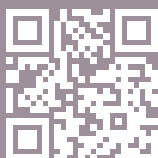






XLT is a range of products by XLAM that bring the benefits of mass timber to residential and light commercial construction. The XLT range includes 'ready made' panels, structural flooring, beams, columns, bracing and portal structures.

Mass timber is strong, sustainable, durable and offers impressive structural properties. The XLT range is made from Australian grown plantation Radiata pine offering painless onsite alterations, easy handling and fast install. Using timber alternatives means that you can minimise the reliance on fabricated steelwork and pair timber XLT products with timber framing.

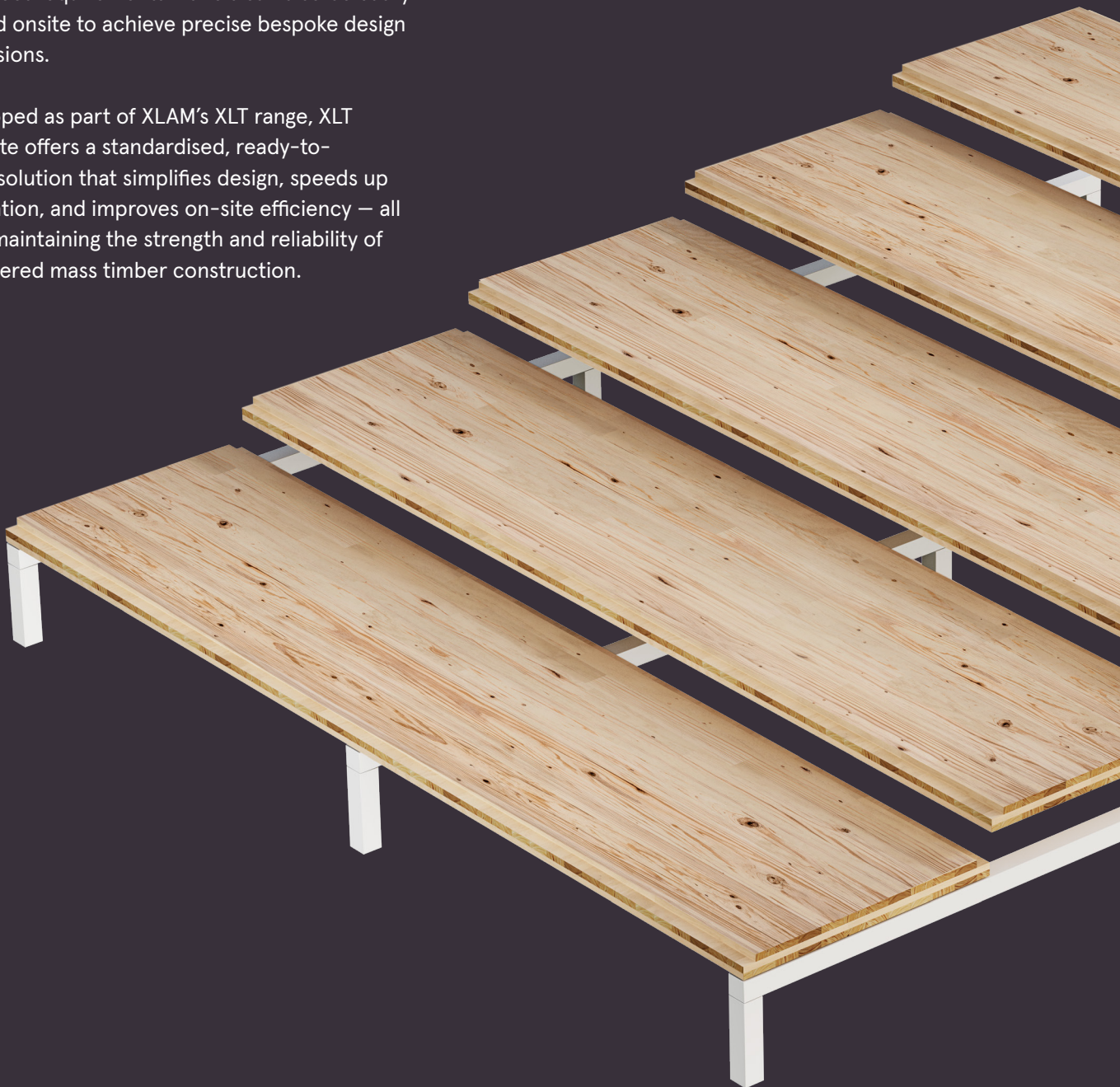


# XLT CASSETTE

XLT Cassette is XLAM's prefabricated long-span floor and roof system, purpose-designed for residential and light commercial applications. The system combines XLT Span panels with engineered XLT Beam supports to form a semi-composite structure that delivers enhanced stiffness, strength, and spanning capability — achieving clear spans of up to 9 metres.

XLT Span panels are available in standard widths of 600, 900, 1200, and 2400mm, and lengths up to 12,000mm, providing flexibility across a wide range of project requirements. Panels can also be easily docked onsite to achieve precise bespoke design dimensions.

Developed as part of XLAM's XLT range, XLT Cassette offers a standardised, ready-to-install solution that simplifies design, speeds up installation, and improves on-site efficiency — all while maintaining the strength and reliability of engineered mass timber construction.



## XLT CASSETTE SYSTEM

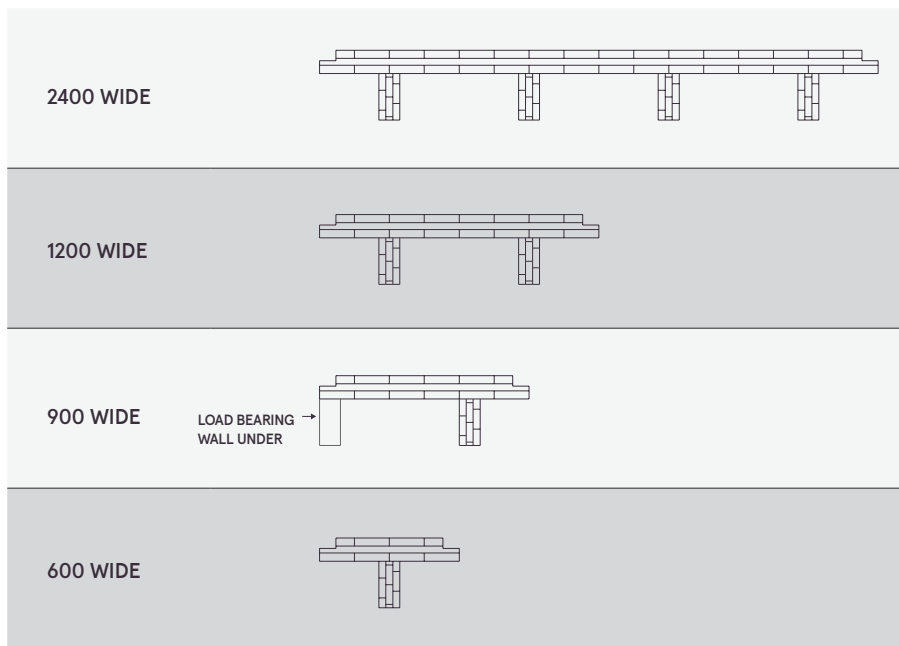
The open cassette system is formed by mechanically fixing XLT Span panels to XLT Beam ribs using screws, in accordance with the standard configurations shown in the table below. The number in the system designation (e.g. XC-400) indicates the overall structural depth of the XLT Cassette system in millimetres.

The XLT Cassette system comprises two key components:

- XLT Span panels: available in 100mm and 135mm thicknesses, with standard widths of 600mm, 900mm, 1,200mm, and 2,400mm
- XLT Beam ribs: 90mm wide, available in depths of 200mm, 240mm, 300mm, and 360mm

XLT Beam ribs are spaced at a constant 600mm centre-to-centre spacing across all standard configurations.

|                                                                            |                                                     | SYSTEM NAME | COMPONENTS                                             |
|----------------------------------------------------------------------------|-----------------------------------------------------|-------------|--------------------------------------------------------|
| XLT Cassette System Options                                                | 100 THICK PANEL                                     | XC-300      | XLT Span 100 (600, 900, 1200, 2400)<br>XB-20090 (BEAM) |
|                                                                            |                                                     | XC-340      | XLT Span 100 (600, 900, 1200, 2400)<br>XB-24090 (BEAM) |
|                                                                            |                                                     | XC-400      | XLT Span 100 (600, 900, 1200, 2400)<br>XB-30090 (BEAM) |
|                                                                            |                                                     | XC-460      | XLT Span 100 (600, 900, 1200, 2400)<br>XB-36090 (BEAM) |
|                                                                            | 135 THICK PANEL                                     | XC-335      | XLT Span 135 (600, 900, 1200, 2400)<br>XB-20090 (BEAM) |
|                                                                            |                                                     | XC-375      | XLT Span 135 (600, 900, 1200, 2400)<br>XB-24090 (BEAM) |
|                                                                            |                                                     | XC-435      | XLT Span 135 (600, 900, 1200, 2400)<br>XB-30090 (BEAM) |
|                                                                            |                                                     | XC-495      | XLT Span 135 (600, 900, 1200, 2400)<br>XB-36090 (BEAM) |
| Beam Spacing                                                               | 600mm                                               |             |                                                        |
| End Support (supporting beam, stud wall with double top plate or CLT wall) | Beam bearing on support<br>Panel bearing on support |             |                                                        |
| Beam end offset to support (where panel bearing on support)                | Max 300mm                                           |             |                                                        |
| Treatment Options                                                          | Untreated or T3+                                    |             |                                                        |



## XLT SPAN STRUCTURAL PROPERTIES

|                                                            |                      |
|------------------------------------------------------------|----------------------|
| Modulus of Elasticity (parallel to grain)                  | 6000 MPa             |
| Bending Strength (parallel to grain) $f_{b,0}$             | 12.0 MPa             |
| Compression Strength (parallel to grain) $f_{c,0}$         | 15.0 MPa             |
| Compression Strength (perpendicular to grain) $f_{c,90}$   | 6.0 MPa              |
| Tension Strength (parallel to grain) $f_{t,0}$             | 4.0 MPa              |
| Shear Strength (parallel to grain) $f_{s,0}$               | 2.1 MPa              |
| Rolling Shear Strength (perpendicular to grain) $f_{s,90}$ | 1.4 MPa              |
| Shear Modulus (parallel to grain) $G_0$                    | 400 MPa              |
| Rolling Shear Modulus (perpendicular to grain) $G_R$       | 50 MPa               |
| Mean Density $\rho$                                        | 475kg/m <sup>3</sup> |
| Characteristic Density $\rho$                              | 380kg/m <sup>3</sup> |
| Density to be used for lifting strategies                  | 530kg/m <sup>3</sup> |

## XLT BEAM STRUCTURAL PROPERTIES

| Strength Grade | Bending Strength ( $f'_b$ ) (MPa) | Tension Parallel to Grain ( $f'_t$ ) (MPa) | Shear Strength ( $f'_s$ ) (MPa) | Compression Parallel to Grain ( $f'_c$ ) (MPa) | Compression Perpendicular to Grain ( $f'_p$ ) (MPa) | Short Duration Average Modulus of Elasticity for Beams (E) (MPa) | Short Duration Average Modulus of Rigidity for Beams (G) (MPa) | Avg. Density (kg/m <sup>3</sup> ) |
|----------------|-----------------------------------|--------------------------------------------|---------------------------------|------------------------------------------------|-----------------------------------------------------|------------------------------------------------------------------|----------------------------------------------------------------|-----------------------------------|
| XL-10          | 22                                | 7.7                                        | 2.1                             | 17                                             | 10                                                  | 10000                                                            | 670                                                            | 500                               |

Notes:

1. XLT Beams may be supplied as treated CodeMark Certified T3+, H3 or H3.2 equivalent or untreated with equivalent properties. Refer to Durability section for further information.
2. Strength properties are characteristic values, while stiffness and densities are mean values as per AS/NZS 4063.

## SPAN TABLES

XLT Cassette is designed as a semi-composite system in accordance with the Gamma Method outlined in Eurocode 5. The calculated effective stiffness ( $E_{eff}$ ) and the spans provided in the table meet the performance requirements for vibration, bending strength, and deflection limits in accordance with AS/NZS 1170.0. The system is validated under XLAM's CodeMark certification for use in Australia and New Zealand.

The span table presented below applies to single-span configurations. Many residential and light commercial applications can be specified using XLAM's pre-engineered span tables covered under CodeMark certification. For further information, refer to the XLAM Structural Design Guide.

For double-span, cantilever, or load conditions exceeding the table limits, design must be undertaken by a qualified structural engineer.

### MAXIMUM PANEL SPAN (M)

|                      | System | Q = 1.5kPa<br>150 kg/m <sup>2</sup> |                                |                                | Q = 2kPa<br>200 kg/m <sup>2</sup> |                                |                                | Q = 3kPa<br>300 kg/m <sup>2</sup> |                                |                                |
|----------------------|--------|-------------------------------------|--------------------------------|--------------------------------|-----------------------------------|--------------------------------|--------------------------------|-----------------------------------|--------------------------------|--------------------------------|
|                      |        | 0.5 kPa<br>50 kg/m <sup>2</sup>     | 1 kPa<br>100 kg/m <sup>2</sup> | 2 kPa<br>200 kg/m <sup>2</sup> | 0.5 kPa<br>50 kg/m <sup>2</sup>   | 1 kPa<br>100 kg/m <sup>2</sup> | 2 kPa<br>200 kg/m <sup>2</sup> | 0.5 kPa<br>50 kg/m <sup>2</sup>   | 1 kPa<br>100 kg/m <sup>2</sup> | 2 kPa<br>200 kg/m <sup>2</sup> |
| 100mm<br>Thick Panel | XC-300 | 5.5                                 | 5.0                            | 4.3                            | 5.3                               | 4.8                            | 4.2                            | 4.8                               | 4.4                            | 4.0                            |
|                      | XC-340 | 6.4                                 | 5.8                            | 4.9                            | 6.1                               | 5.6                            | 4.8                            | 5.7                               | 5.2                            | 4.6                            |
|                      | XC-400 | 7.7                                 | 7.0                            | 6.0                            | 7.4                               | 6.8                            | 5.9                            | 6.8                               | 6.3                            | 5.6                            |
|                      | XC-460 | 9.1*                                | 8.3                            | 7.1                            | 8.6                               | 8.0                            | 7.0                            | 8.1                               | 7.5                            | 6.7                            |
| 135mm<br>Thick Panel | XC-335 | 6.3                                 | 5.7                            | 4.9                            | 6.0                               | 5.5                            | 4.8                            | 5.6                               | 5.2                            | 4.5                            |
|                      | XC-375 | 7.1                                 | 6.4                            | 5.5                            | 6.8                               | 6.2                            | 5.4                            | 6.3                               | 5.8                            | 5.1                            |
|                      | XC-435 | 8.4                                 | 7.5                            | 6.6                            | 7.1                               | 7.4                            | 6.4                            | 7.4                               | 6.9                            | 6.1                            |
|                      | XC-495 | 9.6*                                | 8.7                            | 7.6                            | 9.3*                              | 8.5                            | 7.4                            | 8.6                               | 7.9                            | 7.1                            |

Note: \*Standard maximum panel length is 9m. Longer lengths are available on special order.  
Long term deflection factors are taken as  $j_2 = 2$   
Deflection is limited to the minimum of Span/300 or 25mm.

## FIXINGS

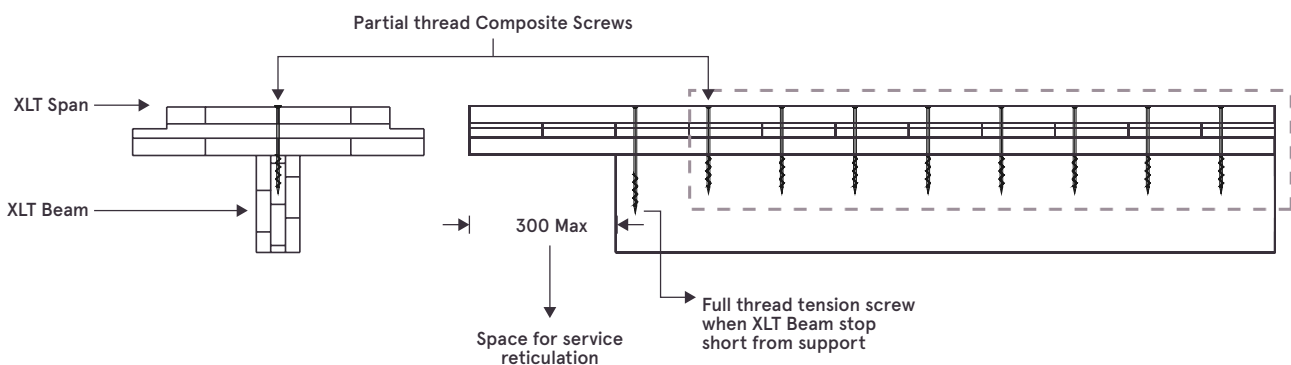
Fixing details for the XLT Cassette system are provided in the XLAM Structural Design Guide, covering key connection points including:

- Panel-to-panel joints
- Panel-to-beam screws
- Rib end tension screws

Panel-to-beam screws are designed using the analytical method for mechanically jointed sections as outlined in BS EN 1995-1-1 Appendix B. A single tension screw is required at the end of each beam where the XLT Cassette system is supported from the top panels. This screw transmits internal forces at the support and prevents separation of the rib.

The design of the panel-to-beam and tension screws is incorporated within the XLT Cassette span tables, with screw capacities determined using the applicable manufacturer ETA.

Where the XLT Cassette floor is used as a diaphragm, additional structural engineering design input is required.



## PRODUCT COMPLIANCE

The XLT component products used in the XLT Cassette system (XLT Beam ribs and XLT Span panels) meet the requirements of AS 1684.2:2021 and AS 1684.3:2021 Section 1.11(i), with properties established in accordance with AS/NZS 4063.1, satisfying the Deemed-to-Satisfy (DTS) provisions of the NCC 2022 Volume 2 for Class 1 buildings.

These components also comply with AS 1720.1 Section 1.3.1(h), with properties established in accordance with AS/NZS 4063.1, meeting the DTS provisions of the NCC 2022 Volume 1 for Class 2–9 buildings.

XLT Cassette span tables are CodeMark certified in Australia.

*CodeMark Certificate: CM70140*

For New Zealand, XLT component products used in the XLT Cassette system (XLT Beam ribs and XLT Span panels) meet the requirements of NZS 3604:2011 Section 2.3.9.6, with properties established in accordance with AS/NZS 4063.1, satisfying the Deemed-to-Comply provisions of the NZ Building Code (NZBC) for housing.

They also meet the requirements of NZS/AS 1720.1:2022 Section 1.3.1(h) and 1.3.2, with properties established in accordance with AS/NZS 4063.1, satisfying the Deemed-to-Comply provisions of the NZBC for other building classifications.

XLT Cassette span tables are CodeMark certified in New Zealand.

*CodeMark Certificate: CMNZ70119*

## GENERAL PRODUCT NOTES

### CONNECTIONS:

- Additional elements connecting to the XLT Cassette system may be designed in accordance with AS 1720.1, NZS/AS 1720.1, AS 1684.2, AS 1684.3, and NZS 3604 for nails, screws, and bolts (Joint group: JD5).
- Alternative screw-fixed connections may be designed in accordance with a relevant ETA, using a characteristic density of 430kg/m<sup>3</sup>.

### NOTCHES AND HOLES:

- Information and product requirements are detailed in the XLAM Structural Design Guide under the XLT section for XLT Span and XLT Beam.

### ASSEMBLY:

- The XLT Cassette system is supplied as a flat pack, including XLT Span panels, XLT Beams, lap boards, fixings, and detailed connection drawings for assembly. The installer is responsible for correct installation. XLAM can provide a jig to assist with setup and alignment during installation.

### LIFTING:

- Use Rothoblaas Wasp or Raptor lifting devices for the XLT Cassette system. Do not reuse lifting screws and always follow manufacturer instructions. Only use the lifting points shown on the assembly drawings; any alternatives require XLAM approval.

## **HEALTH & SAFETY**

- Contact XLAM for XLT Beam Safety Data Sheet (SDS).
- Follow standard Health & Safety precautions when machining timber.
- Provide dust extraction; use PPE if dust exceeds WorkSafe standards:
  - Dust mask (AS/NZS 1715)
  - Safety glasses (AS/NZS 1337)
- Ensure fall protection when working at height.
- Provide adequate ventilation in work/storage areas.

### **MANUAL & ASSISTED HANDLING:**

- Handle XLT Beams as per accepted timber practice.
- Use mechanical aids where beams are too heavy for manual handling.
- Avoid dropping or dragging beams.

# **MASS TIMBER MADE EASY.**



Date of Issue: July 2026.  
This document supersedes all previous versions.