

## EXTERNAL CEILINGS

This edition of OnBoard provides a summary of the requirements for installing plasterboard in external ceilings. External ceilings include alfresco areas, carports, balconies and breezeways with plasterboard installed horizontally or sloping downwards away from the main dwelling.



External ceilings are subject to harsher conditions than internal ceilings, and therefore they need additional protection from the weather. The following installation requirements are designed to control the occurrence of common external ceiling faults, such as:

- Condensation on the plasterboard
- Condensation on framing or roofing and dripping down on to the plasterboard
- Water penetrating the paint system
- Distortion of joints
- Plasterboard sagging
- Mould growth
- Fastener popping

### Minimum conditions to use plasterboard in external ceilings

- The plasterboard substrate must be designed for the appropriate loading conditions including wind loading.
- The cavity above the plasterboard ceiling must have cross ventilation.
- Sarking and thermal insulation must be used to improve temperature control, reduce wind pressure and control condensation.

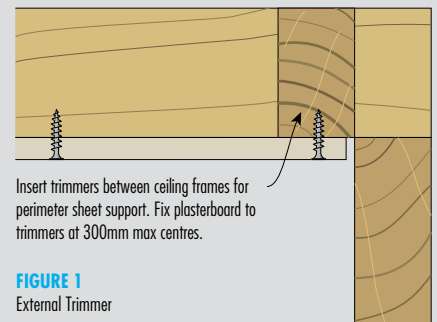
- The plasterboard and plaster compounds must not be subjected to any direct water, long periods of high humidity, sea spray or damp conditions.
- The plasterboard and plaster compounds must be installed after the roof covering has been completely installed and sealed.
- Minimum 100mm clearance from external ceiling lining to lower edge of verandah beam or masonry lintel, otherwise provide protection against wind blown rain. [Refer to Figures 3, 4, 5, 6 and 7]

### Installation requirements for external ceilings

- Use either 10mm SpanShield, 13mm MastaShield, 10mm or 13mm SoundShield, 13mm or 16mm FireShield, or 13mm ImpactShield.
- For improved water resistance use either 13mm WaterShield, 13mm or 16mm MultiShield, or 13mm QuadShield.

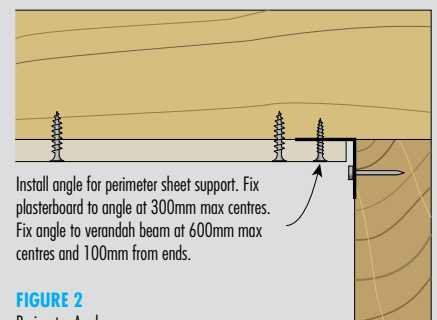
### Framing

- Ceiling framing at maximum 450mm framing centres.
- Provide additional framing around the perimeter by inserting trimmers between ceiling frames or install steel angle. [Refer to Figures 1 and 2]



Insert trimmers between ceiling frames for perimeter sheet support. Fix plasterboard to trimmers at 300mm max centres.

**FIGURE 1**  
External Trimmer



Install angle for perimeter sheet support. Fix plasterboard to angle at 300mm max centres. Fix angle to verandah beam at 600mm max centres and 100mm from ends.

**FIGURE 2**  
Perimeter Angle

## Insulation

- Use thermal insulation directly above the plasterboard. This will minimise the temperature difference between the plasterboard and outside air, limiting ceiling sag and mould formation by reducing condensation on the plasterboard.

## Fixing method

- Fix the ceiling sheets using the 'Screw Only Method'. Nails are not permitted in this application. Additional screws may be required for high wind areas. [Refer to Knauf's Plasterboard Installation Guide]
- Fix the perimeter of the plasterboard using screws at 300mm maximum spacing.

## Control joints

- Install control joints in external ceilings at 6m maximum intervals.

## Back-blocking

- Back-block all ceiling joints. [Refer to Knauf's Plasterboard Installation Guide]

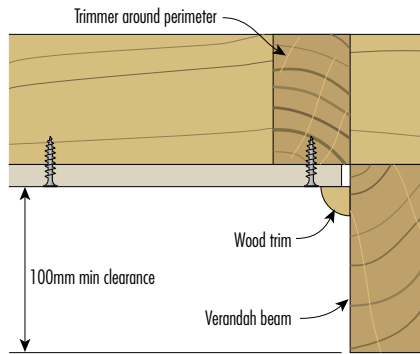
## Jointing

- Plaster set joints using two coats of MastaBase or MastaLongset and any Knauf finish coat.

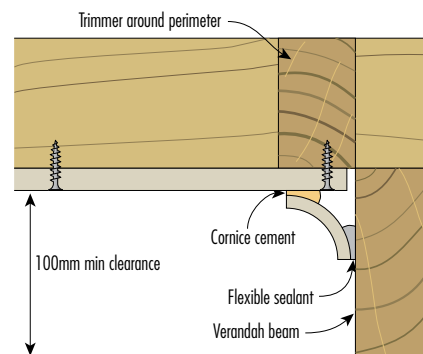
## Painting

- Roll or brush on a high quality sealer undercoat designed for exterior use.
- Use a premium exterior paint system that includes a mould inhibitor.

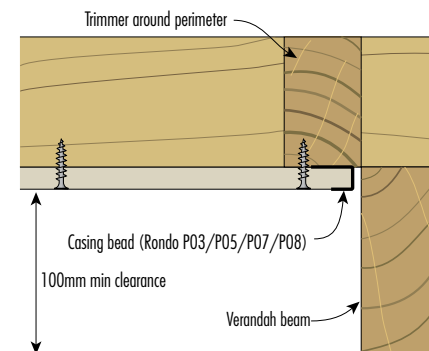
Please note that plasterboard must not be installed in eaves or as exterior cladding.



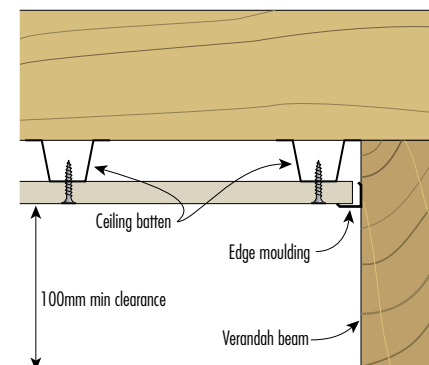
**FIGURE 3**  
With wood trim



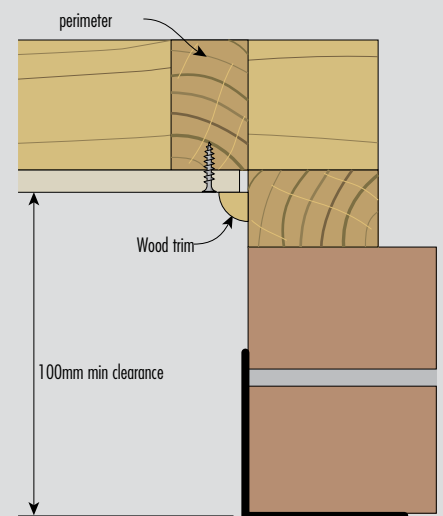
**FIGURE 4**  
With cornice



**FIGURE 5**  
With casting bead



**FIGURE 6**  
With edge moulding on battens



**FIGURE 7**  
With wood trim to masonry lintel

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