

Built for below grade: moisture-resistant XPS boards, R0.59-R2.94, up to 500 kPa, NZ stocked.

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Level of assurance needed to demonstrate NZ Building Code Compliance

Supporting documentation should include self-assessment and technical information by manufacturer



AccuThermax™ confirms that this minimum level of assurance has been met or exceeded by the following:

Accumen Shapes Ltd

[BPIR disclosure statement — Building \(Building Product Information Requirements\) Regulations 2022 - BPIR v1.1, Jul 2026](#)



The following information has been provided by AccuThermax™ demonstrating how this product complies with the [Building Product Information Requirements](#).



masterspec partner

Technical Statement

Product Class

CLASS 1

Product Description

Keeping floors warm and dry starts below the slab. AccuThermax™ XPS is a rigid closed-cell extruded polystyrene board, stocked and supported in New Zealand by Accumen Shapes Ltd, for the jobs where insulation has to carry load and live with ground moisture: under-slab and perimeter floors, retaining walls and below-grade work, masonry and concrete walls, and exterior walls and roofs behind claddings. Why specify AccuThermax XPS?

- R-values that do the H1 work: board-only R0.59 (20 mm) to R2.94 (100 mm) at 15 deg C, from declared design lambda 0.034 W/mK (AS/NZS 4859.1), underpinned by independent measurement (BRANZ DI17843-02, ASTM C518, measured; BEAL TR230910-1, measured; aged value by the slicing method).
- Real compressive numbers: 459 kPa at 10% strain independently measured on the 400 grade (WSP 1-LA052.00, AS 2498.3); 293 kPa manufacturer-declared on the 300 grade; 500 grade on request. - Moisture performance measured, not quoted: 23.1% by mass on removal after 24 h immersion, draining to 2.0% after 1 h (BEAL TR240208-1, ASTM C272 - the closed cells do not retain absorbed water); WVT 0.0193 g/(m2.24h) (BEAL TR240318-1, ASTM E96).
- Stays put: dimensional stability proven under thermal and humid aging (BEAL TR240214-5, ASTM D2126). - Formats that fit the job: square-edge 2400 x 600 mm boards, 20-100 mm thicknesses, three compressive grades, cut-to-size available.
- Straight talk on fire: XPS is combustible and holds no Group Number in bare form - reaction-to-fire of the installed system is achieved by the lining or cladding specified to C/AS1, C/AS2 or C/VM2.
- NZ stocked and supported: local stock, a batch number and production date on every unit, and Accumen technical support a phone call away.

TDS, SDS and BPIR disclosure are published; test reports are available to BCAs and specifiers on request, complete and unaltered, under written authorisation.

Scope of use

AccuThermax XPS is intended as thermal insulation where moisture resistance and compressive strength are required, in residential, commercial and light-industrial construction. Typical uses: under-slab and perimeter insulation to concrete floors (subject to the engineer's design); retaining-wall and below-grade insulation; insulation to masonry and concrete walls, internal or external, kept protected; exterior wall and roof insulation behind claddings or roof systems, including as continuous thermal-break sheathing within a drained, ventilated cavity.

Grade selection by duty: 300 grade for walls and general envelope duty; 400 grade for under-slab, perimeter and trafficked-floor duties; 500 grade for special applications, on request. Thickness (20-100 mm) is selected by the designer against the required construction R-value. Maximum continuous service temperature 75 deg C; the board softens at approximately 90 deg C.

Limitations: not a structural or bracing element. XPS is combustible and holds no Group Number in bare form; it must not be left as an exposed interior finish and must be protected by a compliant lining or cladding. Not suitable for permanent UV exposure. Avoid contact with aggressive solvents, fuels and solvent-based adhesives, which attack the board. Install and store in accordance with the AccuThermax XPS Technical Data Sheet and Safety Data Sheet.

New Zealand Building Code (NZBC)

Company Contact Details



Company:	Accumen Shapes Ltd
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The product will, if employed in accordance with the supplier's installation and maintenance requirements, assist with meeting the following provisions of the building code:

- **Clause B2 Durability:** Performance B2.3.1(b)

Pathway: in-service history of the material class assessed on B2/AS1 principles, supported by the independent test programme — Documents: AccuThermax XPS TDS v2.1 (Jul 2026); AccuThermax XPS BPIR v1.1 (Jul 2026) — URL: [accumen.co.nz product page](https://accumen.co.nz/product-page).

AccuThermax XPS has an expected service life of not less than 15 years when installed protected from weathering, UV and physical damage, and kept within its published service conditions (maximum 75 deg C continuous; free of contact with incompatible solvents), with the protective lining, cladding, membrane or slab maintained over the life of the element. Specified durability under NZBC B2 is project-specific and is assessed by the design professional for the element in which the board is installed.

- **Clause E3 Internal moisture:** Performance E3.3.1

E3.3.1 — Pathway: component contribution evidenced by independent test (alternative-solution support) — Documents: BEAL TR240208-1; BEAL TR240318-1 — Issued: 24 Oct 2024 (both) — URL: [accumen.co.nz product page](https://accumen.co.nz/product-page)

- **Clause F2 Hazardous building materials:** Performance F2.3.1

F2.3.1 — Pathway: HSNO classification status of product as supplied — Document: AccuThermax XPS Safety Data Sheet — Number: SDS v1 — Issued: May 2026 — URL: [accumen.co.nz product page](https://accumen.co.nz/product-page)

- **Clause H1 Energy efficiency :** Performance H1.3.1(a)

H1.3.1 — Pathway: H1/AS1 or H1/VM1 via calculation using declared design lambda to AS/NZS 4859.1 (system R-values to NZS 4214 / AS/NZS 4859.2) — Document: AccuThermax XPS Technical Data Sheet — Number: TDS v2.1 — Issued: July 2026 (rev. of April 2026) — Supporting: BRANZ DI17843-02 (11 Sep 2023); BEAL TR230910-1 (11 Oct 2023) — URL: [accumen.co.nz product page](https://accumen.co.nz/product-page)

Notes

B2.3.1(b): expected service life not less than 15 years when installed protected from weathering, UV and physical damage; basis is the long international in-service history of XPS in below-grade duty plus the product's independent test programme. Durability for specific elements (including under-slab, where 50 years may apply) is assessed by the designer.

E3.3.1: contributes thermal resistance within the envelope, limiting condensation risk; moisture behaviour independently measured (BEAL TR240208-1, TR240318-1).

F2.3.1: not classified as hazardous under the HSNO classification notice in the form supplied; refer SDS.

H1.3.1: contributes to envelope thermal resistance; use declared design lambda 0.034 W/mK at 15 deg C in construction R-value calculations to NZS 4214 / AS/NZS 4859.2. The product is a component within a building element; compliance of the installed system rests with the design professional.

Evidence

The product meets the requirements set out in the following documents, or relevant parts of cited standards within the documents:

H1 (thermal): AS/NZS 4859.1:2018 - declared design lambda 0.034 W/mK at 15 deg C; construction R-values to NZS 4214 and AS/NZS 4859.2 at system level. Measured basis: BRANZ DI17843-02 (ASTM C518, issued 11 Sep 2023; 0.0283 W/mK at 15 deg C, measured); BEAL TR230910-1 (ISO 8302 / ASTM C177, issued 11 Oct 2023; 0.0272 W/mK, measured); aged lambda 0.033 W/mK by the slicing method (Accumen record ITR-XPS-001).

Compressive: AS 2498.3 - WSP 1-LA052.00 (issued 13 Jun 2023; 400 grade 459 kPa at 10% strain, measured; 300 grade 293 kPa, declared).

E3 (moisture): BEAL TR240208-1 (ASTM C272, issued 24 Oct 2024; 23.1% by mass on removal, 2.0% after 1 h drainage, measured); BEAL TR240318-1 (ASTM E96, issued 24 Oct 2024; WVT 0.0193 g/(m2.24h), measured); BEAL TR240214-5 (ASTM D2126, issued 24 Oct 2024; measured).

B2: B2/AS1 basis - in-service history of the material class plus the programme above; 15-year expected life when protected.

F2: Safety Data Sheet (May 2026); not classified as hazardous under HSNO in the form supplied.

Test reports are available to BCAs and specifiers on request, complete and unaltered, under written authorisation.

Supporting Evidence

The product has and can make available the following additional evidence to support the above statements:



Accumen Shapes Ltd

[BPIR disclosure statement — Building \(Building Product Information Requirements\) Regulations 2022 - BPIR v1.1, Jul 2026](#)

Use in Service History

Extruded polystyrene has been in continuous international service for more than 60 years in below-grade, under-slab and inverted-roof duties, where closed-cell moisture resistance and compressive strength are the selection drivers; this in-service history is the basis of the B2 durability position. AccuThermax XPS is additionally supported by an independent New Zealand test programme: compressive strength and density measured by WSP Auckland (June 2023); thermal conductivity measured by BRANZ (September 2023) and corroborated by BEAL (October 2023); and a moisture suite - water absorption, water vapour transmission and dimensional stability under thermal and humid aging - completed by BEAL (October 2024), with aged thermal conductivity determined by the slicing method (February 2025). Boards are stocked in New Zealand by Accumen; every unit carries a batch number and production date, with batch-to-shipment records held by Accumen.

Product Criteria

Design requirements

Select grade by duty: 300 grade for general envelope insulation; 400 grade for under-slab, perimeter and trafficked-floor duties and other higher compressive loads; 500 grade for special applications on request.

Thickness (20-100 mm) is selected by the designer to achieve the required construction R-value, calculated to NZS 4214 / AS/NZS 4859.2 using declared design lambda 0.034 W/mK at 15 deg C, including framing, linings, air films and thermal bridging.

For below-grade and under-slab work, detail to the engineer's design and keep the board protected by the specified membrane, slab or cladding system; in walls and roofs use a drained, ventilated cavity where the design requires it.

Exclusions: not structural; no permanent UV exposure; not an exposed interior finish; keep clear of solvents, fuels and solvent-based adhesives.

Accumen Technical Services can assist with grade and thickness selection and documentation: info@accumen.co.nz.

Installation requirements

Fix to a supporting structure or substrate and protect from UV and weather. Cut with a fine-toothed saw or a sharp utility knife and straightedge, or a proprietary hot-knife; where hot-wire or hot-knife cutting is used, work only in well-ventilated areas, ideally outdoors.

Keep boards dry before and during installation; butt square edges tightly and stagger joints between layers in multi-layer work. For under-slab and perimeter duty, place on prepared ground or the specified membrane to the engineer's design; for walls and roofs, fix per the project specification, with cladding and cavity-batten fixings that pass through the board designed for the applicable loads.

Use gloves and eye protection when cutting, and a P1/P2 dust mask where dry cutting generates visible dust - refer to the Safety Data Sheet.

Store flat, under cover, off the ground, dry and out of direct sunlight; keep away from open flame, hot work and other ignition sources.

Maintenance requirements

AccuThermax XPS is an inert closed-cell polymer board and requires no routine maintenance once installed and protected by the specified lining, cladding, membrane or slab.

Durability relies on the board remaining protected: maintain the protective system so that protection from weathering, UV and physical damage is retained over the life of the element.

Where the insulation is accessible, inspect annually and after any building works in the vicinity; replace boards that are crushed, broken, saturated through damage, or contaminated with incompatible solvents.

The installed board is not a trafficable surface and must not be walked on or loaded except as designed.

The contribution of the product to B2.3.1 assumes these conditions are maintained; specified durability for the element remains a project-specific assessment by the design professional.

Warrantees

AccuThermax XPS is supplied on a supply-only, ex-factory basis by Accumen Shapes Ltd. The product is backed by the guarantees that apply under the Consumer Guarantees Act 1993 where applicable, and nothing in this listing limits rights under that Act or the Sale of Goods Act.

Warranty conditions: the product must be stored, handled and installed in accordance with the published Technical Data Sheet and Safety Data Sheet, and used within the published service conditions (maximum 75 deg C continuous; protected from UV and incompatible solvents).

Exclusions: installation workmanship; damage after delivery; use outside the published scope, including permanent UV exposure and solvent contact.

Every unit carries a batch number and production date, and batch-to-shipment records are held by Accumen to support any claim.

Warranty terms are available from Accumen: info@accumen.co.nz / accumen.co.nz.

Company Product Information

Environmental

AccuThermax XPS is a closed-cell extruded polystyrene board manufactured with a CFC- and HCFC-free blowing agent with zero Ozone Depletion Potential (declared).

It is asbestos-free and is not classified as hazardous under the HSNO classification notice in the form supplied; the cured board is inert and insoluble in water in service.

XPS is combustible and is managed accordingly in storage and installation - refer to the SDS.

In service the board reduces building heating and cooling energy for the life of the element, typically repaying its embodied energy many times over.

Clean off-cuts and surplus board are mechanically recyclable through dedicated polystyrene recyclers; where recycling is unavailable, dispose of as inert, non-hazardous construction waste to an approved landfill.

Contain off-cuts, beads and dust during cutting and disposal so that material does not reach stormwater drains or waterways.

Relationships



New Zealand Made

Building Product Information Requirements

Manufacturer

Legal Trading Name:

Accumen Shapes Ltd

Business Email:

info@accumen.co.nz

Company Website:

www.accumen.co.nz

Contact Number/s:

+64 09 -2709228

Product Identifier

CLASS 1 DESIGNATED BUILDING PRODUCT (BATCH-IDENTIFIED). EACH UNIT IS IDENTIFIED BY THE PRODUCT LABEL NAME - FOR EXAMPLE "ACCUTHERMAX™ XPS 400 GRADE, 2400 X 600 X 50 MM" - TOGETHER WITH A BATCH NUMBER AND PRODUCTION DATE ON EVERY UNIT LABEL. THE SAME IDENTIFIERS APPEAR ON DELIVERY DOCUMENTATION AND INVOICES, AND BATCH-TO-SHIPMENT AND PURCHASE-ORDER RECORDS ARE HELD BY ACCUMEN SHAPES LTD, PROVIDING TRACEABILITY FROM ANY INSTALLED BOARD BACK TO ITS PRODUCTION BATCH. A FORMAL SKU SCHEME IS PENDING ALIGNMENT WITH ACCUMEN'S INVENTORY SYSTEM; CODES ARE NOT YET PUBLISHED.

Warnings

This product has no warnings associated with it.



Date last validated: **11 August 2026**



Date last updated: **11 August 2026**

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