

METALCRAFT ESPAN® 340

PURPOSE

Metalcraft Roofing supplies Espan® 340 as a roof and vertically laid wall cladding.

EXPLANATION

Metalcraft Espan® 340 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® 340 sheets are available in the following NZ Steel branded products:

- Colorsteel® Endura®
- Colorsteel® Maxx®
- Thickness (mm): 0.55
- Width (mm): Cover – 340, Sheet – 354

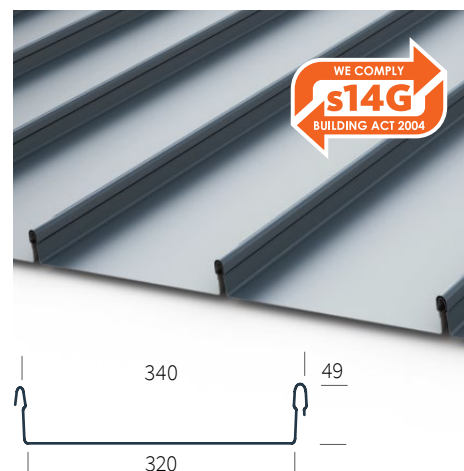


Figure 1: Profile Dimensions (nominal)

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® 340 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 paragraph 4.2.4) refer to Metalcraft Roofing for technical advice. ➤ For more information on the specific exposure zones refer to www.colorsteel.co.nz.
On buildings located any proximity to a relevant boundary.	<ul style="list-style-type: none"> ➤ Metalcraft espan® 340 is non-combustible. ➤ Coreflute adhesive tape, used in conjunction with the Espan clip must comprise < 5% of the wall area.
Building	
On timber or steel structural framing.	<ul style="list-style-type: none"> ➤ Where Metalcraft Espan® 340 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® 340 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 340® must always be installed over a drained and ventilated cavity. ➤ Flashings, flexible and rigid building underlays and METalcraft Espan 340® fixings must be in accordance with E2/AS1 and NZMRM Code of Practice. ➤ 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® 340 lengths ≤40 m must be installed on a roof with a minimum pitch of 3°. ➤ Metalcraft Espan® 340 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 340® 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).

NZ STEEL ASSURANCE

- Australasian registered Environmental Protection Declaration (EPD); compliant with EN 15804.
- ISO 9001:2015. Telarc No.82
- ISO 14001:2015. Telarc No. 63.

PERFORMANCE CLAIMS

If designed, installed and maintained in accordance with all Metalcraft Roofing requirements, Metalcraft Espan® 340 will comply with or contribute to compliance with the following performance claims:

PERFORMANCE CLAIMS CONTINUED

NZ Building Code clauses		BASIS OF COMPLIANCE	
		Compliance pathway	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"> Steel in accordance with AS 1397:2021, which is equivalent to AS 1397:2011 for the NZ Steel steel. AS 1397 is cited in NASH Standard Part 1:2016 and NASH Standard Part 2:2019 (BlueScope, 2016). Metalcraft span tables in accordance with AS/NZS 1170.
B2 Durability B2.3.1 (b) B2.3.2 (b)		VERIFICATION METHOD B2/VM1	<ul style="list-style-type: none"> Steel in accordance with AS 1397:2021, which is equivalent to AS 1397:2011 for the NZ Steel steel. AS 1397 is cited in NASH Standard Part 1:2016 and NASH Standard Part 2:2019 (BlueScope, 2016). Coating to AS 2728, which is cited in E2/AS1. (BlueScope, 2013) NZ Steel and their parent company BlueScope provides assurance that when correctly installed and maintained, their products will meet or exceed NZ Building Code B2: Durability.
C3 Fire Affecting Areas Beyond the Fire Source C3.4 (a), C3.7 (a)		ACCEPTABLE SOLUTION C/AS1 C/AS2	<ul style="list-style-type: none"> Steel is defined in C/AS1 and C/AS2 as non-combustible. Non-combustible products achieve a material group number 1.
E2 External Moisture E2.3.1, E2.3.2, E2.3.7 (a, b, c)		ALTERNATIVE SOLUTION	<ul style="list-style-type: none"> E2 comparison (TBB, 2022). Largely in accordance with E2/AS1.
F2 Hazardous Building Materials F2.3.1		ALTERNATIVE SOLUTION	<ul style="list-style-type: none"> Steel in accordance with AS 1397:2021, which is equivalent to AS 1397:2011 for the NZ Steel steel. (BlueScope, 2016). Use in accordance with manufacturer's safety requirements.
Other performance statement		BASIS OF STATEMENT	
		Performance statement	Demonstrated by
Metalcraft Espan® 340 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.

SOURCES OF INFORMATION

- BlueScope (2016). *Specification clauses for steel to ensure compliance with relevant Australian standards/regulations*. Refer <http://www.steel.com.au/library>. [Accessed 27/02/2022].
- BlueScope (2013). *New Colorbond® steel*. Refer <http://www.steel.com.au/articles/article-44--new-colorbond-steel>. [Accessed 27/02/2022].
- BRANZ. (20/05/2020). *Harvesting rainwater*. Refer <https://www.level.org.nz/water/water-supply/mains-or-rainwater/harvesting-rainwater/>. [Accessed 27/02/2022].
- EPD Australasia. (23/10/2018). *Colorsteel®, Endure®, Colorsteel Maxx® Environmental Product Declaration*. Refer <https://epd-australasia.com/epd/colorsteel-endura-and-colorsteel-maxx/>. [Accessed 27/02/2022].
- NZ Steel. (10/2018). *Maintenance recommendations brochure V4.0*. Refer <https://www.colorsteel.co.nz/resources/downloads-and-brochures/>. [Accessed 27/02/2022].
- NZ Steel. (2022). *Zincalume® steel features*. Refer <https://www.nzsteel.co.nz/products/zincalume/features/>. [Accessed 27/02/2022].
- NZ Metal Roof Manufacturer's (NZMRM) (06/2018, Amend 12/2021). *Code of Practice V3.0*. Refer <https://www.metalroofing.org.nz/codeonline>. [Accessed 27/02/2022].
- Telarc (14/08/2019). *ISO 9001:2015 The design, manufacture and supply of hot and cold rolled steel plate, sheet and strip, and coated, steel coil and flat sheet. No 82*. Refer <https://www.nzsteel.co.nz/new-zealand-steel/responsibilities/certificates-and-memberships/>. [Accessed 28/02/2022].
- Telarc (24/07/2003). *ISO 14001:2015 The management of environmental aspects associated with the operation of: the Glenbrook Mill Site; the Waikato North Head Iron Sand Quarry; Pacific Steel NZ Ltd – Wire Mill; Pacific Steel NZ Ltd – Rolling Mill. No. 63*. Refer <https://www.nzsteel.co.nz/new-zealand-steel/responsibilities/certificates-and-memberships/>. [Accessed 28/02/2022].
- TBB (02/2022). *E2 comparison V1.0*.
- TBB (27/05/2021). *Impact of Coreflute on compliance with C3 Fire Affecting Areas Beyond the Fire Source*.

- Where a standard is referenced it is to be read as amended by the acceptable solution or verification method as applicable.
- Sources of information also include the Building Act 2004 and its regulations, including the Building Code (Schedule 1 of the Building Regulations 1992), Acceptable Solutions and Verification Methods, and relevant cited standards.
- The quality and assurance that the supplied products meet the performance claims stated in this pass™ are the responsibility of the company that is the holder of this pass™
- Where E2/AS1 is referenced it is to be read as including E2/AS4.

Metalcraft Roofing confirms that if Metalcraft Espan 340 is used in accordance with the requirements of this pass™ the product will comply with the NZ Building Code and other performance claims set out in this pass™ and the company has met all of its obligations under s14 G of the Building Act.

Date of first issue: 29/11/2019

Date of current issue: 08/02/2023

NZBN: 9429032461152

Scan or click this QR code for a full download of Compliance Documentation for this pass™.

www.metalcraftgroup.co.nz



Kevin Brunton

Kevin Brunton, Technical Director, TBB confirms that this pass has been prepared on behalf of Metalcraft Roofing and in accordance with MBIE PTS guidelines and in accordance with the TBB pass™ process which is within the scope of TBB's ISO 9001 certification.

9606D66ADE51EA6CCC25850D00239F99

For more information visit www.metalcraftgroup.co.nz.

Copyright © 2017, The Building Business Limited (TBB). All rights reserved.