

A low-angle, upward-looking photograph of a modern building's exterior. The image features a mix of light-colored concrete or AAC panels and large glass windows and balconies. The sky is a clear, vibrant blue. The perspective creates strong geometric lines and a sense of height and architectural detail.

L7 LOXO[®]

CLADDING SYSTEMS

50mm AAC Panel System

August Edition
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WHAT IS AAC? (Light Weight Concrete)

Autoclaved Aerated Concrete (AAC) is manufactured from cement, sand (Silica), lime and water, it is aerated by adding an expanding agent to the mixture to form small, finely-dispersed air bubbles.

The expanding chemical reaction combined with the Autoclaved process is what gives AAC its unique properties. AAC has excellent thermal insulation and acoustic absorption properties, it has superior fire resistance qualities and is also termite resistant.

Its properties and specifications satisfy all relevant building codes. Working with AAC is easy and efficient. AAC is both versatile and economical, AAC meets the diverse demands better than any other material due to the numerous advantages of its physical and mechanical properties.

The resulting product weighs about one quarter of standard concrete and can be cut, drilled, routed and shaped as required using hand or power tools.

Loxo® Panels Exterior Cladding System

Loxo® Panels are set to become the leading cladding solution for today's new residential and commercial buildings.

Loxo® Panels outperform traditional cladding materials in almost every respect as they provide a long-lasting finish, are both efficient and economical, and provide a safe comfortable building environment.

Loxo's® durable and lightweight aerated concrete (AAC) enables most structural and insulation requirements of a building to be satisfied by a single material.

Loxo® buildings look superior, because they are coated with Loxo® Approved Coating Systems which provide exclusive, superior finishes.

Loxo® & Nasahi in Australia



Nasahi have signed an exclusive agreement within the territory of Australia for Loxo® to be the sole distributor of Nasahi's 50mm AAC Loxo® panel. Nasahi was formed via a joint venture between the world leader in AAC technology (Japan) and the world leader in low cost, efficient manufacturing (China), the result being a high quality, technologically advanced, low cost AAC Building Materials Manufacturer. With a total investment exceeding \$45,000,000 USD Nasahi are one of the largest AAC manufactures in the world and are renowned worldwide for their quality manufacturing practices.

Loxo® has adopted Nasahi's high quality 50 mm AAC products and created a simple and robust external cladding system ideally suited for the Australian and New Zealand building markets.



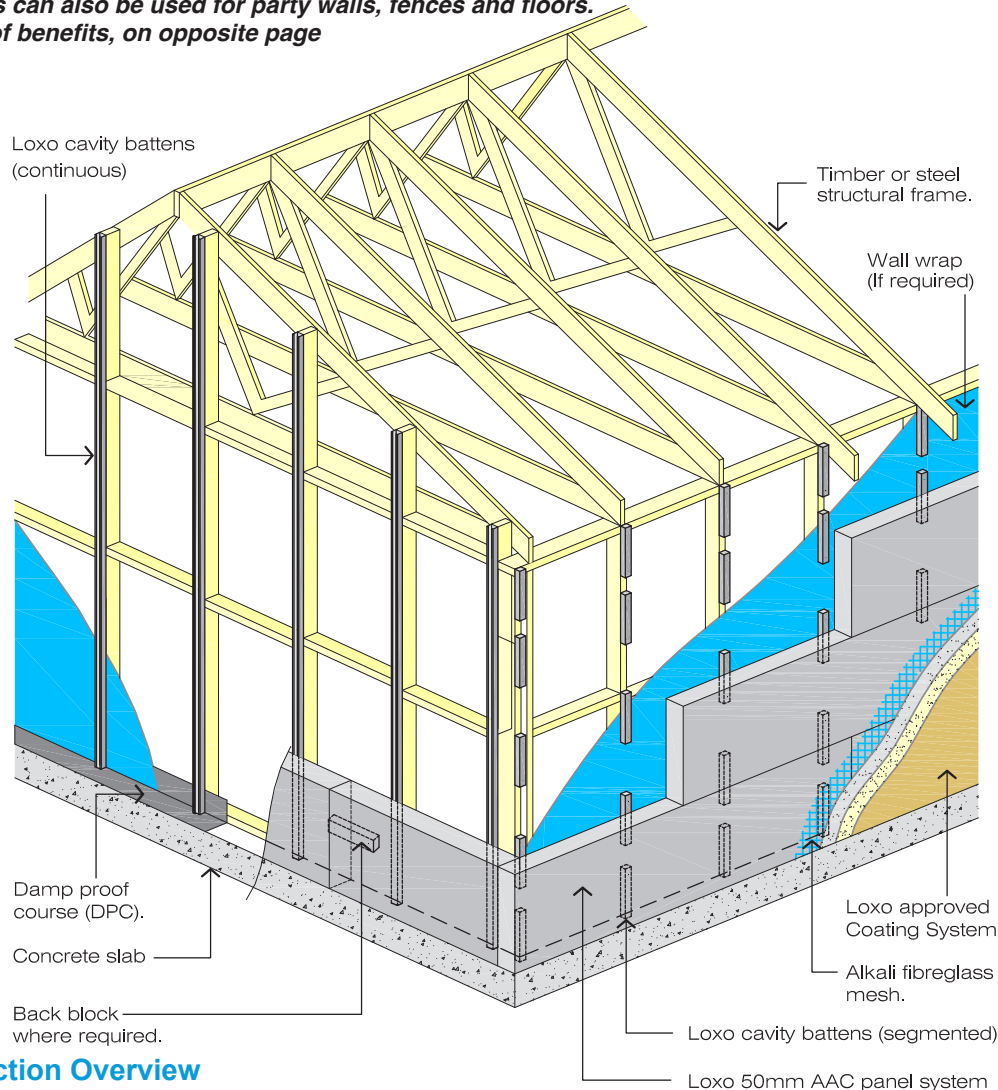
The Loxo® 50mm Lightweight AAC Panel System

The Loxo® Panel System is designed to be used in new residential construction, extensions or re-cladding for houses & Low Rise Multi-Residential External Walls using timber or steel frames. The system consists of 50mm thick Loxo® Panels, reinforced with corrosion protected steel in both directions, installed horizontally in a “stretcher-bond” pattern over segmented or continuous vertical battens attached to the load bearing frame. For fast, clean construction, Loxo® panels are available in standard sizes of 2200mm in length and 600mm in width.

Loxo® Panels are attached with battens to your building's timber or steel frame, considerably increasing the building's structural integrity. Installation is simple and fast. The system has also been designed to create a secondary weather defence dry cavity. In addition, feature details such as grooves and express lines can be added easily unlike other cladding systems. The Loxo® Cladding System can be either vented or non-vented.

The finished Loxo® panels are coated with Loxo® Approved Coatings and Paint Systems.

Loxo® Panels can also be used for party walls, fences and floors.
See the list of benefits, on opposite page



Construction Overview

The Loxo® Panel System and Compliance with the BCA

The Loxo® Panel System has been appraised by BEAL in New Zealand (Certificate Number C1128) and CodeMark via Global-Mark in Australia (CodeMark Certificate Number 30031) to meet all the required provisions of the Building Code of Australia for Volume One and Volume Two as listed below.

1. **Volume One BP1.1, BP1.2 and Volume Two P2.1** in respect of structural performance;
2. **Volume One CP1, CP2 and Volume Two P2.3.1** in respect of fire performance;
3. **Volume One FP1.4 and Volume Two P2.2.2** in respect of weatherproofing for external walls;
4. **Volume One FP1.5 and Volume Two P2.2.3** in respect of damp-proofing for external walls
5. **Volume One FP5.2 and Volume Two P2.4.6** in respect of acoustic performance of walls
6. **Volume One GP5.1 and Volume Two P2.3.4 and P3.7.4** in respect buildings constructed in a designated bushfire prone area.
7. **Volume One JP1 and Volume Two P2.6.1** in respect of energy efficiency of walls

The Loxo® Cladding Panel System has been appraised as an Alternative Solution in terms of compliance with the Building Code of Australia.

The CodeMark Certificate and the BEAL Appraisal are attached in the Appendix of this Design and Installation Manual or visit www.loxo.com.au to download a copy.



Your next project - build it with Loxo®

The Loxo® Panel System is an exterior wall cladding system that provides a lightweight, high-quality, and highly durable cladding solution perfectly suited to both residential and commercial applications.

THE BENEFITS OF THE LOXO® SYSTEM



Design



Design flexibility & aesthetic appeal

Loxo® provides building designers the flexibility of utilising a masonry product in areas previously restricted to non masonry cladding products. Loxo® allows designers and consumers the ability to create that inspirational and contemporary look, with a large range of finishes and colours provided by our coating partners. With Loxo® the only limitation to your design is your imagination.

Energy



Living in a comfortable environment

The Loxo® Panel System is able to achieve very good R-Values as a result of the combination of Thermal Mass and Thermal Resistance. The R-Value can be related to the comfort levels within a dwelling. The greater the R-Value the more comfortable the temperature will be within that dwelling. The Loxo® Panel System easily achieves the Thermal requirements as set out in the BCA.

Fire Safe



High fire resistance adds to the security.

Loxo® (being an AAC Material) is known for its high fire resistance. It will not combust in the event of fire and will not omit toxic gases. The Loxo® 50mm Panel System provides a Load Bearing FRL of 120/120/120 – (refer CSIRO Reports number FSV 1525A Cert. No: 2363A and Assessment Number FCO-2915). The Loxo® Panel System also complies with all six Bush Fire Attack Level Categories (BAL) for external cladding.

Acoustics



Sound acoustic qualities

The Loxo® Panel System provides acoustic performance levels equivalent to other masonry products that are twice as thick. Although the acoustic performance of residential external walls is not a requirement of the BCA, it is assuring to know that acoustic performance is achieved when you use the Loxo® Panel System.

Durability & Speed



Solid and durable as masonry yet light weight

Loxo® Panels pass the 'knock test' by consumers because they are a masonry product. Further to that Loxo® panels are steel reinforced with corrosion protected steel adding to greater strength and security. The average mass of a 50mm thick Loxo® panel is less than 40kg, making it a convenient lightweight product, easily installed by a two man installation process.

Loxo® panels are delivered flat packed in lots of 20 panels per pack for ease of workability, less labour and with considerable site cost savings. The speed of construction reaches key stages quickly. Loxo® means a safe and clean worksite with less clean-up at the completion of the project. Two men can easily install an average of 50m² of panel per day.

Quality Control



Quality from start to finish

It is highly recommended that Loxo® panels are erected by approved Installers and coated by approved applicators. With these measures in place plus strict system protocol Loxo® offers a warranty of 15 years on materials and 7 years on workmanship adding peace of mind to all owners. Loxo® and associated manufacturers both adhere to the ISO 9001 international standards for management of quality. Loxo® has CodeMark Certification and BEAL Appraisal (Building Element Assessment Laboratory).



Economically Sound



Reduce your Building Cost

The Loxo® cladding system is simple and flexible insofar as it only requires semi skilled trades and allows you the choice to self install using existing lower costs trades or have it supplied and installed by approved installers, either way saving you time and money compared to traditional rendered masonry.

Environmentally Safe



Today's sustainability for a better tomorrow

Loxo® has been awarded the Global Environmental label because it delivers a number of environmental benefits over bricks and concrete. A genuine assessment for a genuine building product.



THE LOXO® BUILDING PRODUCTS

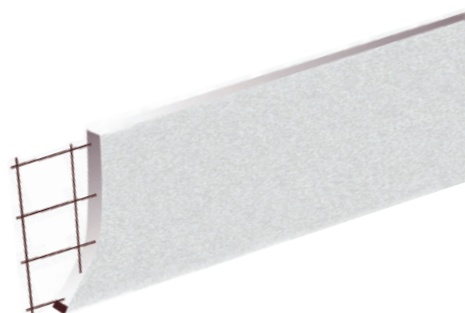
Loxo's® range of products are suitable for customers ranging from home owners to builders, developers, Architects and Engineers.

Significant benefits are offered by the Loxo® product, whether planning your dream home, building apartments, designing or renovating there's a clear advantage with Loxo® lightweight masonry products over traditional materials.



The Loxo® Steel Reinforced AAC Panels for:

- External Walls
- Party Walls
- Floor Panels
- Fence Panels



Material Properties 50mm AAC Panel

Property	Value	Units
Ambient ¹ Density, ρ_{amb}	520	kg/m ³
Dry ² Density, ρ_{dry}	500	kg/m ³
Working ³ Density, ρ_{design}	610	kg/m ³
Permanent Action, G	0.3	kN/m ²
Characteristic Unconfined Compressive Strength, f_{uc}	1.1	MPa
Modulus of Rupture, f_{ut}	0.73	MPa
Design Ultimate Limit State Bending Capacity, ϕM	0.12	kNm
Design Serviceability Limit State Deflection Limit, δ_{max}	$SPAN/_{240}$	
Coefficient of contraction	0.4	mm/m
Coefficient of thermal expansion	10	$\times 10^{-6}/^{\circ}C$



Australian Certified



Australian Tested



Memberships



THE LOXO® APPROVED COATING SYSTEM

To achieve that perfect finish which is also weather proof and technically sound, an approved coating system must be used.

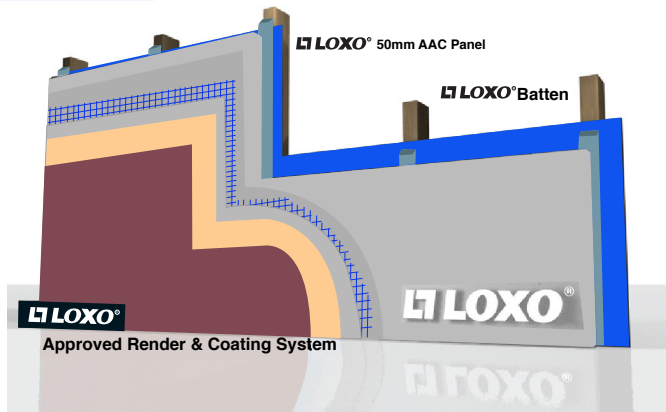
It is recommended that Loxo® panels are coated with a high build polymer-modified, Portland cement-based render, applied as a levelling base coat, either over or encapsulating high quality alkali resistant fibre glass mesh reinforcement.

A variety of texture options are available to meet project requirements from colour through texture (wet texture) to polymer enriched cementitious texture (dry texture).

Loxo® has worked closely with a number of coating partners in developing a range of warranted performance coating systems for the Loxo® Panel System.

For coating specification and preferred coating partners visit our website:

www.loxo.com.au



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Loxo® reserves the right to revise or amend this manual and its contents from time to time without notification to any persons or individuals of such revisions or amendments.

It is advised to refer to the Loxo® website for the most up to date version or addition thereof.

