

# METALCRAFT KAHU®

## PURPOSE

Metalcraft Roofing supplies Metalcraft Kahu® for use as a roofing, and horizontally and vertically laid wall cladding.

## EXPLANATION

Metalcraft Kahu® is a symmetrical, trapezoidal, long-run steel roof and wall cladding manufactured from NZ Steel products. It is supplied in a range of protective coatings to meet NZ's exposure zones and are available in the full Colorsteel® range.

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

- › Colorsteel® Endura®
- › Colorsteel® Maxx®
- › Galvsteel®
- › Zinalume®.

Metalcraft Kahu® sheets are available in the following sizes:

- › Thickness (mm): 0.40 and 0.55
- › Width (mm): Cover – 875, Sheet – 950



Figure 1: Profile Dimensions (nominal)



## SCOPE AND LIMITATIONS OF USE

Scope	Limitations
<b>Location</b> In all wind zones as defined in NZS 3604:2011 and in all calculated design loads.	<ul style="list-style-type: none"> <li>› Metalcraft Kahu® load spans apply in wind zones up to and including extra high.</li> <li>› Where the calculated design loads exceed 2.5kPa the engineer must satisfy themselves that the product, pitch and fixings will meet the conditions.</li> </ul>
In all exposure zones as defined by NZS 3604:2011.	<ul style="list-style-type: none"> <li>› In exposure Zone D only Colorsteel® Endura® or Colorsteel® Maxx® may be used.</li> <li>› For use in “Microclimatic considerations” (as defined in Sec 4.2.4) refer to Metalcraft Roofing.</li> </ul>
On buildings located any proximity to a relevant boundary.	<ul style="list-style-type: none"> <li>› Metalcraft Kahu® is non-combustible.</li> </ul>
<b>Building</b> On timber or steel structural framing.	<ul style="list-style-type: none"> <li>› Where Metalcraft Kahu® is used in an insulated building and in conjunction with steel framing, a thermal break is required.</li> </ul>
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"> <li>› Building height is limited by the Metalcraft Kahu® design load span tables (refer to: <a href="http://www.metalcraftgroup.co.nz">www.metalcraftgroup.co.nz</a>) or specific engineering, where applicable..</li> </ul>
As a wall cladding.	<ul style="list-style-type: none"> <li>› When installed vertically, Metalcraft Kahu® may be direct-fixed up to a risk score of 6 and above that on a drained and ventilated cavity, where the risk score calculation relies on the E2/AS1 risk matrix methodology.</li> <li>› When installed horizontally, Metalcraft Kahu® must always be installed over a drained and ventilated cavity unless the building is unlined or the building has an importance level 1, in which case it may be direct-fixed.</li> <li>› Flashings, flexible and rigid building underlays and Metalcraft Kahu® fixings must be in accordance with E2/AS1 and NZMRM Code of Practice (V3.0)..</li> <li>› Contact with other materials must be in accordance with E2/AS1 and NZMRM Code of Practice (V3.0).</li> </ul>
As a roof cladding.	<ul style="list-style-type: none"> <li>› Metalcraft Kahu® lengths ≤40 m must be installed on a roof with a minimum pitch of 3°.</li> <li>› Metalcraft Kahu® lengths &gt;40 m and &lt;60 m must be installed on a roof with a minimum pitch of 4°.</li> <li>› A potable water collection system may be installed.</li> <li>› Flashings, flexible and rigid building underlays and fixings must be in accordance with E2/AS1 and NZMRM Code of Practice (V3.0).</li> <li>› Contact with other materials must be in accordance with E2/AS1 and NZMRM Code of Practice (V3.0).</li> </ul>

## PERFORMANCE CLAIMS

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

NZ Building Code clauses	BASIS OF COMPLIANCE	
	Compliance statement <sup>1</sup>	Demonstrated by
<b>B1 Structure</b> 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"> <li>➤ AS/NZS 1397:2011</li> <li>➤ AS/NZS 1170:2002 (for span tables)</li> </ul>
<b>B2 Durability</b> B2.3.1 (b), B2.3.2 (b)	ACCEPTABLE SOLUTION B2/AS1	<ul style="list-style-type: none"> <li>➤ Coated in accordance with AS/NZS 2728:2013 (cited in E2/AS1).</li> </ul>
<b>C3 Fire Affecting Areas Beyond the Fire Source</b> C3.4 (a), C3.7 (a)	ACCEPTABLE SOLUTION C/AS1 C/AS2 1st edition, June 2019.	<ul style="list-style-type: none"> <li>➤ Steel is non-combustible.</li> <li>➤ BRANZ (FH 6102-TT, dated 3/1/2017) (Material Group 1-S)</li> <li>➤ BRANZ is accredited to perform ISO 5660 test.</li> </ul>
<b>E2 External Moisture</b> E2.3.1, E2.3.2, E2.3.7 (a, b, c)	ACCEPTABLE SOLUTION E2/AS1 ALTERNATIVE SOLUTION in respect of direct-fixed wall cladding for risk score 6 - 12.	<ul style="list-style-type: none"> <li>➤ NZMRM Code of Practice (V3.0).</li> <li>➤ BRANZ notes that profiled metal claddings may be installed direct fixed where laid vertically and where the profile facilitates gravity based drainage and air circulation.</li> </ul>
<b>F2 Hazardous Building Materials</b> F2.3.1	ALTERNATIVE SOLUTION	<ul style="list-style-type: none"> <li>➤ Coating system is inert once dry.</li> <li>➤ Colorsteel® safety data sheet</li> </ul>

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 Kāhu® will not contaminate potable water.	AS/NZS 4020:2005	<ul style="list-style-type: none"> <li>➤ Claimed by manufacturer: NZ Steel.</li> <li>➤ BRANZ statement that metal roof suitable refer to <a href="http://www.level.org.nz/water/water-supply/mains-or-rainwater/harvesting-rainwater">www.level.org.nz/water/water-supply/mains-or-rainwater/harvesting-rainwater</a>.</li> </ul>

## NZ STEEL ASSURANCE

As the manufacturer of the steel, from which Metalcraft Kāhu® 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](http://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](http://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 2. [August 2016]. *Fire Testing. Fire Testing of Coated Steel Products*.
- BRANZ [2018]. *Wall Cladding Selection. Profiled Metal*. Retrieved from <https://www.weathertight.org.nz/new-buildings/detail-solutions/wall-cladding-selection/profiled-metal/>.

**VERSION:**

**DATE:**

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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](http://www.metalcraftgroup.co.nz).**