

METALCRAFT ESPAN® 470

PURPOSE

Metalcraft Roofing supplies Espan® 470 as a vertical wall and roof cladding.

EXPLANATION

Metalcraft Espan® 470 is a trough profiled sheet fabricated from steel manufactured by NZ Steel. The steel is supplied with different protective coatings to withstand NZ's exposure zones. The sheets are available in the full range of Colorsteel® colours. Clip-on solar panels may be installed. The profile is available as a flat pan, or with one or two swages incorporated into the pan. Espan® 470 sheets are available in the following NZ Steel branded products:

- Colorsteel® Endura®
- Colorsteel® Maxx®

The sheets are available in the following sizes:

- Thickness (mm): 0.40, 0.55
- Width (mm): Cover – 470, Sheet – 484



Figure 1: Profile Dimension (nominal)



SCOPE AND LIMITATIONS OF USE

Scope	Limitations
Location In all wind zones as defined in NZS 3604:2011 and in all calculated design loads.	<ul style="list-style-type: none"> ➤ Metalcraft Espan® 470 load spans apply in wind zones up to and including extra high. ➤ Where the calculated design loads exceed 2.5kPa the engineer must satisfy themselves that the product, pitch and fixings will meet the conditions.
In all exposure zones as defined by NZS 3604:2011.	<ul style="list-style-type: none"> ➤ In exposure Zone D only Colorsteel® Endura® or Colorsteel® Maxx® may be used. ➤ For use in "Microclimatic considerations," (as defined in Sec 4.2.4) refer to Metalcraft Roofing.
On buildings located any proximity to a relevant boundary.	<ul style="list-style-type: none"> ➤ Metalcraft Espan® 470 is non-combustible.
Building On timber or steel structural framing.	<ul style="list-style-type: none"> ➤ Where Metalcraft Espan® 470 is used in an insulated building and in conjunction with steel framing, a thermal break is required.
In conjunction with a primary structure that complies with the NZ Building Code or where the designer has established that the existing structure is suitable for the intended building work.	<ul style="list-style-type: none"> ➤ Building height is limited by the Metalcraft Espan® 470 design load span tables (refer to: www.metalcraftgroup.co.nz) or specific engineering, where applicable.
As a wall cladding.	<ul style="list-style-type: none"> ➤ Metalcraft Espan® 470 must always be installed over a drained and ventilated cavity. ➤ Flashings, flexible and rigid building underlays and Metalcraft Espan® 470 fixings must be in accordance with E2/AS1 and NZMRM Code of Practice (V3.0). ➤ Contact with other materials must be in accordance with E2/AS1 and NZMRM Code of Practice (V3.0).
As a roof cladding.	<ul style="list-style-type: none"> ➤ Metalcraft Espan® 470 lengths ≤40 m must be installed on a roof with a minimum pitch of 3°. ➤ Metalcraft Espan® 470 lengths >40 m and <60 m must be installed on a roof with a minimum pitch of 4°. ➤ A potable water collection system may be installed. ➤ Flashings, flexible and rigid building underlays and Metalcraft Espan® 470 fixings must be in accordance with E2/AS1 and NZMRM Code of Practice (V3.0). ➤ Contact with other materials must be in accordance with E2/AS1 and NZMRM Code of Practice (V3.0).

PERFORMANCE CLAIMS

If designed, installed and maintained in accordance with all Metalcraft Roofing requirements, Metalcraft Espan® 470 will comply with or contribute to compliance with the following performance claims:

NZ Building Code clauses	BASIS OF COMPLIANCE	
	Compliance statement ¹	Demonstrated by
B1 Structure B1.3.1, B1.3.2, B1.3.3 (a, b, c, d, g, i)	ACCEPTABLE SOLUTION B1/AS1	<ul style="list-style-type: none"> ➤ AS/NZS 1397:2011. ➤ AS/NZS 1170:2002 (for span tables).
B2 Durability B2.3.1 (b) B2.3.2 (b)	ACCEPTABLE SOLUTION B2/AS1	<ul style="list-style-type: none"> ➤ Coated in accordance with AS/NZS 2728:2013 (cited in E2/AS1).
C3 Fire Affecting Areas Beyond the Fire Source C3.4 (a), C3.7 (a)	ACCEPTABLE SOLUTION C/AS1 C/AS2 1st edition, June 2019	<ul style="list-style-type: none"> ➤ Steel is non-combustible. ➤ BRANZ (FH 6102-TT, dated 3/1/2017) (Material Group 1-S). ➤ BRANZ is accredited to perform ISO 5660 test.
E2 External Moisture E2.3.1, E2.3.2, E2.3.7 (a, b, c)	ACCEPTABLE SOLUTION E2/AS1	<ul style="list-style-type: none"> ➤ NZMRM Code of Practice (V3.0).
F2 Hazardous Building Materials F2.3.1	ALTERNATIVE SOLUTION	<ul style="list-style-type: none"> ➤ Coating system is inert once dry. ➤ Colorsteel® safety data sheet

1. The Compliance Statement is the pass holder's statement that they have met their obligations under s14G(2) of the Building Act 2004.

Other performance statement	BASIS OF STATEMENT	
	Performance statement	Demonstrated by
Metalcraft Espan® 470 will not contaminate potable water.	AS/NZS 4020:2005	<ul style="list-style-type: none"> ➤ Claimed by manufacturer: NZ Steel. ➤ BRANZ statement that metal roof suitable refer to www.level.org.nz/water/water-supply/mains-or-rainwater/harvesting-rainwater.

NZ STEEL ASSURANCE

As the manufacturer of the steel, from which Metalcraft Espan® 470 is fabricated, NZ Steel provides assurance that the steel:

- has been manufactured in accordance with AS 1397:2001
- is coated in accordance with AS/NZS 2728:2013 or galvanized in accordance with AS/NZS 2312.2:2014.

NZ Steel has established an Environmental Management System certified to ISO 14001.

For more information on the specific exposure zones and environmental impacts of the product refer to www.colorsteel.co.nz.

SOURCES OF INFORMATION

- AS/NZS 1170:2002. *Structural design actions*.
- AS/NZS 1397:2001. *Steel sheet and strip—Hot-dip zinc coated or aluminium/zinc-coated*.
- AS/NZS 2728:2013. *Prefinished/pre-painted sheet metal products for interior and exterior building applications*.
- BRANZ www.level.org.nz/water/water-supply/mains-or-rainwater/harvesting-rainwater.
- NZ Metal Roof Manufacturers (NZMRM): *Code of Practice (V3.0)*.
- NZ Steel. Technical Bulletin. [August 2016]. *Fire Testing. Fire testing of Coated Steel*.

VERSION: **DATE:**

Note: Uncontrolled in printed format.

NAME: Frances Charles

POSITION: National Sales & Marketing Mgr

Signed on behalf of Metalcraft Roofing:

By signing this pass™ the signatory confirms that, in respect of the subject of this pass™, the company has met their s14G obligations under the Building Act 2004.

For more information visit www.metalcraftgroup.co.nz