



# BEAL Appraisal Certificate



APPRAISAL #: R1751

EXPIRY DATE: 30 Nov 2022

## The Suntrenz™ range of Suntube™ Skylights from Suntrenz Ltd



### Product

- 1.1 The Suntrenz™ Suntube™ Skylights from Suntrenz Ltd, is a range of Skylights used on roofs of buildings to provide natural light into interior spaces within buildings.
- 1.2 The Suntrenz™ offer 6 models of Suntube™ - S400F, S500F and S600F that features a *flexible* internal light shaft, and S400R, S500R and S600R which uses a *rigid* light shaft. Each model has its own proprietary flashing built into the skylight depending on the roof profile.
- 1.3 All models are suitable for roof pitches between 15° and 60°. All models can also be used to provide passive ventilation.
- 1.4 The Suntrenz Skylights are to be designed and installed within the scope and limitations described in the Suntrenz Technical Manual.

### NZ Building Regulations

2.1 In the opinion of BEAL, the Suntrenz Skylights, when designed, installed and maintained in accordance with the statements and conditions of this Appraisal Certificate, will meet the following provisions of the NZ Building Code:

**Clause B1 STRUCTURAL PROPERTIES**

The Suntrenz Skylights meets the requirements of Performance Clause B1.3.3 (g) & (h) snow and wind loads. See Para 6.3

**Clause B2 DURABILITY**

Performance Clause B2.3.1 (b) 15 years - The Suntrenz Skylights meets this requirement. See Para 6.4

**Clause E2 EXTERNAL MOISTURE**

Performance E2.3.1 & E2.3.2. Roofs incorporating the Suntrenz Skylights contributes to this requirement. See Para 6.5

**Clause F2 HAZARDOUS BUILDING MATERIALS**

Performance F2.3.1. The Suntrenz Skylights meets this requirement & will not present a health hazard to people. See Para 6.6

**Clause G4 NATURAL VENTILATION**

Performance FG4.3.1. Suntrenz Skylights can be used to help meet the G4 Natural Ventilation requirements. See Para 6.7

**Clause G7 NATURAL LIGHT**

Performance G7.3.1. The Suntrenz Skylights can be used to help meet the G7 Natural Light requirements . See Para 6.8

**Clause H1 ENERGY EFFICIENCY**

Performance H1.3.2E The Suntrenz Skylights contributes to a building meeting the energy efficiency requirements in all climate zones . See Para 6.9.

2.2 The Suntrenz Skylights has been appraised as an Alternative Solution in terms of New Zealand Building Code Compliance.

Applicant: **Suntrenz Ltd.**  
6/11 Ashley Place,  
Papamoa Beach, Papamoa 3118  
P: 0508 777 222  
E: sales@solarinnovations.co.nz  
[www.suntrenz.co.nz](http://www.suntrenz.co.nz)

Appraised by: **BEAL**  
2A Plimmerton Drive  
Plimmerton, Porirua, NZ  
P: +64 4 233 6661  
E: bts@beal.co.nz  
[www.beal.co.nz](http://www.beal.co.nz)

## Scope and Limitations

3.1 The Suntrenz™ Suntube™ Skylights from Suntrenz Ltd. have been appraised for use as a roof skylight installed in both gable and low-slope roofs of residential and light commercial buildings that are in compliance with the NZBC;

3.2 Such buildings shall be in conformance with the limitations of Acceptable Solution E2/AS1, Paragraph 1.1 with respect to building height and maximum floor plan area; and,

- ◇ with roof structures designed and constructed to meet the requirements of the New Zealand Building Code (NZBC); and,
- ◇ with a roof pitch between 15° and 60°; and,
- ◇ situated in NZS 3604 Wind Zones, up to and including Extra High.

3.3 The Suntrenz™ Suntube™ Skylights must be installed in accordance with the Technical Literature supplied by Suntrenz Ltd. and installed only by Suntrenz Ltd. approved applicators.

3.4 The owner of the building is responsible for the proper maintenance of the applied Suntrenz™ Suntube™ Skylights as set out in the Suntrenz™ Suntube™ Skylights maintenance advice document that is provided by the manufacturer to the owner along with their Warranty.

## Technical Literature

4.1 The Suntrenz™ Technical Manual ver1.2 must be read in conjunction with this Appraisal. All aspects of design, use, installation and maintenance contained within the Technical Literature and scope of this Appraisal Certificate must be followed.

4.2 For a copy of this Technical Manual please contact Suntrenz Ltd.

## Technical Details

5.1 The product can be applied into sloping roofs that are in compliance with the scope and limitations described in Para 3.2.

Components supplied by Suntrenz Ltd. are as follows:

- **Roof flashings**  
Proprietary designed Fiberglass flashing or Pressed Steel Top (roof specific);
- **Skylight dome**  
Size Specific – 3mm Plexiglass Acrylic or 3mm Polycarbonate;
- **Air vents**  
Breather Frame Tabs for Passive Venting ;
- **Light shaft - fixed or flexible**  
Flexible Reflective Tubing or Rigid 98 Miro-Silver Solid Aluminium Tubing;
- **Jointing material**  
Aluminium Foil Tape - 48mm x 45m for Rigid Light shaft only;
- **Ceiling frame**  
Plastic or Aluminium ceiling frame, a flexi-locking ring, double glazed diffuser system & fixings.  
These components all form part of the Suntrenz™

Suntube™ Skylight product.

5.2 Refer to the Suntrenz™ Suntube™ Skylight Technical Manual for the method of installation.

### Handling and Storage

5.3 All components must be stored inside, in a well ventilated area, up off concrete floors, kept dry, out of direct sunlight and away from freezing conditions.

## Advice for designers

### General

6.1 The Suntrenz™ Suntube™ Skylights are an effective solution to bring natural light into any residential or commercial building. The Suntrenz™ Suntube™ Skylights are proprietary designed roof skylights that are made to fit the profile of the roof material they are installed to.

The roof flashings are made from either fibreglass or powder coated steel or Maxx Grade Colour Steel to ensure durability will last well past the warranty period.

The Suntube™ skylights incorporate a self-flashing design which eliminate the need for back flashings to a ridge or apron flashing.

A light shaft of either Rigid or Flexible tube is connected to the roof flashing and extended to the ceiling diffuser inside the appropriate room the skylight is required.

6.2 Before any installation can be carried out, it is essential that a careful inspection of the intended location on the roof be carried out, as set out in the Suntrenz™ Suntube™ Skylights Technical Manual.

### Structure - Clause B1.3.3 (g) & (h) snow and wind

6.3 SUNTRENZ™ Skylights meet the requirements for loads arising from snow and wind.

### Durability - Clause B2.3.1(b) – 15 years

6.4 SUNTRENZ™ Skylights satisfy the durability requirements specified for Non-structural Roof Cladding elements, subject to normal conditions of environment, use, good housekeeping maintenance. Note the requirement under 7.1.

### External Moisture - Clause E2.3.1

6.5 SUNTRENZ™ Skylights have passed tests for weathertightness, concentrated load, noncyclonic and cyclonic wind pressures according to Australian Skylight Standard AS4285 test methods.

### Hazardous Building Materials - Clause F2.3.1

6.6 SUNTRENZ™ Skylights comply with requirements for sloped Insulating Glass Units.

### Natural Ventilation - Clause G4.3.1

6.7 SUNTRENZ™ vented skylights can be used to help meet the G4 Natural Ventilation requirements.

### Natural Light - Clause G7.3.1

6.8 SUNTRENZ™ Skylights can be used to help meet the G7 Natural Light requirements.

### Energy Efficiency - Clause H1.3.2E

6.9 The R-value of SUNTRENZ™ Skylights contributes to a building meeting the energy efficiency requirements in all climate zones.

# Installation Requirements

## Installation Skill Requirement

7.1 Installation of the Suntrenz™ Suntube™ Skylights must be carried out by approved experienced persons in accordance with the Suntrenz™ Technical Manual ver1.2 .

## Health and Safety

7.2 The safe installation of the product is provided in the Technical Manual.

## Basis of this Appraisal

BEAL use the compliance verification procedure to demonstrate compliance with the relevant clauses of the NZBC based on a risk analysis procedure. The following is a summary of the technical investigations carried out:

### Assessments

8.1 The following assessments of the Suntrenz™ Suntube™ Skylights have been undertaken by BEAL:

⇒ A review of test data and technical literature supplied by Suntrenz Ltd.

### Testing

8.2 The following testing of the Suntrenz™ Suntube™ Skylights has been undertaken by BBA to verify conformance with European requirements:

- ⇒ Durability by way of ZENON Arc exposure for 1,000 hours according to ASTM 6955 Part 3b cycle 2.
- ⇒ Durability by way of peel adhesion testing of the sealing tape before and after accelerated age conditioning.
- ⇒ Weathertightness by way of a test procedure designed to assess for any water ingress under varying wind pressures -

### In-service History

8.3 The Suntrenz™ Suntube™ Skylights has been in use and, when subject to the manufacturer's requirements, performed satisfactorily for the past 15 years in New Zealand and other parts of the world, in a wide range of conditions.

### Other Investigations

8.4 The installation of the Suntrenz™ Suntube™ Skylights was also evaluated in practical building situations for the following;

- Ease of installation
- Potential risks of non-performance when being installed
- Any external factors that could affect the quality of the installed product

### Technical Literature

8.5 The Technical Literature has been examined by BEAL and found to be satisfactory.

### Quality

8.6 The quality of materials, components and accessories supplied by Suntrenz Ltd.. is managed through the use of a Building Product Quality Plan.

8.7 The Suntrenz Ltd. Building Product Quality Plan, based on a manufacturing quality plan, ensures continuous conformance with the quality requirements from purchase to application by experienced and

approved applicators.

8.8 Suntrenz Ltd's Building Product Quality Plan is reviewed and audited at least annually by BEAL or appointed agent.

8.9 Designers are responsible for the roof substructure that shall be in accordance with the instructions of the building owner or their representative and this Appraisal Certificate.

8.10 Building owners are responsible for the maintenance of the Suntrenz™ Suntube™ Skylights in accordance with the manufacturer's instructions and this Appraisal Certificate.

## Sources of Information

- The Building Regulations 1992, reprinted 1 January 2017
- NZS 3604:2011 Timber framed Buildings
- AS4285 Skylights
- NZS4223 Glazing in Buildings; Part 3: Human impact safety requirements
- AS/NZS 4666 Insulating glass units
- NZS4218 Thermal insulation - Housing and small buildings
- BBA Agrément Certificate No 04/4141
- BTS Test Report TR180814-1
- Rigid tube comparison from ALANOD Aluminium Veredlung GmbH & Co KG
- Various other commercial brochures.

## Concluding statement

9.1 In the opinion of BEAL, the Suntrenz™ Suntube™ Skylights range of products are fit for purpose and will comply with the NZBC to the extent specified provided that it is used, designed, installed and maintained in accordance with the manufacturer's instructions and this Appraisal Certificate.

The Appraisal Certificate is issued only to Suntrenz Ltd., and is valid until further notification, subject to the conditions of this Appraisal.

## Conditions of Appraisal

10.1. This appraisal Certificate:

a) Relates only to the Suntrenz™ Suntube™ Skylights from

- Suntrenz Ltd described herein;
- b) Must be read, considered and used in full, together with the current version of the Technical Literature
  - c) Does not address any legislation, regulations, codes or standards, not specifically named herein;
  - d) Is copyright of BEAL

10.2 The Appraisal Certificate holder continues to meet the quality requirements of the Suntrenz Ltd. Building Product Quality Plan and has the plan audited and Appraisal certificate revalidated by BEAL on an annual basis.

10.3 Suntrenz Ltd. shall notify BEAL and obtain approval of any changes of the product specification or quality assurance prior to product being marketed including any trade literature, web site info or the like.

10.4 BEAL makes no representation as to:

- a) The nature of individual examples of, batches of, or individual installations of the product, including methods and workmanship;
- b) The presence or absence of any patent or similar rights subsisting in the product or any other product;
- c) Any guarantee or warranty offered by the Appraisal Certificate holder.

10.5 BEAL's verification of the building product or system complying with one or more of the above-mentioned criteria is given on the basis that the criteria used were those that were appropriate to demonstrate compliance with the NZBC at the date of this Appraisal Certificate. In the event that the criteria is withdrawn or amended at a later date, this Appraisal may no longer remain valid.

10.6 Any reference in this Appraisal Certificate to any other publication shall be read as a reference to the version of publication specified in this Appraisal Certificate.

Authorised Signatory,



C R Prouse - Director  
**BEAL** (Building Element Assessment Laboratory Limited)  
[November 2021]

