

espan® 470 is Metalcraft's Roofing and External Wall Cladding system.

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Level of assurance needed to demonstrate NZ Building Code Compliance

Supporting documentation should include technical information by manufacturer and either an independent assessment or reference to an industry-based scheme



Metalcraft confirms that this minimum level of assurance has been met or exceeded by the following:

New Zealand Metal Roofing Manufacturers Association Inc (NZMRM)
[RCOP](#)

Technical Statement

Product Description

Metalcraft Roofing supply the espan® 470 as a roofing and wall cladding system.

espan® uses a unique clip system which eliminates the need for an expensive substrate.

espan® 470 Roofing and Wall Cladding system comprises:

- A 49mm deep trough profiled steel sheet
- Associated design and installation information

Metalcraft fabricates the espan® 470 sheets from steel manufactured by New Zealand Steel. This steel is supplied with different protective coatings which are designed to withstand conditions in specific New Zealand Corrosion Zones. Refer to NZ Steel's Environmental Categories Brochure for details.

espan® 470 sheets are available in the following materials:

- Colorsteel® Endura®
- Colorsteel® Maxx®
- Aluminium

espan® 470 sheets are available in the following size:

- Thickness: 0.55mm BMT for Steel and 0.90 BMT for Aluminium
- Width: Cover - 470mm, Sheet - 484mm

The sheets are fixed with hidden clips that are attached directly to the purlins. Clip-on solar panels and PV Laminates may also be installed with espan® 470.

espan® 470 with swages can be used for roofing and vertical cladding in all wind zones.

espan® 470 with swages is required for roofing only in Very High, Extra High and SED wind zones to reduce roof noise and provide additional strength.

Scope of use

Metalcraft Roofing supply the espan® 470 roofing and wall cladding system for use on commercial and residential buildings within the following scope:

When used for roofing:

- espan® 470 may be used with a minimum roof gradient of 3 degrees

When used as a wall cladding:

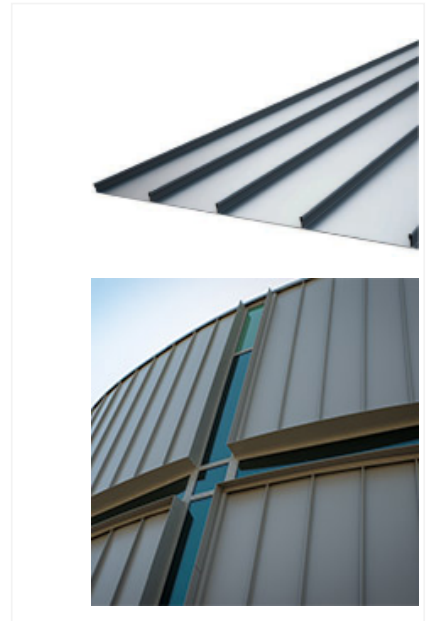
- espan® 470 must always be installed in conjunction with a drained cavity

New Zealand Building Code (NZBC)

The product will, if employed in accordance with the supplier's installation and maintenance requirements, assist with meeting the following provisions of the building code:

- **Clause B1 Structure:** Performance B1.3.1, B1.3.2, B1.3.3, B1.3.3(a), B1.3.3(b), B1.3.3(c), B1.3.3(d), B1.3.3(g), B1.3.3(i)
- **Clause B2 Durability:** Performance B2.3.1(b)
- **Clause C3 Fire affecting areas beyond the fire source:** Performance C3.4(a), C3.5, C3.7(a)
- **Clause E2 External moisture:** Performance E2.3.1, E2.3.2, E2.3.7, E2.3.7(a), E2.3.7(b), E2.3.7(c)
- **Clause F2 Hazardous building materials:** Performance F2.3.1

Notes



masterspec partner

Company Contact Details



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espan® 470 Roofing and External Cladding system will not contaminate potable water, ref AS/NZS 4020:2005

Evidence

The product meets the requirements set out in the following documents, or relevant parts of cited standards within the documents:

ACCEPTABLE SOLUTION B1/AS1 - AS/NZS 1397:2011, AS/NZS 1170:2002 (span tables)

ACCEPTABLE SOLUTION B2/AS1 - Coated in accordance with AS/NZS 2728:2013. (NZ Steel claim) cited in E2/AS1

ACCEPTABLE SOLUTION C/AS2-C/AS7 Metals are non-combustible - ISO5660 BRANZ (FH 6102-TT, dated 3/1/2017) (Material Group 1-S), Steel non-combustible (refer para 5.8 C/AS2-C/AS7)

ACCEPTABLE SOLUTION E2/AS1 - NZMRM Code of Practice (v2.2)

ALTERNATIVE SOLUTION ColorCote safety data sheet - Coating system is inert once dry

Supporting Evidence

The product has and can make available the following additional evidence to support the above statements:



New Zealand Metal Roofing Manufacturers Association Inc (NZMRM)
[RCOP](#)

Use in Service History

espan® 470 Profile Static Testing (Uniformly Distributed Load) (AS 4040.2) information is available and past history of in-service use of metal long run roof and wall cladding within New Zealand.

Product Criteria

Design requirements

On new buildings designed and constructed to comply with the NZBC using timber or steel framing.

On existing buildings using timber and steel framing where the designer and installer have satisfied themselves that the building is suitable for the intended building work.

In conjunction with a vapor permeable building wrap that has a permeability of 36g/m²/day of a vapor resistance of no more than 500MNs/g.

Insulated buildings in conjunction with steel framing, a thermal break is required. Timber thermal breaks are recommended.

Contact with other materials must be in accordance with Table 21 (E2/AS1), or compatible with the The New Zealand Metal Roofing Manufacturers Association Inc (NZMRM) Code Of Practice

Building height and design wind speed is limited by the espan® 470 design load span tables

Sheet lengths of ≤40m must be installed on a roof with a minimum pitch of 3°

Sheet lengths of >40m but less than <60m must be installed on a roof with a minimum pitch of 4°

Installation requirements

For espan® 470 installation information please refer to Metalcraft Roofing for further information.

Materials in contact with espan® 470 must be compatible as specified in E2/AS1 Table 21.

Maintenance requirements

The product maintenance requirements for your Metalcraft Roofing product is issued by New Zealand Steel Limited.

It is important to carry out a regular schedule of maintenance in order to protect the appearance and prolong the durability of any Metalcraft Roofing product.

Maintenance information is available from Metalcraft Roofing or by visiting Colorsteel at www.colorsteel.co.nz/warranty

Warrantees

The product used and the location of the building determines the warranty period.

Warranty information is available from Metalcraft Roofing or by visiting Colorsteel at www.colorsteel.co.nz/warranty

Company Product Information

Environmental

In all climate zones as defined by NZS-3604:2011, subject to the limitations set out below:

espan® 470 may be used as a roof cladding system in exposure zones B, C & D as defined in Sec 4, NZS3604:2011. For use in "Microclimatic considerations," (as defined in Sec 4.2.4) refer to Metalcraft Roofing.

espan® 470 may be used as a wall cladding system in exposure zones B & C. Where espan® 470 is to be used in exposure Zone D, then only Colorsteel® Endura® or Colorsteel® Maxx® may be used

Relationships



Environmental Choice New Zealand



New Zealand Made



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