schedule Method has been reviewed by BRANZ experts.
- Weathertightness detailing of the Velux Skylights has been assessed by BRANZ and found to be satisfactory. Instructions for installation of the units and associated flashing components for different roof types have also been reviewed and found to be satisfactory.



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#### QUALITY

- The Reference Document has been examined by BRANZ and found to be satisfactory.
- The quality of materials, components and accessories supplied to the market is the responsibility of Velux New Zealand Ltd.
- Quality of installation on-site of Velux Skylights components and accessories is the responsibility of the installer.
- Designers are responsible for building design and specification of natural lighting and ventilation systems.
- Building owners are responsible for any required maintenance of Velux Skylights in accordance with the advice of Velux New Zealand

## 9. Supporting Documentation for Certification

- Acceptable Solutions and Verification Methods for New Zealand Building Code Clause B1 Structure, 1st Edition, Amendment 21, 2 November 2023.
- Acceptable Solutions and Verification Methods for New Zealand Building Code Clause B2 Durability, 2nd Edition, Amendment 12, 28 November 2019.
- Acceptable Solutions and Verification Methods for New Zealand Building Code Clause F2 Hazardous Building Materials, 1st Edition, Amendment 3, 1 January 2017.
- Acceptable Solutions and Verification Methods for New Zealand Building Code Clause G4 Ventilation, 4th Edition, 27 June 2019.
- Acceptable Solutions and Verification Methods for New Zealand Building Code Clause G9 Electricity, 1st Edition, Amendment 7, 5 November 2020.
- ANSI Z97.1:2015 For safety glazing materials used in buildings Safety performance specifications and methods of test.
- AS 4285:1995 Skylights.
- AS/NZS 1170.0:2002 Structural design actions Permanent, imposed and other actions.
- BRANZ Appraisal No. 968 Velux Skylights.
- BRANZ Consulting Report DC16020-001, H1 compliance for Velux Phase 1, issue date 21 April 2022.
- BRANZ Consulting Report DC16020-002 H1 compliance for Velux Phase 2, issue date 31 March 2022.
- BRANZ Consulting Report DC16020-003 H1 compliance for Velux Phase 3, issue date 25 May 2022.
- BRANZ Durability Opinion DA0359/1, Durability opinion on Velux Skylights, Roof Windows and Sun Tunnels, issue date 14 June 2017.
- BRANZ Report No. DA0359/2, E2 and H1 opinion Velux weathertightness and thermal performance, issue date 19 June 2017.
- BRANZ Memorandum, Additional of three larger skylight sizes, issue date 14 May 2025.



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- BRANZ Report No. TV18116-01-01, Structures technical opinion for Velux revalidations, issue date 27 November 2024.
- BRANZ R-value Calculations, VELUX Version 5.xlsx, last modified 17 April 2025.
- BRANZ Structural Memorandum for Velux Skylights, issue date 11 May 2017.
- BRANZ Structural Memorandum for Velux 968, 969, 970, issue date 10 March 2023.
- BRANZ Test Report No. DA0359 Dynamic weather resistance test of a Velux Skylight, issue date 29 May 2017.
- Calderone and Associates Pty Ltd, Skylight glass design report for Velux Australia Pty Ltd, dated 15 May 2023.
- C1-C6 Protection from Fire Acceptable Solution C/AS1 Protection from fire for buildings with sleeping (residential) and outbuildings (risk group SH), 2nd Edition, 2 November 2023.
- C/AS2 Acceptable Solution for Buildings other than risk group SH For New Zealand Building Code Clauses C1-C6 Protection from Fire, 1st Edition, Amendment 3, 2 November 2023.
- G7 Natural Light Acceptable Solution G7/AS1 Natural light for simple buildings up to three storeys excluding those with borrowed daylight, 2nd Edition, 29 November 2021.
- H1 Energy Efficiency Acceptable Solution H1/AS1 Energy efficiency for all housing, and buildings up to 300 m<sup>2</sup>, 5th Edition, Amendment 1, 4 August 2022.
- H1 Energy Efficiency Acceptable Solution H1/AS2 Energy efficiency for buildings greater than 300 m², 1st Edition, Amendment 1, 4
  August 2022.
- H1 Energy Efficiency Verification Method H1/VM1 Energy efficiency for all housing, and buildings up to 300 m<sup>2</sup>, 5th Edition, Amendment 1, 4 August 2022.
- H1 Energy Efficiency Verification Method H1/VM2 Energy efficiency for buildings greater than 300 m², 1st Edition, Amendment 1, 4
  August 2022.
- Ian Bennie and Associates Test Report No. 2022-086-S1-R1 Velux FCM 4672 Flat Roof Skylight, Skylight test to AS 4285:2019, dated July 2023.
- Intertek Semko AB Reference No. SE-80715, IEC system for mutual recognition of test certificates for electrical equipment (IECEE) CB scheme, issued 25 September 2015.
- IEC 60335 Household and similar electrical appliances Safety.
- NZECP 51:2004 New Zealand electrical code of practice for homeowner/occupier's electrical wiring work in domestic installations, Ministry of Economic Development, 2004.
- NZS 3604:2011 Timber-framed buildings.
- NZS 4223.4:2016 Code of practice for glazing in buildings Dead, wind and snow loading.
- Ministry of Business, Innovation and Employment Record of amendments Acceptable Solutions, Verification Methods and handbooks.



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- The Building Regulations 1992.
- Verification Methods E2/VM1 and Acceptable Solutions E2/AS1, E2/AS2 and E2/AS3 for New Zealand Building Code Clause E2 External Moisture, 3rd Edition, Amendment 10, 5 November 2020.

## 10. Supporting Information About Description

### **PRODUCT SPECIFICATION**

Velux Skylights (FS, VS, VSE and VSS series) are a range of fixed and opening skylights which are manufactured from preservative treated softwood frames and sashes, finished on the interior faces with a white semi-gloss paint. External cappings are 'grey friars' coloured PVDF lacquered aluminium.

Velux Low-Pitch Skylights (FCM, VCM and VCS series) are a range of fixed and opening low-pitch skylights which are finished on the interior faces with a white semi-gloss paint. The FCM Low-Pitch Skylight has a PVDF lacquered aluminium frame to the perimeter of the insulated glass unit and an integral rubber gasket to seal the unit to the curb. The VCM and VCS Low-Pitch Skylights have aluminium frames and sashes with white PVC interior frames. External cappings for Velux Low-Pitch Skylights are aluminium. All aluminium components of Velux Low-Pitch Skylights are prefinished with a 'grey friars' coloured PVDF lacquer. Velux Low-Pitch Skylights are primarily suited for use with roof membranes and wide-profile metal roofing. Flashings and roof detailing for Velux Low-Pitch Skylights must be specifically designed in all instances.

The Velux Skylight models covered by this Product Certificate are provided in Tables 1 and 2.

**Table 1: Velux Skylight Models** 

External Frame	550 x	550 x	550 x	550 x	550 x	780 x	780 x	780 x	780 x	1,140 x	1,140 x
Dimensions (mm)	700	980	1,180	1,400	1,800	780	980	1180	1,400	700	1,180
Size Codes	C01	C04	C06	C08	C12	M02	M04	M06	M08	S01	S06
Fixed Skylight (FS)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Manual Opening Skylight (VS)	-	✓	<b>√</b>	✓	-	✓	✓	✓	✓	✓	<b>√</b>
Electrically Operated Skylight (VSE)	✓	✓	✓	<b>√</b>	-	-	<b>√</b>	✓	<b>√</b>	✓	<b>√</b>
Solar-powered Skylight (VSS)	✓	✓	✓	✓	-	✓	✓	✓	✓	✓	✓



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Table 2: Low-Pitch Velux Skylight Models

External Frame Dimensions (mm)	488 x 895	488 x 1,302	692 x 692	692 x 895	692 x 997	692 x 1,302	692 x 1,911	895 x 895	895 x 1,302	895 x 1,527	895 x 1,959	997 x 997	997 x 1,302	1,302 x 692	1,302 x 1,302	1,302 x 1,959
Size Codes	1430	1446	2222	2230	2234	2246	2270	3030	3046	3055	3072	3434	3446	4622	4646	4672
Fixed Skylight (FCM)	<b>√</b>	<b>√</b>	<b>√</b>	<b>√</b>	<b>√</b>	<b>√</b>	✓	<b>√</b>	<b>√</b>	✓	<b>√</b>	<b>√</b>	<b>√</b>	<b>√</b>	<b>√</b>	<b>√</b>
Manual Opening Skylight (VCM)	-	-	<b>√</b>	-	<b>√</b>	<b>√</b>	-	<b>√</b>	<b>√</b>	-	-	<b>√</b>	-	-	<b>√</b>	-
Solar- powered Skylight (VCS)	-	-	<b>√</b>	-	<b>√</b>	<b>√</b>	-	<b>√</b>	<b>√</b>	-	-	<b>√</b>	-	<b>√</b>	<b>√</b>	-

### GLAZING

Velux Skylights are factory glazed using sealed double-glazed insulating glass units (IGUs). The IGUs are Type 04 which is the product code on the packaging and is marked on the IGU itself on the spacer bar between the glazing and on the glass panes.

Type 04 units comprise either a 3 or 3.9 mm thick toughened outer pane with a low emissivity (Low-E) coating, a 9 mm argon-filled cavity and a 5.36 mm thick inner pane of laminated toughened safety glass. The outer pane has a coating which is designed to reduce the buildup of dirt and to ease cleaning.

The units carry markings to show compliance with American National Standards Institute Standard ANSI Z97.1.

## **FLASHINGS**

EDW, EDL and EKW Flashings are a range of Kynar 500 painted aluminium flashings designed for use with Velux Skylights (FS, VS, VSE and VSS series). Flashings and roof detailing for the Low-Pitch Skylights must be specifically designed using the custom flashing technical details as listed in the Reference Document. Any technical details not listed in the Reference Document are outside the scope of this Product Certificate.



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## 11. Supporting Information About Intended Use

#### **GENERAL**

Velux Skylights are for use on roofs to provide natural light into interior spaces within buildings. Velux Skylights come in two ranges, low-pitch models include the FCM, VCM and VCS series, suitable for use on roof slopes between 0° and 60°. The FS, VS, VSE and VSS series are for use with roof slopes between 15° and 60°. Installation of Velux Skylights on roofs with other pitches is outside the scope of this Product Certificate and their installation must be specifically designed in all instances.

Velux Skylights are suitable for most existing timber-framed roofs. For such installations, it is important that the roof structure is checked by a suitably qualified person for structural adequacy and suitablity of the existing roof cladding.

When installed on new roofs, whenever possible, the installation should be carried out concurrently with the roof cladding installation.

### **BUILDING CODE**

### **B1 STRUCTURE**

Velux Skylights are suitable for use in NZS 3604 Wind Zones up to, and including, Extra High.

Velux Skylights are suitable for use in areas where buildings are designed for a 1 kPa snow loading.

Velux Skylights have been assessed for point loads from AS/NZS 1170 for situations where supports should be placed over the surface when access is necessary.

### **B2 DURABILITY**

Velux Skylights are expected to have a serviceable life of at least 15 years, provided they are maintained in accordance with this Product Certificate and the Reference Document.

On exposure to the weather, the coil-coated aluminium may gradually lose the original surface finish. A faster reduction in both surface finish and overall serviceable life can be anticipated in severe industrial, geothermal and marine exposures.

## C2 PREVENTION OF FIRE OCCURRING

Separation or protection must be provided to Velux Skylights from heat sources such as fireplaces, heating appliances and chimneys. Part 7 of NZBC Acceptable Solution C/AS1 and NZBC Acceptable Solution C/AS2 provide methods for separation and protection of combustible materials from heat sources.

## **E2 EXTERNAL MOISTURE**

Velux Skylights, when installed in accordance with this Product Certificate and the Reference Document, will prevent the penetration of moisture that could cause undue dampness or damage to building elements.

### E3 INTERNAL MOISTURE

Experience with double-glazed skylights has shown that in normal domestic or similar applications, the windows do not pose a significant risk of condensation when correctly installed.



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### F2 HAZARDOUS BUILDING MATERIALS

Velux Skylights meet the safety glass requirements of NZS 4223.4 for sloped glazing up to an installed height above floor level of not more than 5 m. Where the installed height is more than 5 m, only Velux Skylights marked with '04' type glazing may be used. Refer to Glazing in Section 10 of this Product Certificate for further detail and contact Velux New Zealand Ltd for advice or confirmation of type.

### **G4 VENTILATION**

Velux Skylights which contain an openable aperture will contribute to the compliance of a building with NZBC Clause G4. Consideration must be given to the 'net openable area' required for a particular space by the designer. NZBC Acceptable Solution G4/AS1 provides guidance on required ventilation.

### G7 NATURAL LIGHT

Velux Skylights all contain transparent apertures which can contribute to the compliance of a building with NZBC Clause G7. Consideration of the amount of illuminance provided by the skylight for a particular space will depend on a wide range of factors unique to each installation e.g. room size, position, sun orientation, angle, etc. The use of Velux Skylights to supplement natural light from other sources is an Alternative Solution to NZBC Clause G7.

### G9 ELECTRICITY

Where a new electrical supply is required for Velux opening skylights, the installation must be completed by a Registered Electrician in accordance with New Zealand Electrical Code of Practice NZECP 51.

Electrical safety of the electric skylight operator complies with IEC 60335.

### H1 ENERGY EFFICIENCY

## Velux Schedule Method

The Velux Schedule Method may be used as an alternative solution to the Schedule Method contained in the NZBC Acceptable Solution H1/AS1 for housing, and other buildings up to 300 m² in floor area. The Velux Schedule Method requires that:

- the sum of the vertical glazing area and the Velux product area (Velux skylights, roof windows and sun tunnels) is 30% or less of the total wall area; and,
- the combined glazing area on the east, south, and west facing walls is 30% or less of the combined total area of these walls; and,
- the Velux Skylight product area is no more than 1.5 m² or 1.5% of the total roof area (whichever is greater); and,
- the opaque door area is no more than 6 m<sup>2</sup> or 6% of the total wall area (whichever is greater); and,
- the roof, wall, floor, window and door glazing R-values are in accordance with Section 2.1.2 of NZBC Acceptable Solution H1/AS1.

## Calculation and Modelling Methods

Alternatively, designers can use the calculation methods contained in NZBC Acceptable Solutions H1/AS1 or H1/AS2, or the modelling methods contained in NZBC Verification Methods H1/VM1 or H1/VM2. Contact Velux New Zealand Ltd for the relevant product R-values.



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### **MAINTENANCE REQUIREMENTS**

The internal surface of the glazing on Velux Skylights can be simply cleaned from inside the building where reasonable access is provided. The exterior glass surface of Velux Skylights can only be cleaned from the exterior of the building.

The glazing and external surfaces of the skylights can be cleaned using a mild, non-abrasive glass cleaner along with a soft brush or other non-abrasive applicator to maintain the surface appearance.

Interior surfaces of Velux Skylight models VSE, VS and FS with pre-finished wood frames need to be inspected annually. As with any finished surface, it is subject to peeling, cracking or fading and will need to be re-finished/re-painted periodically. To re-finish/re-paint the skylight interior wood surfaces, prepare the skylight by removing the factory finish.

Keep all leaves clear from around Velux Skylights. Ensure all exposed fasteners are secure. Inspect roofing and flashing for excessive wear or scratches on the roofing finish. Scratches in the cladding finish may be fixed with touch-up paint available through Velux New Zealand Ltd. Damaged claddings or flashings should be replaced as soon as they are detected.

The internal workings of the manual and the Integra electric operators are considered maintenance free over the lifetime of the Velux Skylight. Mechanisms are pre-lubricated and need no additional lubrication. The chains and hinges should be checked and lubricated as required.

## 12. Supporting Information About Conditions and Limitations of Use

All conditions and limitations as stated in this Product Certificate.

### **Signatures**

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Claire Falck

CEO, BRANZ Limited.

All CodeMark certificates that are current much be registered with MBIE. MBIE maintains a register of valid product certificates. <u>Please find</u> the register here.

If the certificate is not listed on this register or it appears as (SUSPENDED), it is not a valid CodeMark certificate and does not have to be accepted by a building consent authority as establishing compliance with the New Zealand Building Code.

