

METALCRAFT T-RIB

PURPOSE

Metalcraft Roofing supplies Metalcraft T-Rib for use as a roof and horizontally and vertically laid wall cladding.

EXPLANATION

Metalcraft T-Rib is an asymmetrical trapezoidal, long-run steel sheet. Fabricated from steel manufactured by NZ Steel, the sheets come in various protective coatings to ensure they withstand NZ's exposure zones. They are available in the full range of Colorsteel® colours.

Metalcraft T-Rib sheets are available in the following New Zealand (NZ) Steel branded products:

- Colorsteel® Endura®
 - Galvsteel®
 - Colorsteel® Maxx®
 - Zinalume®
- The sheets are available in the following sizes:
- Thickness (mm): 0.40 and 0.55
 - Width (mm): Cover – 760, Sheet – 810.



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 T-Rib 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 T-Rib is non-combustible.
Building	
On timber or steel structural framing.	<ul style="list-style-type: none"> ➤ Where Metalcraft T-Rib 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 T-Rib 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"> ➤ A drained and ventilated cavity is always required unless the building is unlined or importance level 1, in which case the Metalcraft T-Rib may be direct fixed. ➤ Flashings, flexible and rigid building underlays and Metalcraft T-Rib fixings must be in accordance with E2/AS1 and/or the 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 T-Rib lengths ≤40 m must be installed on a roof with a minimum pitch of 3°. ➤ Metalcraft T-Rib 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 T-Rib 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 T-Rib will comply with or contribute to compliance with the following performance claims:

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 T-Rib 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*.
- 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 T-Rib 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.

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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.

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

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