

Installation and the Ambient Environment

Timber is hygroscopic, meaning that it will gain or lose moisture in response to the environments in which it is exposed. Commercial timber is typically kiln dried to an internal moisture content of 13-19% and if an additional impregnation treatment is then carried out to the timber and subsequently dried, it can be even lower. This means that some consideration should be paid to the environments in which your BCL timber system is installed. The considerations may vary depending on the panel configuration, system location (internal / external) and the overall ambient environment (or if this is likely to change dramatically throughout the buildings lifetime).

BCL Panels are composed of multiple timber slats, fixed together using aluminium extrusions and are typically 600mm x 3000mm, however vary in size to suit the layouts of each project they are designed for (with some max size and weight limitations).

For the purposes of this article, it is necessary to categorize panel configurations into two basic types:

'Flat slat' panel



Where slats are fixed along their long edge and are always 'wider' than they are 'deep'.

'Free standing slat' panel



Where slats are fixed on their short edge and are always 'deeper' than they are 'wide'.

External Systems

Acclimatisation

The main environmental conditions for which special consideration should be paid are during very wet periods that may coincide with installation. When exposed to a relatively damp environment the timber may swell slightly as it takes on moisture from the outside air. Panels should be allowed a minimum of 48 hours to acclimatise to external conditions, prior to installation, to allow the timber to swell before panels are installed.

The dimensional changes to the timber caused by swelling are proportional to the overall size of the slat and are typically unnoticeable for standard cladding. However, for panel configurations that use very large slats, or specifically vertically free-standing slats (which is generally not recommended for external walls), then swelling or minor distortion may be more noticeable.

The above considerations regarding movement and distortion are most important for panel configurations where slats are free standing.

Expansion joints

All timber slats within a BCL panel will be spaced appropriately to allow for adequate expansion zones, depending on the size and orientation of the timber. These gaps are controlled by BCL during the manufacturing process. However, the installer must allow for adequate expansion gaps between entire panels during installation in order to avoid excessive warping of timber. Panel expansion gaps vary depending on panel configuration and orientation and will be shown on BCL detail drawings.

Internal Systems

Acclimatisation

The acclimatisation of internal panels can be more complex as often internal systems may be scheduled for installation before a building is fully weather sealed. Although this is not an ideal situation and certainly not recommended by BCL, if this must be done according to a buildings programme, then extra special consideration must be paid to minimise any severe changes in humidity / temperature so as to minimise any potential distortion. In this situation, as per external systems, panels should be left to acclimatise on site (albeit still protected on site within delivery crates) for a min of 48 hours before installation.

Once a building has become weather sealed then extra care must be taken to increase the temperature of the building gradually so as to minimise any potential distortion. If a building is sealed and dried out with heating on full, over a short period of time, the severe fluctuations in temp / humidity will increase the potential for distortion of slats.

The above considerations regarding movement and distortion are most important for panel configurations where slats are free standing.

Dust

For internal environments that are particularly dusty, installed panels should be protected with protective polythene / plastic based wrap, until the internal space has been cleaned and sufficiently dust-free (reflecting its intended environment). All other panels, prior to installation, should be kept in their protective crates at all times.

Final Humidity

If a building is likely to be very humid over the course of its use (swimming pool environment with minimal humidity controls) then it is recommended to store protected panel crates outside in a sheltered space and installed as late as possible to minimise humidity fluctuations. However, this may not be possible, and in this event it is recommended to simply attempt to minimise humidity fluctuations prior to installation. **Generally, it is not recommended to use panel configurations with 'free-standing' slats in swimming pool environments.**

If you have any questions regarding the installation of your BCL system, or wish to discuss your project directly with BCL, please contact us on 01189 344 155.



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