CROSS LAMINATED TIMBER

CONSTRUCTION DETAIL

SECTIONS & PERFORMANCE

SUSTAINABLE BUILDING RESOURCES

LINKING TOMORROW’S NEEDS WITH TRADITIONAL CRAFTSMANSHIP

www.crosslamtimber.com.au
Please note:

Cross laminated timber can be used and connected in varied ways according to project requirements. Details in this publication are to be seen as tentative recommendations only and have to be verified for each project by a qualified and registered timber engineer taking into account the relevant circumstances and product approvals.

Element diameters used are samples only and may vary depending on engineering requirements and supplier used.

Structural stability is the most important aspect of every building. In many parts of Australia and New Zealand, cyclones and earthquakes require extra structural attention. CLT offers clear advantages here and tension anchorage is very rarely required.
CLT ELEMENT JOINT CONSTRUCTION
UP TO 125 MM THICKNESS

LVL COVER STRIP
APPROVED STAPLE/COMBNAIL/SCREW

CLT ELEMENT JOINT CONSTRUCTION
ABOVE TO 125 MM THICKNESS

CONDUIT POSSIBLE
LVL COVER STRIP
LVL TONGUE
CONNECTIONS

CLT WALL TO CLT WALL

CLT CORNER CONSTRUCTIONS
CONNECTION

CLT CEILING - CLT CONTINUOUS WALL

TIMBER BEARER

INVISIBLE STEEL ANGLE
INTERNAL WALL

13 PLASTERBOARD
85 CLT
60/60/60 FIRE RATING

10 PLASTERBOARD
85 CLT
10 PLASTERBOARD
60/60/60 FIRE RATED

95 CLT
30/30/30 FIRE RATING
ROOF

20 GYPSUM FIBREBOARD
35 INSTALLATION LEVEL
85 CLT
80 GUTEX TIMBER FIBRE INSULATION
35 BATTENS FOR VENTED SYSTEM
15 CLADDING
R value 3.6
60/60/60 fire rating inside
90/90/90 outside

EXTERNAL WALL

METAL ROOFING
35 PURLINS 35/70
45 COUNTER PURLINS 45/70 /
FOR VENTED SYSTEM
80 GUTEX TIMBER FIBRE INSULATION
99 CLT
ROOF

ROOF TILES
35 PURLINS 35/70
45 COUNTER PURLINS 45/70 /
FOR VENTED SYSTEM
80 GUTEX TIMBER FIBRE INSULATION
99 CLT

EXTERNAL WALL

20 GYPSUM FIBREBOARD
85 CLT
80 GUTEX TIMBER FIBRE INSULATION
10 RENDER SYSTEM
R-value 3.2
60/60/60 fire rating inside
90/90/90 outside
**ROOF**

- **Gravel**
- **Approved Welded Roof Membrane**
- **Gutex Timber Fibre Insulation, Sloping Approved Membrane**
- **147 CLT**

**EXTERNAL WALL**

- **85 CLT**
- **80 Gutex Timber Fibre Insulation**
- **35 Battens for Vented System**
- **15 Cladding**
- **R-value 3.4**
- **30/30/30 fire rating inside**
- **90/90/90 outside**

**PERFORMANCE**

<table>
<thead>
<tr>
<th>Rw (kW/m²K)</th>
<th>R-value (m²K/W)</th>
<th>FRI Rating</th>
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<tbody>
<tr>
<td>0.87</td>
<td>4.35</td>
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Email: sbrsources@internode.on.net
www.crosslamtimber.com.au
PARTITION WALL

10 PLASTERBOARD
85 CLT
MINERAL BULK INSULATION
85 CLT
EACH SIDE 60\(\times\)60\(\times\)60
FIRE RATED

13 FIRE CHECK
85 CLT
10 AIRGAP
75 MINERAL BULK INSULATION
2X 13 FIRECHECK
60\(\times\)60\(\times\)60 FIRE RATED
CEILING/FLOOR

PERFORMANCE

<table>
<thead>
<tr>
<th>Rw</th>
<th>R-value</th>
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<tbody>
<tr>
<td>51</td>
<td>4.35</td>
<td>90</td>
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19 FLOOR BOARDS
100 PERLLITE/ DRY SCREED
147 CLT

PARTITION

CEILING/FLOOR

PERFORMANCE

<table>
<thead>
<tr>
<th>L_nT,w</th>
<th>Rw</th>
<th>Dn_T,w</th>
<th>FIRE RATING</th>
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<tbody>
<tr>
<td>35</td>
<td>77</td>
<td>77</td>
<td>90</td>
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50 CEMENT SCREED
40 GUTEX SUBSONIC INSULATION
100 PERLLITE
147 CLT
PARTITION
CEILING/FLOOR

PERFORMANCE

<table>
<thead>
<tr>
<th>L, nT,w</th>
<th>Rw</th>
<th>Dn T,w</th>
<th>FIRE</th>
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<tbody>
<tr>
<td>41</td>
<td>72</td>
<td>72</td>
<td>90</td>
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10 GYPSUM FIBREBOARD
25 DRY SCREED
20 GUTEX ACOUSTIC INSULATION
100 PERLLITE OR SIMILAR
147 CLT

CEILING/FLOOR

PERFORMANCE

<table>
<thead>
<tr>
<th>Rw</th>
<th>Dn T,w</th>
<th>FIRE</th>
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<tr>
<td>56</td>
<td>56</td>
<td>90</td>
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</table>

25 DRY SCREED
10 MINERAL FIBRE SUBSONIC INSULATION
60 PERLLITE OR SIMILAR
147 CLT
**ROOF**

**PERFORMANCE**

<table>
<thead>
<tr>
<th>R</th>
<th>R-value</th>
<th>FIRE RATING</th>
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</thead>
<tbody>
<tr>
<td>34</td>
<td>0.9</td>
<td>60/60/60</td>
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</table>

**ROOF TILES**
- 35 PURLINS 35/70
- 45 COUNTER PURLINS 45/70 / FOR VENTED SYSTEM
- SARKING MEMBRANE
- 180 GUTEX TIMBER FIBRE INSULATION
- 99 CLT

**ROOF**

**PERFORMANCE**

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<thead>
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</thead>
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<tr>
<td>34</td>
<td>5.9</td>
<td>60/60/60</td>
</tr>
</tbody>
</table>

**IRON ROOFING SHEETS**
- 35 PURLINS 35/70
- 45 COUNTER PURLINS 45/70 / FOR VENTED SYSTEM
- SARKING MEMBRANE
- 180 GUTEX TIMBER FIBRE INSULATION
- 99 CLT

**FLAT ROOF**

**PERFORMANCE**

<table>
<thead>
<tr>
<th>R</th>
<th>R-value</th>
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<tbody>
<tr>
<td>57</td>
<td>4.35</td>
<td>60/60/60</td>
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**GRAVEL**
- APPROVED WELDED ROOF MEMBRANE
- 120 GUTEX TIMBER FIBRE INSULATION, SLOPING APPROVED MEMBRANE
- 147 CLT
WET AREA DETAIL 1

SHOWER TRAY

85 CLT
10 WET AREA PLASTERBOARD
APPROVED WET AREA MEMBRANE
TILES
WET AREA SEALANT
CEMENT SCREED
147 CLT
SUSPENDED CEILING

PREFORMED SHOWER TRAY

85 CLT
10 WET AREA PLASTERBOARD
APPROVED WET AREA MEMBRANE
TILES
WET AREA SEALANT
CEMENT SCREED
147 CLT
SUSPENDED CEILING
WET AREA DETAIL 2

PREFORMED BATH TUB

85 CLT
10 WET AREA PLASTERBOARD
APPROVED WET AREA MEMBRANE
TILES
WET AREA SEALANT
STUD TUB SUPPORT
CEMENT SCREED
147 CLT
SUSPENDED CEILING

SERVICE LEVEL PENETRATIONS

TILES
APPROVED WET AREA SEALANT
10 WET AREA PLASTERBOARD
STUD SERVICE LEVEL
TIMBER BATTEN
85 CLT
Available brochures:

- **CROSS LAMINATED TIMBER**
  - The construction material of the 21st century

- **CROSS LAMINATED TIMBER CONSTRUCTION DETAIL**
  - SECTIONS & PERFORMANCE

- **CROSS LAMINATED TIMBER TECHNICAL DETAIL**

- **CROSS LAMINATED TIMBER ACOUSTIC ELEMENTS**

- **CROSS LAMINATED TIMBER FIRE AND INSULATION EVALUATION**

- **SUSTAINABLE BUILDING RESOURCES**
  - LUMBER TONGUE & GROOVE WOOD WITH TRADITIONAL CRAFTSMANSHIP

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Sustainable Building Resources Pty Ltd
Po Box 35 Macclesfield 5153 South Australia
Phone: ++61 (0) 8 83889033
Fax: ++61 (0) 8 83889048
Email: sbresources@internode.on.net

www.crosstlamtimber.com.au
www.glulam.com.au
www.passivhausaustralia.com.au

**PLEASE NOTE:**

ALL technical information and illustrations in this brochure are collated from publications of our suppliers and “Environment Product Declarations” of building material manufacturers. Information provided may be superseded by new insights from time to time and be no longer valid.

All information are examples only and must be verified as relevant for each project by a qualified engineer.

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