



THERMOSASH

ENCLAD™

Rainscreen Support Systems

PRODUCT DISCLOSURE INFORMATION



Thermosash
BUILDING ENVELOPE SOLUTIONS™

Thermosash Commercial Ltd

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CLASS 2

ENCLAD™ Rainscreen Systems

Product Disclosure Information

Version: V1

Product Name	ENCLAD Rainscreen System
Product Line <i>(the product line from which the product is customised)</i>	ENCLAD Rainscreen System
Product Identifier	EN01, EN02, EN03, EN04, EN05-FF, EN06

Place of manufacture	New Zealand <i>Designed, Engineered, Fabricated</i>
Legal and trading name of the manufacturer(s):	Thermosash Commercial Ltd
Address of service (Head Office):	158 Central Park Drive, Henderson, Auckland, 0610, New Zealand
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1 PRODUCT DESCRIPTION

ENCLAD Rainscreen Support Systems designed to accept a wide range of cladding materials and are project specifically engineered to meet the specified requirements and NZ Building Code.

2 INTENDED USE

2.1 A1 Building Use Classification

- Housing
- Communal residential
- Communal non-residential
- Commercial
- Industrial
- Ancillary

2.2 A3 Building Importance Levels

- Importance level 1
- Importance level 2
- Importance level 3
- Importance level 4

2.3 Building Type

- Low-rise
- Mid-rise
- High-rise
- Specific design

2.4 Building Part

- Building envelope
- Exterior façade
- Interior façade
- Rainscreen

2.5 Building Location

- Suitable for New Zealand Wind Zones*
- Suitable for New Zealand Climate Zones*
- Suitable for New Zealand Corrosion Zones*
- Suitable for New Zealand Seismic Risk Areas*
- Suitable for New Zealand Building Importance Level*

*Suitable to specific design, building design and specific test parameters

3 OTHER PROPERTIES

3.1 Application And Functionality

The systems support a wide range of cladding types and cavity depth requirements, including but not limited to:

- Extruded Aluminium Plank (Horizontally Laid)
- Extruded Aluminium Plank (Vertically Laid)
- Solid Aluminium
- Perforated Aluminium
- Alucolux®
- Stainless Steel
- Copper
- Solid Zinc
- High Pressure Laminate (HPL)
- Terracotta Tiles / Planks (Horizontally Laid)
- Terracotta Tiles / Planks (Vertically Laid)
- Porcelain Tiles
- Glassfibre Reinforced Concrete (GRC)

ENCLAD Rainscreen Support Systems adjust to accommodate insulation / firestops in the rainscreen cavity and take up building construction tolerance aiding speed of installation.

3.2 EN01

- Non-combustible.
- Accommodates insulation/firestops within cladding cavity zone.
- Adjusts to take up building tolerance & plumb level.
- Suitable for horizontal and vertical cladding panel orientation.
- Suitable for visible or secret fixed cladding panels.
- Mechanically fixed cladding panels for safety.

3.3 EN02

- Non-combustible.
- Accommodates insulation/firestops within cladding cavity zone.
- Adjusts to take up building tolerance & plumb level.
- Discrete fixing method

3.4 EN03

- Non-combustible.
- Accommodates insulation/firestops within cladding cavity zone.
- Adjusts to take up building tolerance & plumb level.
- Suitable for multiple cladding types.
- Secret fixed cladding panels.

3.5 EN04

- Non-combustible.
- Accommodates insulation/firestops within cladding cavity zone.
- Adjusts to take up building tolerance & plumb level.
- Suitable for various medium to heavyweight cladding types.
- Secret fixed cladding panels
- Fast to install on-site

3.6 EN05-FF

- Non-combustible.
- Adjusts to take up building tolerance & plumb level.
- Suitable for various medium to heavyweight cladding types.
- Spans floor to floor
- Fast to install on-site

3.7 EN06

- Non-combustible.
- Fast to install on-site

3.8 ADJUSTABLE SYSTEM CAVITY RANGE

CLADDING TYPE	EN01	EN02	EN03	EN04	EN05-FF	EN06
Extruded Aluminium Plank (Horizontally Laid)	75mm ^{*1} 95mm ^{*2} 120mm ^{*3}	N/A	N/A	N/A	Contact Thermosash Commercial	Contact Thermosash Commercial
Extruded Aluminium Plank (Vertically Laid)	75mm ^{*1} 95mm ^{*2} 120mm ^{*3}	N/A	N/A	N/A	Contact Thermosash Commercial	Contact Thermosash Commercial
Solid Aluminium Alucolux® Perforated Aluminium Stainless Steel Copper Solid Zinc	75mm ^{*1} 95mm ^{*2} 120mm ^{*3}	N/A	N/A	119mm ^{*1} 128mm ^{*2} 153mm ^{*3}	121-146mm	Contact Thermosash Commercial
High Pressure Laminate (HPL) Facades	75mm ^{*1} 95mm ^{*2} 120mm ^{*3}	N/A	Contact Thermosash Commercial	125mm ^{*1} 137mm ^{*2} 162mm ^{*3}	125-150mm	Contact Thermosash Commercial
Terracotta Tiles / Planks (Horizontally Laid)	N/A	82mm ^{*1} 105mm ^{*2}	N/A	N/A	Contact Thermosash Commercial	Contact Thermosash Commercial
Terracotta Tiles / Planks (Vertically Laid)	N/A	N/A	107mm ^{*1} 132mm ^{*2} 152mm ^{*3}	N/A	Contact Thermosash Commercial	Contact Thermosash Commercial
Porcelain Tiles	N/A	N/A	101mm ^{*1} 111mm ^{*2} 136mm ^{*3}	N/A	128-152mm	Contact Thermosash Commercial
GRC	N/A	N/A	N/A	N/A	158-183mm	115-140mm

*1 To suit 50mm insulation; *2 To suit 75mm insulation; *3 To suit 100mm insulation

4 INTEGRATED ELEMENTS

4.1 SOLID SHEET METALS

Solid sheet metals come in a range of materials and finishes that provide great architectural results with minimal maintenance requirements. These lightweight durable non-combustible panels can be folded into 3D shapes, curved, laser-cut, perforated or expanded into a mesh effect depending on project design requirements. Solid aluminium panels can be pre-finished in selected colour, anodised or powder coated.

- Finishes

Colours: Multiple powder coat colours, anodised, woodgrain sublimations.

Textures: Yes

Perforations: Yes

- Fixing Methods

Visible Fixed - EN01

Hook On Secret Fixed - EN04

Hook On Secret Fixed - EN05-FF (support system spans floor to floor)

4.2 EXTRUDED ALUMINIUM

These non-combustible extrusions are strong and great for low-level high impact zones look great when powdercoated in a Metwood timber effect to mimic natural timber. Planks interlock concealing fixings to provide a clean architectural effect. Ideal for refurbishments where space is limited due to adjacent boundary restrictions.

- Finishes

Colours: Multiple powder coat colours, woodgrain sublimations.

Textures: No

Perforations: Yes

- Fixing Methods

Visible Fixed - EN01

4.3 HIGH PRESSURE LAMINATE (HPL)

High Pressure Laminates are tough and lightweight, come in a wide range of coloured decors and provide great UV performance. These large format panels are flat with a clean edge and can face fixed with colour matched rivets or secret fixed. Panels are available in several size formats and can be machined to suit project-specific requirements. Panel attachment methods include visible fixing or secret fixing depending on panel thickness. Thermosash Commercial can advise on project-specific suitability of use for these products in relation to NZ Building Codes.

- Finishes

Colours: Numerous solid colour decors, natural timber veneers/decors, digitally printed images.

Textures: N/A

Perforations: Yes

- Fixing Methods

Visible Fixed - EN01

Hook On Secret Fixed - EN04

Hook On Secret Fixed - EN05-FF (support system spans floor to floor)

4.4 TERRACOTTA

Terracotta Panels are usually made of weathered clay, extruded from vacuum chambers and fired in high-temperature roller kilns. Terracotta panels are known for design flexibility, durability and sustainability. The enriched colours, textures and shapes offer multiple design options.

- Finishes
Colours: Multiple through colours, Glazed options
Textures: Yes
Perforations: N/A
- Fixing Methods & Support Systems
Hook On Secret Fixed - EN02 (horizontally laid)
Hook On Secret Fixed - EN03 (vertically laid)

4.5 PORCELAIN

Porcelain is a non-combustible product offering exceptional aesthetics and exceptionally low maintenance. Large scale digital printing techniques using coloured silica sand and specialist oxides can create surprising results, woodgrain, solid colours, concrete natural stones and even metallic lookalikes. These products can also be incorporated into Curtain Walling Systems provided by our parent company, Thermosash.

- Finishes
Colours: Multiple finishes including printed images
Textures: Yes
Perforations: Yes
- Fixing Methods & Support Systems
Hook On Secret Fixed - EN03
Hook On Secret Fixed - EN05-FF (support system spans floor to floor)

4.6 GLASS FIBRE REINFORCED CONCRETE

Glass fibre Reinforced Concrete (GRC) is a highly versatile and durable, low maintenance, non-combustible building material with almost limitless possibilities for shape, colour and texture that can be utilised in a range of applications. GRC panels are ideal for applications where a lightweight alternative to precast is required. Thermosash Commercial has committed to the future of GRC in the New Zealand facade industry.

- Finishes
Colours: Multiple through colours
Textures: Yes
Perforations: Yes
- Fixing Methods & Support Systems
Hook On Secret Fixed - EN06

5 COMPOSITION

- ENCLAD Rainscreen Support Systems are extruded from 3mm solid aluminium as a minimum to meet (B2) structure compliance, powdercoated (Duralloy) for enhanced (B2) Durability compliance.
- Fixed with stainless steel 304/316 fixings

6 CONDITIONS OF USE

6.1 INSTALLATION REQUIREMENTS

- Must be installed by an approved Thermosash Commercial / Thermosash Group Installer.
- We require the timber /support structure (dwangs and structural nogs) to be positioned to suit our panel set-out for fixing purposes free of charge to Thermosash Commercial Ltd. This structure must be adequate for the standard fixings/loadings that will be imposed upon it by our products.

6.2 DESIGN REQUIREMENTS

- Must be engineered, designed and supplied by Thermosash Commercial / Thermosash Group approved contractors.
- Thermosash Commercial Ltd has engineered our product to maximum panel deflections of 1/60 for visible cladding under SLS loading, which equates to NZS 4223.
- The critical weathering line relies on the design and integrity of the Rigid Air Barrier (RAB) with fully sealed joints installed by others.

7 BUILDING CODE PERFORMANCE

7.1 RELEVANT CLAUSES

B1 Structure

- B1.3.1, B1.3.2, B1.3.3 (F, H, M), B1.3.4

B2 Durability

- B2.3.1 (B)

C3 FIRE - AFFECTING AREAS BEYOND THE FIRE SOURCE

- While we are not fire engineers and do not engage in the fire design of buildings, our products can be tailored to SUPPORT compliance with clause c3. We recommend collaborating with a fire engineer to ensure proper customisation and adherence to fire safety requirements.
- We can provide a PS3 - Construction

E2 External Source

- E2.3.2, E2.3.5, E2.3.7

H1 Energy Efficiency

- Our systems accommodate cavity and packers/isolators at bracket locations.

7.2 KEY NEW ZEALAND STANDARDS

AS/NZS 1170 - Structural Design Actions

AS/NZS 1170.0 - Structural Design Actions - General Principles

AS/NZS 1170.2:2011 - Structural Design Actions - Wind Actions

AS/NZS 1170.5 - Structural Design Actions - Earthquakes Actions - New Zealand

AS/NZS ISO 9001 - Quality Management Systems - Requirements

AAMA 2603 - Voluntary Specifications, Performance Requirements and Test Procedures for Pigmented Organic Coatings on Aluminium Extrusions and Panels (with coil coating appendix)

AAMA 2604 - Voluntary Specifications, Performance Requirements and Test Procedures for High Performance Organic Coatings on Aluminium Extrusions and Panels

8 COMPLIANCE STATEMENT

Thermosash Commercial expertly engineers and design each bespoke curtainwall to the design and performance requirements of the individual project. We ensure that all compliance claims are backed by a comprehensive set of documents, including a PS1 and PS3.

8.1 ACCEPTABLE SOLUTIONS AND VERIFICATION METHODS

NZBC B1 STRUCTURE – B1.3.1, B1.3.2, B1.3.3, B1.3.4

Compliance: B1/VM1 (NZS1170), B1/AS1 (NZS4223 Part 1, 3 & 4)

Thermosash Commercial Ltd has engineered our product to maximum panel deflections of 1/60 under SLS loading.

ENCLAD™ RAINSCREEN SUPPORT SYSTEMS are extruded from 3mm solid aluminium and incorporate slotted windload and fixed deadload connections fixed at required centres for loadings to NZS1170 supporting extruded frames with a maximum deflection span of 250 or a maximum ± 20 mm.

NZBC Clause B2 Durability – B2.3.1

Compliance: B2/VM1 (In service history)

ENCLAD™ RAINSCREEN SUPPORT SYSTEMS extrusions are Duralloy powdercoated for enhanced durability. Unpainted stainless-steel fixings will be provided in all exposed application 316 grade where visible, 304 grade where weathered but not exposed, and galvanised on internal faces.

NZBC Clause C3 Fire affecting areas beyond the source – C3.5, C3.6, C3.7

Compliance: Classified as non-combustible materials.

While we are not fire engineers and do not engage in the fire design of buildings, our products can be tailored to support compliance with clause c3. We recommend collaborating with a fire engineer to ensure proper customisation and adherence to fire safety requirements.

ENCLAD™ RAINSCREEN SUPPORT SYSTEMS are extruded from 3mm solid aluminium with coating thickness of less than 1mm. They can accommodate fire stops vertically and horizontally in cavity zone.

NZBC Clause E2 External Moisture – E2.3.3, E2.3.5, E2.3.7

Our systems may include perforations or open jointed designs. The critical weathering line relies on the design and integrity of the Rigid Air Barrier (RAB) with fully sealed joints installed by others to BRANZ recommended detail. We recommend the use of self-adhered vapour permeable air barrier membranes which Thermosash Commercial can provide and install if required.

NZBC Clause H1 Energy Efficiency – If required on a project-to-project basis

Our support system is project specifically engineered to meet specification requirements.

9 WARNINGS AND BANS

9.1 SUBJECT TO ANY WARNINGS OR BANS

None.

10 DOCUMENTATION

10.1 DESIGN

The full range of design drawings are available for download from our website at

<https://www.thermosash.co.nz/downloads-resources/cad-downloads/rainscreen-downloads/rainscreen-support-systems/>

- [High Pressure Laminate Support System](#)
- [Solid Sheet Support System](#)
- [Extruded Aluminium Plank Support System](#)
- [Porcelain Tiles Support System](#)
- [Terracotta Tiles Support System](#)
- [Glass Reinforced Concrete Support System](#)

10.2 MAINTENANCE

Cleaning is required in conjunction with Thermosash Group cleaning operations of the external façade, glass and painted aluminium components. Any repair work or servicing/maintenance of mechanical components must be undertaken by Thermosash Commercial or Thermosash Group representatives.

Regular cleaning to A.A.M.A. 610-1-1979 standard (minimum requirement at no less than 4 monthly intervals) and servicing/maintenance of mechanical components.

Annual maintenance inspections should be carried out to ensure that ventilation and drainage pathways remain clear, that rainwater goods are complete and in good order, and that flashings, seals and fastenings are in place and secure. Damaged panels should be replaced as soon as is practicable, following the installer's instructions and observing all necessary health and safety precautions.

A maintenance manual is provided on completion of a project.

10.3 WARRANTY

The standard warranty is 10 years from the sectional/strata handover of our scope of work.

OUR BRANCHES

AUCKLAND

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Thermosash are members of:

