

Contractor UPDATE

Date: May 2021
No: 202102

Cross Laminated Timber (CLT) Panel Deck

As part of our continuous monitoring of the latest Industry guidance, we will be including within our specifications the use of a random nailed layer of AP1 for Bauder Hot Melt (New Build) and TA 600 for Bituminous membranes (New Build & Refurb), prior to the installation of the waterproofing system on a CLT deck to eliminate the risk of issues caused by excessive moisture content within the roof deck.

Why?

We have received feedback from our Site Technicians and Approved Contractors, it appears the adhesion of Hot Melt and Bituminous membranes can be affected by moisture rising from the deck and de-bonding the waterproofing.

BS5250 is currently reviewing its guidance on the moisture content of timber.

NHBC do not allow CLT due to significant historical claims. Following our advice will reduce the risk of trapped moisture that caused the claims.

Below is guidance from the NHBC with regards to timber decks. You will note CLT decks and also SIPs panels are not included within the listing for the reasons stated above.

7.1.7 Timber structure and deck

Timber flat roofs, balconies and terraces shall be of adequate strength and durability and be installed to form a satisfactory substrate for the waterproofing system. Issues to be considered include:

- Structure and durability
- Joist hangers, straps and strutting
- Installing timber decks

Structure and durability

Structural elements of balconies should have a service life of at least 60 years.

Timber in balconies should be limited to elements which are supported by materials other than timber. Timber should not be used for:

- galleys brackets supporting a balcony
- posts or columns supporting a balcony
- guardrails including their support
- infill joists
- cantilevered joists or decks

Decking boards should be specified and fixed in accordance with:

- guidance from the Timber Decking and Cladding Association, or
- an engineer's design, in accordance with Technical Requirement R5.

The use of timber in balcony and terrace constructions may also be restricted by fire protection requirements set out in the National building regulations.

Timber, including solid and engineered joists, should be:

- Checked for conformity with the design upon delivery
- Rejected where excessively wet, damaged or not of a suitable quality or shape
- Stored under cover to prevent wetting but avoid sweating.
- Preservative treated or naturally durable, in accordance with Chapter 3.3 'Timber preservation (natural solid timber)'
- Retreated along the cut edges with a coloured preservative, where preservative treated timber has been cut.
- be temporarily covered to prevent wetting, unless the waterproofing is to be installed immediately.

Timber structure should:

- be in accordance BSEN 1995-1-1 or appropriate load/span table published by TRADA in support of building regulations.
- be from regularised timber, dry graded to BS 4978 and marked 'DRY' or 'KD' where softwood is used internally.
- have I-joists or metal web joists specified in accordance with the manufacturer's recommendations and not used where any part of the joists is exposed to external conditions.
- have joists which are sized and spaced in accordance with the design and at maximum 600mm centres
- be level and, where necessary, using hard packing such as tiles or slates bedded in mortar to adjust joists (loose or soft packing, including timber, should not be used)

Timber decks should be formed from one of the materials listed in Tables 3, 4 and 5.

Table 3: Materials used for deck to flexible membrane roof coverings

Material	Minimum thickness of deck (mm) * 450mm joist centres	Minimum thickness of deck (mm) * 600mm joist centres
Plywood board to BS EN 636, Use Class 3.2, 'S', *	15 *	18 *
Oriented strand board, to BS EN 300 type OSB3	15	18
Pre-treated timber planking, tongue and grooved (close boarded timber). Maximum plank width 100mm *	19	19

Cross laminate timber (CLT)

Due to the semi-imperious nature of CLT panels and the risk of trapping moisture in the panels during the construction period, CLT panels are not accepted for flat roof construction.

Structural insulated panels (SIPs) (used as self-supported deck)

Due to the difficulty in applying an effective AVCL to the warm side of a SIPs panel to prevent water vapour entering the panel, and the risk of trapping moisture in the panels during the construction period, SIPs panels are not accepted for warm flat roof construction.

Existing Specifications:

The existing specifications would have called for CLT decks to have the Bauder R333 Taping Strips (bitumen membranes) and Sprint DUO (Hot Melt) used at all joints within the deck, as per below:

Taping of board/panel joints for bitumen membranes: Tape centrally over joints with 200mm wide strips of Bauder R333 taping strip. These can be retained temporarily in place with clout nails, prior to the self-adhesive air and vapour control layer or underlayer being installed.

Taping of board/panel joints for Hot Melt: Tape centrally over joints with 200mm wide strips of Bauder Sprint DUO. These can be retained in place by removing the peel off release film and adhering directly to the deck.

For specifications written prior to this update, please contact the relevant Area Technical Manager to discuss any such projects.

Refurbishment Specifications:

Where the specification calls for the waterproofing to be stripped down to the existing CLT Deck, a full investigation of the condition/moisture content of the CLT deck must be carried out to ensure the deck is suitable to receive the proposed waterproofing system. Where the moisture content is above 20%, or the deck surface is unsuitable to receive the new waterproofing system, provision should be made to replace the deck.

When does this change take effect?

New specifications from this date forward will include either AP1 or TA600 prior to installation of the specified waterproofing system.



Tooling for installation of random nailed layers:

We have received positive feedback from some of our Approved Contractors with regards to a nailing gun to aid with speed of installation of the random nailed layers. The gun below is the one that has been used on several projects with positive feedback.

These are available from a company called TJEP. Please visit:

<https://www.tjep.co.uk/>



If you have any questions, please do not hesitate to contact us.

Andrew Harper

Product Manager – Hot Melt

Tel: 07469 853264

Email: a.harper@bauder.co.uk

Richard Clennell

Product Manager – RBM & Insulation

Tel: 07824 539684

Email: r.clennell@bauder.co.uk