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SmartTray Roofing (AMFSTR)
BPIR Product Statement – Class 1

1.Company Details

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2.Product Names in the SmartTray Roofing range

Standing Seam, Lock Seam Panel, Flatlock, Batten Cap, Snaplock.

3.Product Description

The **Smart**Tray Roofing Systems are a selection of tray roofing profiles that are manufactured in our workshop in Takanini in aluminum, steel, copper, zinc, and bronze. Lock Seam is however only available in aluminium and steel.
They are available in a range of colours and finishes. These can be found at www.archform.co.nz

Material options:

Copper:	DHP Alloy C122
Aluminium:	Euramax Aluminium – 5754 Series H42 or 5005 Series H44
Aluminium:	PCC Alumigard – 5005 or 5052 Marine Grade Temper H34
Bronze:	Alloy 95/5 Half Hard
Steel:	PCC Magnaflow and ZinaCore
Zinc:	Quartz Plus or Anthra by VM Zinc

Included in the roofing system are sub-components flashings required for installation; these include:

Drip edge, under-ridge, hip, ridge, barge, apron, and various customisable alternatives.

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4.Relevant Building Code clauses

- B1 Structure: Performance clauses B1.3.1, B1.3.2, B1.3.3 (b, c, f, g, h, j), B1.3.4
- B2 Durability: Performance clause B2.3.1 (b)
- E2 External Moisture: Performance clauses E2.3.1, E2.3.2, E2.3.7
- F2 Hazardous Building Materials: Performance clause F2.3.1
- G12 Water Supplies: Performance clause G12.3.2

5.How the products contribute to compliance/ intended use

For use as a roof cladding on residential and commercial buildings where there is no need for a traffic-able surface.

B1 Structure
B1.3.1 – B1.3.4
All **Smart**Tray roofing systems are lightweight as they have thin base metal thicknesses and are built using low density materials. This benefits the sub-structure beneath the product as it is a lightweight system.

The **Smart**Tray system allows for thermal expansion and contraction of metal sheets to safeguard the possibility of rupturing, becoming unstable or collapsing. Thus, complying with NZBC E2/AS1: 8.4.10. **Smart**Tray products are mechanically fixed using hidden clips which bind the roof to purlins or the substrate below. The fixing system is hidden from the environment, thus increasing durability and lifespan. Refer to the design and installation requirements for further information.

Architectural Metalformers do not operate in areas where snowfall is common. The roofing materials have ductile properties and therefore in the event of an impact there would be no arising brittle nature and thus more resistant to probability of rupture or collapse.

Architectural Metalformers use the appropriate fixings for wind zone (R) and topographical classification (T) of the site and building height as required by NZS 3604 and the wind loads on various wall areas as given by NZS 4203 or AS/NZS 1170.2 Specific loading at corners and the periphery of the roof are allowed for as these are where localised pressure factors apply.

Refer to Architectural Metalformers written specifications for more details.

B2: Durability
B2.3.1
The durability is dependent on materials and the environment. The minimum durability warranty is 15 years for all product materials. Refer to Architectural Metalformers warranty terms for each individual warranty report.

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E2: External Moisture
E2.3.1, E2.3.2, E2.3.7
The roofs shed precipitated moisture. The **Smart**Tray system contains long tray roofing without joins from the ridge to the eaves and therefore there is no potential route for external moisture to digress into the building structure. The sheets ends are formed by bending rather than cutting again reducing the possibility of leaks.

Architectural Metalformers only provide services to Zone N0 in Section 15 of NZSS 3604:2011 and therefore there is no compliance necessary regarding snow loading.

Refer to Architectural Metalformers written specifications for more details.

F2 Hazardous building materials
F2.3.1
As stated in E2/AS1, accumulated contaminants are washed away by rain and therefore do not subside and give rise to harmful concentrations at the surface of the material.

G12 Water supplies
As stated by BRANZ, metal roofs are safe to collect rainwater from, but a check should be done to ensure there is no lead, chromium, or cadmium in the roof, flashings, soldering or paint. Architectural Metalformers do not use these elements in their products.

6.Limitations on use of SmartTray Roofing

Only Architectural Metalformers trained installers are qualified to install the product range. All repairs are to be first directed to Architectural Metalformers for review prior to undertaking any repair work.

All limitations, constraints and requirements are provided in the corresponding Architectural Metalformers written specifications for the various profiles and material types.

7.Design requirements that would support the appropriate use of the range

Standing Seam and Batten Cap:
Geometrical Properties:

Width:	510mm standard (optional width variation of 228mm - 510mm dependent on coil size)
Length:	0.3m – 27.0m depending on material expansion and contraction properties
Pitch angle:	3 – 90 degrees.
BMT:	0.55mm – 0.9mm

If part of a system, a description or list of other components:
Used with a H3 treated 15mm-19mm tongue and groove or square-edged plywood substrate. 403 or 405 ThermaKraft Covertek underlay installed over plywood.

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The system is installed with corresponding Architectural Metalformers flashings; these include Drip edge, under-ridge, ridge, barge flashings as well as other custom flashings dependent on specific project requirements.

Other properties:

Aluminium and steel roofs are available in colours provided by respective suppliers i.e. PCC and Euramax through Ambro Metals. Copper, zinc, and bronze are not painted and oxidise accordingly.

Lock Seam:

Geometrical Properties:

Width: 502mm standard
Length: 0.3m – 12.0m depending on material
Pitch angle: 3 – 90 degrees.
BMT: 0.55mm-0.9mm depending on material.

If part of a system, a description or list of other components:

Installed on H3.1 purlins 90mm x 45mm minimum at maximum spacing between centres of 450mm. Thermakraft Covertek 407 installed on purlins 6mm corflute spacers on-top of purlins. The system is installed with corresponding Architectural Metalformers flashings; these include Drip edge, under-ridge, ridge, barge flashings as well as other custom flashings dependent on specific project requirements.

Other properties:

Aluminium and steel roofs are available in colours provided by respective suppliers i.e. PCC and Euramax through Ambro Metals.

Flatlock Panel:

Geometrical Properties:

Width: 400mm standard
Length: 0.3-4.0m depending on material
Pitch angle: Greater than 25 degrees
BMT: 0.55mm-2mm depending on material

If part of a system, a description or list of other components:

Used with a H3 treated 15mm-19mm tongue and groove or square-edged plywood substrate. Proclima Solitex Adhero adhesive backed barrier or Solitex UM Connect with interwoven drainage matt.

The system is installed with corresponding Architectural Metalformers flashings; these include Drip edge, under-ridge, ridge, barge flashings as well as other custom flashings dependent on specific custom jobs.

Other properties:

Aluminium and steel roofs are available in colours provided by respective suppliers i.e. PCC and Euramax through Ambro Metals. Raw aluminium is available in all New Zealand powder coater colours.

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Snap Lock:
Geometrical Properties:
Width: 305mm standard
Length: 0.3m – 12.0m depending on material expansion and contraction properties
Pitch angle: 5 – 90 degrees.
BMT: 0.55mm – 0.7mm.
If part of a system, a description or list of other components:
Used with a H3 treated 15mm-19mm tongue and groove or square-edged plywood substrate. 403 or 405 ThermaKraft Covertek underlay installed over plywood.
The system is installed with corresponding Architectural Metalformers flashings; these include Drip edge, under-ridge, ridge, barge flashings as well as other custom flashings dependent on specific project requirements.
Other properties:
Aluminium and steel roofs are available in colours provided by respective suppliers i.e. PCC and Euramax through Ambro Metals. Copper and zinc are not painted and oxidise accordingly.

8.Installation requirements

Only Architectural Metalformers trained installers are qualified to install this range.
Refer to our written specification sheets for further information on installation.

ThermaKraft product link:
https://www.thermakraft.co.nz/products-technical-information

9. Maintenance requirements

The maintenance required is different for each material. Linked below are the various material maintenance requirements.

https://www.colorcote.co.nz/product-range/magnaflow/
https://www.colorcote.co.nz/product-range/alumigard/
https://euramaxcladding.com/our-products/
https://duluxpowders.co.nz/colour/

Architectural Metalformers provide warranty for copper and zinc. Copper has a warranty of 20 years. Zinc has a warranty of 20 years as Architectural Metalformers are an accredited VM Zinc installer.

10. Declaration – Ban and Warnings
Architectural Metalformers have never been subject to bans or warnings under Section 26 of the New Zealand Building Act 2004.