

CLASS 1

VERSION 1.0 ISSUE DATE: APRIL 2025

PRODUCT NAME

Metalcraft Roofing - **MET-THERM® / KAHU®**

PRODUCT LINE

N/A

PRODUCT DESCRIPTION AND ITS INTENDED USE

Metalcraft Roofing's MET-THERM® / KAHU® built up warm roofing system is a built up warm roofing system comprising of an internal steel layer that is sealed to provide a vapour barrier, and suitable for roofing applications only. A single layer of PIR board insulation provides for great thermal performance and is available in different thicknesses to satisfy the H1 thermal requirements for the New Zealand climate zones.

The KAHU® longrun roofing is manufactured from steel, sourced from New Zealand Steel.

INTENDED USE

Metalcraft Roofing's MET-THERM® / KAHU® built-up warm roofing system incorporates a MET-THERM® Batten. Installation is engineered for steel structures. The system is installed on site as per Metalcraft's installation guide onto steel purlins (min 90mm wide flange) and as per the engineered report.

Metalcraft Roofing's MET-THERM® / KAHU® system can be used with various Metalcraft COLORSTEEL® flashings, gutters and fascias. They are ordered typically along with the required fixings, underlay and sealants.

Commercial Roofing Only (Apartments, offices, schools etc with mechanically ventilated spaces) Residential use please contact technical support -requires approval from Metalcraft.

THE MET-THERM

MATERIAL OPTIONS: EXTERNAL LAYER- TOP SHEET.

COLORSTEEL® MAXAM™ 0.55mm BMT G550 for KAHU® profile.

Optional:

COLORSTEEL® ALTIMATE®
0.90mm Aluminium 5052 H36 for roll-forming.
0.90mm Aluminium 5005 H34 for flashings.

COLORSTEEL® MAXAM™ DRIDEX® 0.55mm BMT G550 for KAHU® profile.

0.55mm BMT or 0.75mm BMT G300 for flashings.

MATERIAL OPTIONS: INTERNAL LAYER- BOTTOM SHEET.

COLORSTEEL® MAXAM™ 0.55mm BMT G550 for KAHU® profile.

0.55mm BMT or 0.75mm BMT G300 for flashings.

For more information on COLORSTEEL® refer

www.colorsteel.co.nz

Above thicknesses are the nominal base metal thickness rather than the total coated thickness.

BPIS INCLUSION / EXCLUSION

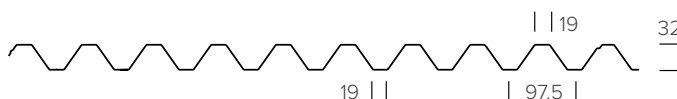
This BPIS includes Metalcraft Roofing's MET-THERM® / KAHU® profile, MET-THERM® Batten and associated flashings and other items manufactured by Metalcraft Roofing. Metalcraft Roofing do supply fasteners, underlay, insulation board and other products as part of the MET-THERM® roofing supply, however demonstration of compliance of these items are not the responsibility of Metalcraft Roofing. Please refer to section: Other products supplied by Metalcraft Roofing for a list of those items and links to manufacturers.

KAHU® PROFILE

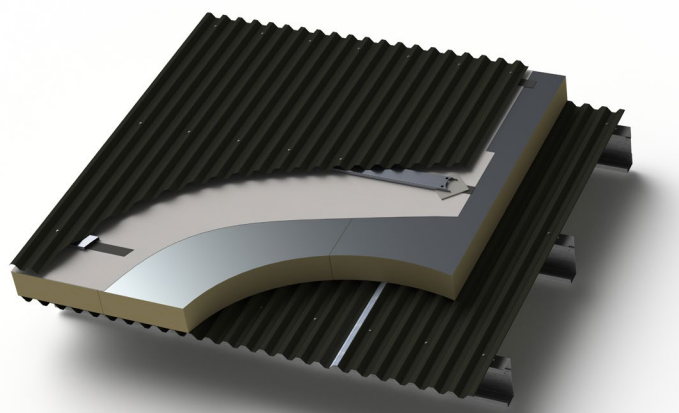
Minimum Pitch: 3 degrees.

Width: Cover = 875mm Sheet = 950mm.

Manufactured in Hamilton & Christchurch. Available nationwide.

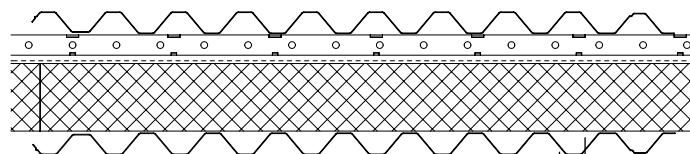


Profile dimensions are nominal and may vary depending on material. Profile dimensions are not set out dimensions.



Indicative 3D Render

EXTERIOR



INTERIOR

KAHU® profile -Reversed laid

COLORSTEEL® MAXAM™ side

RELEVANT BUILDING CODE CLAUSES:

B1 STRUCTURE

B1.3.3 (a, b, c, g, h,) B1.3.4 (b) (d)

B2 DURABILITY

B2.3.1 (b)(i), B2.3.2 (a)

C3 FIRE AFFECTING AREAS BEYOND THE FIRE SOURCE

C3.4 (a)

E2 EXTERNAL MOISTURE

E2.3.1, E2.3.2

F2 HAZARDOUS BUILDING MATERIALS

F2.3.1

H1 ENERGY EFFICIENCY

H1.3.1(a)

G12 WATER SUPPLIES

G12.3.1

STATEMENT ON HOW THE BUILDING PRODUCT IS EXPECTED TO CONTRIBUTE TO COMPLIANCE:

Metalcraft Roofing's MET-THERM® / KAHU® built up warm roof system, MET-THERM® Batten and associated flashings used in combination with the associated accessories - underlays, tapes, PIR insulation and fasteners complying to their products performance standards, will contribute to meeting the following performance requirements of the NZ Building Code.

B1.3.3 (a, b, c, g,h)

Metalcraft Roofing has conducted testing of the KAHU® longrun profile in accordance with procedures described in NZMRM -Metal Roofing and Wall Cladding Code of Practice. The loadspans and fixing requirements for MET-THERM® / KAHU® built up warm roof system and associated MET-THERM® Batten has been engineered by REDCO ENGINEERING.

REDCO ENGINEERING report is available for download from www.metalcraftgroup.co.nz

Fixings of MET-THERM® / KAHU® and MET-THERM® Batten to be in accordance with Metalcraft Roofing's literature and compatible with the base material of MET-THERM® / KAHU® and MET-THERM® Batten and the structure it is fixing into.

The MET-THERM® / KAHU® built up warm roof spans and fixings shall be specified by the certifying engineer as determined from the MET-THERM® / KAHU® Loadspan Tables as per REDCO ENGINEERING report - Min steel purlin flange of 90mm wide required.

B1.3.4 (b) (d)

The Architect must satisfy themselves that the MET-THERM® / KAHU® product is suitable for use and that due allowance has been made for the intended use of the building and variations of the characteristics of the properties of materials.

B2.3.1 (b)(i)

Metalcraft Roofing's, KAHU® profile, and associated flashings are manufactured from steel from NZ Steel. The MET-THERM® Batten is made from extruded Aluminium from Mckechne.

KAHU® PROFILE: EXTERNAL LAYER:

Metalcraft KAHU® top sheet is manufactured from steel from NZ Steel:

Steel substrate is G550 for KAHU® consistent with AS 1397. Metallic coating is AM 150 consistent with AS 1397:2021.

COLORSTEEL® MAXAM® is a Product Type 6 consistent with AS/NZS 2728:2013 and therefore is consistent with the NZ Building Code for use in environments as described in Acceptable Solution E2/AS1 Table 20. Tolerances are consistent with the requirements of AS/NZS 1365:1996.

Optional:

COLORSTEEL® MAXAM™ DRIDEX® is a Type 6 product in accordance with AS/NZS 2728:2013 and therefore is consistent with the NZ Building Code for use in environments as described in Acceptable Solution E2/AS1 Table 20.

COLORSTEEL® ALTIMATE®

Aluminium substrate is in accordance with AS/NZS 1734:1997 covering chemical composition, mechanical properties, and allowable tolerances on dimensions. Altimate® is a Type 6 product in accordance with AS/NZS 2728:2013 and therefore is consistent with the NZ Building Code for use in environments as described in Acceptable Solution E2/AS1 Table 20.

Above information as cited by COLORSTEEL® www.colorsteel.co.nz

KAHU® PROFILE: INTERNAL LAYER AND ASSOCIATED EXTERNAL AND INTERNAL FLASHINGS:

COLORSTEEL® MAXAM™ Steel substrate is G550 for KAHU® and G300 for associated flashings, consistent with AS 1397. Metallic coating is AM 150 consistent with AS 1397:2021. MAXAM® is a Product Type 6 consistent with AS/NZS 2728:2013 and therefore is consistent with the NZ Building Code for use in environments as described in Acceptable Solution E2/AS1 Table 20. Tolerances are consistent with the requirements of AS/NZS 1365:1996.

Contact with corrosive and incompatible materials, prolonged exposure to damp or corrosive internal environments, or excessive periods of wet stacking must be avoided as per table 20 E2/AS1.

Above information as cited by COLORSTEEL® www.colorsteel.co.nz

MET-THERM® Batten:

MET-THERM® Batten is extruded from 3.5mm Aluminium in 6061 T6 -structural grade aluminium.

Contact with corrosive and incompatible materials, prolonged exposure to damp or corrosive internal environments, or excessive periods of wet stacking must be avoided as per Table 20 of E2/AS1.

B2.3.2(a)

MET-THERM® / KAHU® and MET-THERM® Batten with associated underlays, tapes and insulation board will all have the same durability as per B2.3.1 (b)(i).

C3.4 (a)

Metalcraft Roofing's MET-THERM® / KAHU® built up warm roof system with METECNO - PIR insulation has been tested and passed the ISO 9705-1:2016 room corner test for internal spread of flame. Refer BRANZ test report number: F17952-01-1. BRANZ Opinion: FC18786-01-1 evaluates the different profiles, battens, flashings and single layer of PIR.

The project Fire Engineer must evaluate the Branz report and Branz opinion and evaluate against the projects fire requirements and determine its project specific -suitability of use. The architect must incorporate the specific detailing as per the above BRANZ test reports into the consented documents and specification.

When using alternative core types other than METECNO PIR -demonstration of compliance with C3.4(a) is the responsibility of the Fire Engineer. Please refer to section: Other products supplied by Metalcraft Roofing for a list of alternative core types and links to relevant manufacturers.

E2.3.1, E2.3.2

Installation details should be in accordance with Acceptable Solution E2/ AS1 (where relevant), NZMRM code of practice, RANZ installation guides and Metalcraft Roofing's MET-THERM® / KAHU® installation details and installation guide.

Metalcraft Roofing's MET-THERM® / KAHU® can be laid on pitches equal to or greater than those cited in NZMRM Code of Practice for trapezoidal profiles.

Weathertightness of the KAHU® external sheet is achieved by flashing cover dimensions in accordance with NZMRM Code of Practice.

Metalcraft Roofing's MET-THERM® / KAHU® profile laid to a minimum pitch of 3° as per NZMRM Code of Practice.

NZMRM Code of Practice -Alternative details complying with the "4 D's" (Deflection, Draining, Drying and Durability) will also comply with the performance requirements of the NZ Building Code.

F2.3.1

COLORSTEEL® will meet the performance requirements of F2, 2.3.1.

G12.3.1

COLORSTEEL® -Rainwater collected from roofs clad with products made from COLORSTEEL® prepainted steel, will comply with the provisions of NZBC G12.3.1, provided the water is not contaminated from other sources.

Above information as cited by NZ Steel -Source:

<https://www.nzsteel.co.nz/products/zincalume/features/#:~:text=Rainwater%20collected%20from%20roofs%20clad,not%20contaminated%20from%20other%20sources.>

H1.3.1(a)

MET-THERM® / KAHU® contributes to satisfying the requirements of H1.3.1(a).

LIMITATIONS ON THE USE OF THE BUILDING PRODUCT:

- Min steel Purlin Flange of 90mm wide.
- MET-THERM® / KAHU® is not intended for installation over a plywood liner.
- When using timber structure the timber width and fixings needs to be signed off by a Professional Engineer. Refer Metalcraft Roofing - Technical Support.
- Metalcraft Roofing's MET-THERM® / KAHU® profile can be used on SED projects if within the scope of NZMRM Code of Practice for flashing cover dimensions and when the project design loads are within the products performance. Refer to Metalcraft Roofing's Installation Details and loadspan and fixing tables for product limitations. (refer REDCO ENGINEERING report)
- Specification of MET-THERM® / KAHU® into SED projects outside the scope of NZMRM Code of Practice will require sign off and a project specific PS1 from a professional engineer that the project satisfies the project design loads.
- To be used in situations where there are no dissimilar metals or compatibility issues as per NZMRM Code of Practice and Table 20 E2/AS1.
- When installed as a roof cladding, to be laid to a minimum pitch of top sheet profile - KAHU® has a minimum pitch of 3 degrees after deflection.
- COLORSTEEL® MAXAM™ DRIDEX® is permitted to the external top sheet and used as an additional layer of condensation management, however the specification of DRIDEX® does not eliminate the underlay positioned above the PIR Boards as shown in Metalcraft Roofing's Installation Details. Compliance of DRIDEX® is as per Codemark Certificate, available to download on: www.colorsteel.co.nz
- Should be used within the bounds of MET-THERM® product literature, unless supported by design from a suitably qualified design Engineer or Architect / Designer.
- The correct steel and coating system is dependent on the environments categories. COLORSTEEL® ALTIMATE® would require specific design - consult Metalcraft Roofing - Technical Support.
- Suitable for mechanically ventilated commercial buildings only, for residential buildings please consult Metalcraft Roofing's - Technical Support.
- MET-THERM® / KAHU® is to be used only in buildings where a mechanical ventilation system is designed to prevent internal moisture loads from entering the MET-THERM® / KAHU® built up roof system. Refer independent E3 compliance report from BEO available to download from: <https://www.metalcraftgroup.co.nz>
- The Installer is responsible to ensure that the bottom liner deck and all junctions laps, fixings and penetrations are fully sealed with vapour barrier tape as per Metalcraft's product specification. and ensure all gaps are fully sealed with vapour barrier tape, No unsealed gaps are allowed in the bottom liner and or no unsealed gaps are allowed at junctions, abutments, penetrations and fixings etc.
- Not suitable for use in high humidity internal environments.
- Hot pipes and multi layer skylights are outside the scope and limitations of the MET-THERM® / KAHU® systems. literature - Consult Metalcraft Roofing's - Technical Support.
- No penetrations can be installed after completion of roof.

DESIGN REQUIREMENTS THAT WOULD SUPPORT THE APPROPRIATE USE OF THE BUILDING PRODUCT

- The Architect/ Designer / Engineer responsible for the project is responsible for ensuring that Metalcraft Roofing's MET-THERM® / KAHU® is suitable for the intended application and must verify that the design and the use complies with the NZBC.
- A project specific PS1 is required by Professional Engineer to satisfy B1.
- Design and installation is as per the relevant NZ Building Code Clauses, NZS 3604:2011, NZMRM Code of Practice and alternative details complying with the "4 D's" (Deflection, Draining, Drying and Durability) will also comply with the performance requirements of NZ Building Code.
- MET-THERM® / KAHU® profile dimensions are outside the scope of E2/AS1, however this document can still be referenced and used when evaluating compliance with the NZ Building Code and flashing cover dimensions.
- To be used in situations where there are no dissimilar metals or compatibility issues as per NZMRM Code of Practice and Table 20, 21 & 22 of E2/AS1.
- Buildings that comply with NZS 3604:2011 and building height up to three storeys or 10 m.
- Buildings above 10m in SED require sign off from an engineer that loadspans and fixings are suitable for the intended use.
- Buildings designed in accordance with NSZ 1170:2:2002.
- Timber framed construction in accordance with NZS 3604:2011. When using timber structure the timber width and fixings needs to be signed off by a Professional Engineer. Refer Metalcraft Roofing - Technical Support.
- Steel framed structures in accordance with NASH Standard Part 1:2016 Design Criteria - Alternative Solution and NASH Standard Part 2:2019 Light Steel Framed Buildings.
- Design and install in accordance with Metalcraft Roofing's MET-THERM® product and supporting independent literature.
- Temperatures of dark colours are higher than those of lighter colours. Darker colours will thermally expand more. Thermal expansion of metal roofs is covered in the NZMRM Code of Practice. The MBIE document on roof cladding advises that noise from thermal expansion is normal and should be expected. Refer to MBIE -Guide to tolerances, materials and workmanship in new residential construction 2015
- Internal steel liner must always be inside of the insulation layer of the external envelope to eliminate thermal bridging and reduce condensation. Refer Metalcraft installation details.
- The correct specification of PIR Board depends on the fire code requirements and if the product needs to satisfy internal spread of flame. Refer Metalcraft Roofing - Technical Support.
- The correct steel and coating system is dependent on the environments categories.
- COLORSTEEL® ALTIMATE® would require specific design. Consult Metalcraft Roofing - Technical Support.

INSTALLATION REQUIREMENTS

Installation should be carried out by suitably qualified practitioners whom have a proven history of successful built up warm roof installations. A clear understanding and installation experience of vapour barriers is essential and the importance of correct installation. It is imperative that each component of the MET-THERM® / KAHU® built up roof system is installed accordingly to fulfill the requirements of the warranty.

Installation of MET-THERM® / KAHU® should be in accordance with NZMRM code of practice, RANZ installation guides and Metalcraft Roofing's MET-THERM® / KAHU® installation details and installation guide and also third party installation literature for items not manufactured by Metalcraft.

www.metalroofing.org.nz
<https://www.ranz.co.nz/>
www.metalcraftgroup.co.nz

SYSTEM WARRANTY, MAINTENANCE & TERMS AND CONDITIONS OF USE.

Metalcraft offer a system warranty for the MET-THERM® / KAHU®, this can be downloaded from:

www.metalcraftgroup.co.nz

System warranties are subject to maintenance and terms and conditions:

www.metalcraftgroup.co.nz

IS THE BUILDING PRODUCT/BUILDING PRODUCT LINE SUBJECT TO A WARNING OR BAN UNDER SECTION 26 OF THE BUILDING ACT 2004:

NO

Metalcraft Roofing's MET-THERM® / KAHU® profile is not subject to a warning or ban under the Building Act 2004.

SUPPORTING INFORMATION

The following documents can support demonstration of compliance of Metalcraft Roofing's MET-THERM® / KAHU® profile with the NZ Building Code.

Building Act 2004

www.legislation.govt.nz

NZBC relevant clauses and acceptable solutions
NZS 3604:2011

www.building.govt.nz

Cited standards

www.standards.govt.nz

NZMRM Code of Practice

www.metalroofing.org.nz

Metalcraft Roofing's MET-THERM® Product Guide.
Metalcraft Roofing's MET-THERM® Installation Guide.
Metalcraft Roofing's MET-THERM® System Warranty and Terms and Conditions.
Metalcraft Roofing's MET-THERM® / KAHU® Installation Details.
Fixing Tables as per REDCO Engineering documentation.
E3 Compliance Report -as per BEO report.

Download from:

www.metalcraftgroup.co.nz

Branz Fire test report, certificate and Branz Opinion and details available on request if internal spread of flame is required.

[COLORSTEEL® Product and Technical Information.](#)

www.colorsteel.co.nz

New Zealand Steel's Quality management system conforming to ISO 9001:2015 and assessed by Telarc.

New Zealand's Steel's Environmental Management system conforming to ISO 14001:2015

www.nzsteel.co.nz

PLACE OF METALCRAFT KAHU®
MANUFACTURE

NEW ZEALAND

Metalcraft KAHU® is manufactured from the following Metalcraft Roofing branches and available nationwide from all Metalcraft Roofing branches.

METALCRAFT ROOFING -HAMILTON
9 Earthmover Cres, Burbush, Hamilton
07 849 3807
sales.hamilton@metalcraftroofing.co.nz

METALCRAFT ROOFING -CHRISTCHURCH
85 Columbia Ave, Hornby, Christchurch
03 349 7350
sales.christchurch@metalcraftroofing.co.nz

METALCRAFT BRANCHES THAT CAN SUPPLY
MET-THERM® / KAHU®

METALCRAFT ROOFING -WHANGAREI
42-44 Rewa Rewa Road, Whangarei
09 470 0870
sales.whangarei@metalcraftroofing.co.nz

METALCRAFT ROOFING - AUCKLAND HOBSONVILLE
25 -27 Westpoint Drive, Hobsonville, Auckland
09 444 1813
orders.ns@metalcraftroofing.co.nz

METALCRAFT ROOFING -AUCKLAND EAST TAMAKI
24-26 Trugood Drive East Tamaki, Auckland
09 273 2820
orders.akl@metalcraftroofing.co.nz

METALCRAFT ROOFING -HAMILTON
9 Earthmover Cres, Burbush, Hamilton
07 849 3807
sales.hamilton@metalcraftroofing.co.nz

METALCRAFT ROOFING -TAURANGA
42 Poturi St, Tauriko, Tauranga
07 575 7032
sales.tauranga@metalcraftroofing.co.nz

METALCRAFT ROOFING -NEW PLYMOUTH
218 De Havilland Drive, Bell Block, New Plymouth
06 755 2113
sales.newplymouth@metalcraftroofing.co.nz

METALCRAFT ROOFING -HASTINGS
1454A Omahu Road, Hastings
06 873 9020
sales.hastings@metalcraftroofing.co.nz

METALCRAFT ROOFING -ROTORUA
15 Monokia Street, Rotorua
07 350 1138
sales.rotorua@metalcraftroofing.co.nz

METALCRAFT ROOFING -PALMERSTON NORTH
76 Malden Street, Palmerston North
06 358 9149
sales.palmerston@metalcraftroofing.co.nz

METALCRAFT ROOFING -WELLINGTON
201 Gracefield Rd, Seaview, Lower Hutt
04 566 2253
orders.wgtn@metalcraftroofing.co.nz

METALCRAFT ROOFING -CHRISTCHURCH
85 Columbia Ave, Hornby, Christchurch
03 349 7350
sales.christchurch@metalcraftroofing.co.nz

METALCRAFT ROOFING -CROMWELL
20 McNulty Road, Cromwell
03 445 4180
sales.cromwell@metalcraftroofing.co.nz

LEGAL ENTITIES:

STEEL BUILDING PRODUCTS CENTRAL LIMITED

NZBN: 9429032296389
Level 1, 30 Highbrook Drive, East Tamaki Auckland

TRADING NAME / ADDRESS FOR SERVICE:
Metalcraft Roofing - Hamilton
Metalcraft Roofing - New Plymouth

STEEL BUILDING PRODUCTS NORTHERN LIMITED

NZBN: 9429032461398
Level 1, 30 Highbrook Drive, East Tamaki Auckland

TRADING NAME / ADDRESS FOR SERVICE:
Metalcraft Roofing - East Tamaki
Metalcraft Roofing - Whangarei

STEEL BUILDING PRODUCTS SOUTHERN LIMITED

NZBN: 9429036306183
Level 1, 30 Highbrook Drive, East Tamaki Auckland

TRADING NAME / ADDRESS FOR SERVICE:
Metalcraft Roofing - Hastings
Metalcraft Roofing - Palmerston North
Metalcraft Roofing - Wellington

STEEL BUILDING PRODUCTS SOUTH ISLAND LIMITED

NZBN: 9429032296303
Level 1, 30 Highbrook Drive, East Tamaki Auckland

TRADING NAME / ADDRESS FOR SERVICE:
Metalcraft Roofing - Cromwell
Metalcraft Roofing - Christchurch

METAL LINE ROOFING LIMITED

NZBN: 9429031709583
Level 1, 30 Highbrook Drive, East Tamaki Auckland

TRADING NAME / ADDRESS FOR SERVICE:
Metalcraft Roofing - Hobsonville
Metalcraft Roofing - Rotorua
Metalcraft Roofing - Tauranga

DISCLAIMER

This Building Product Information Sheet must be read in conjunction with all cited documents.

Metalcraft Roofing states that the product will, if installed in accordance with the technical data, specifications, and advice prescribed by Metalcraft Roofing comply with the relevant provisions of the building code and satisfy our obligation to meet S14G of the Building Act 2004.

It remains the responsibility of all other professional parties to ensure they satisfy their own obligation of the Building Act 2004.

As part of Metalcraft Roofing's policy of continued improvement, final specifications may vary from those contained in this publication. The company reserves the right at any time and without notice to change the design, materials or features and withdraw products from the market without incurring any liability whatsoever.

STEEL SOURCED FROM

COLORSTEEL®

Metalcraft Roofing's KAHU® is manufactured from steel from New Zealand Steel:

New Zealand Steel Ltd, 131 Mission Bush Road Glenbrook 2681, Auckland New Zealand.

www.nzsteel.co.nz

OTHER PRODUCTS SUPPLIED BY
METALCRAFT ROOFING

Metalcraft Roofing also sell other products to complement the installation of KAHU®

Please note the correct selection of these products for the project application is the responsibility of the architect/ designer.

All products where demonstration of performance is required to satisfy the NZ Building Code is the responsibility of the product manufacturer or importer of the following items: Metalcraft take on no responsibility whatsoever

Please liaise with the following companies for information:

SEALANTS, WASHERS, AQUASEALS, AQUADAPT, RIVETS, FASTENERS, TOUCH UP PAINTS, LITTLE GRIPPERS.

Key Supplier:
Konnect Fastening Systems®

<https://www.konnectfasteningsystems.co.nz/>

UNDERLAY

Metalcraft Roofing can supply various underlays, please note Key Suppliers include:

DriSpace - <https://www.drinspace.co.nz/>

Thermakraft - <https://www.thermakraft.co.nz/>

MET-THERM BATTEN

<https://www.mckechnie.co.nz/>

PIR BOARD

PIR Insulation board is available in three options: in multiple thicknesses to suit the required R Value.

Outright Insulation IKO Enertherm

<https://www.outright.co.nz/>

METECNO REQUIRED FOR BRANZ REPORT

Metecno PIR - <https://www.metecnopir.com.au/>



Metalcraft Roofing are members of the Roofing Association, New Zealand and the New Zealand Metal Roofing Manufacturers Incorporated.