

# Standard Clauses for Specifiers: Ceiling Systems

## A RhinoCeil Standard

6,4mm Rhino M-Strip ceiling consisting of SABS approved SA Pine, Saligna or Steel branders fixed at 400mm centres in one direction onto which Rhinoboard is fixed, printed side up, at right angles to the branders, using 32mm galvanised clout nails or 32mm grabber screws spaced at **150mm centres**.

Alternatively for steel branders, Rhinoboard is screwed to the branders using 25mm staker screws. Joints between boards to consist of Rhino M-Strip fitted over board edges with the narrow flange facing down and boards fixed onto branders to within 25mm from Rhino M-Strip. All nail or screw heads to be stopped and sanded level when dry.

## C RhinoCeil Prestige J

9,5mm Rhinoboard flush jointed ceiling consisting of SABS approved SA Pine, Saligna or Steel branders or screw-up Tees fixed at **500mm centres** in one direction onto which 9,5mm Taper-edge Rhinoboard is fixed at right angles to the branders or steel cross tees with printed side up using either 25mm staker screws for steel, 32mm galvanised clout nails or 32mm grabber screws for timber, spaced at **150mm centres**. All joints to be taped and finished as per manufacturers Drywall instructions.

## D RhinoCeil Prestige S

9,5mm Rhinoboard flush plastered ceiling consists of SABS approved SA Pine, Saligna or screw-up Tees Fixed at **400mm centres** in one direction onto which 9,5mm Taper or Square-edge Rhinoboard is fixed at right angles to the branders or steel cross tees with printed side up using either 25mm staker screws for steel, 32mm grabber screws for timber, spaced at **150mm centres**. All joints to be covered with RhinoTape (double over butt joints) and the ceiling then plastered with a 3-6mm coat of RhinoLite or CreteStone plaster applied as per manufacturer's instructions.

**N.B. Due to the extra weight from plastering it is recommended to screw the board for a more secure fix.**

## E RhinoCeil Premiere J

12,5mm Rhinoboard Flush Jointed ceiling consisting of SABS approved SA Pine, Saligna, or screw-up Tees fixed at **600mm centres** in one direction onto which **12,5mm** Taper-edge Rhinoboard is fixed at right angles to the branders with printed side up using either 25mm staker screws for steel, 32mm grabber screws for timber, spaced at **150mm centres**. All joints to be taped and finished as per manufacturers Drywall instructions.

## F RhinoCeil Premiere S

12,5mm Rhinoboard flush plastered ceiling consists of SABS approved SA Pine, Saligna, or screw-up Tees Fixed at 600mm centres in one direction onto which 12,5mm Taper Rhinoboard is fixed at right angles to the branders or steel cross tees with printed side up using either 25mm staker screws for steel, or 32mm grabber screws for timber, spaced at **150mm centres**. All joints to be covered with RhinoTape (double over butt joints) and the ceiling then plastered with a 3-6mm coat of RhinoLite or CreteStone plaster applied as per manufacturer's instructions.

**N.B. Due to the extra weight from plastering it is recommended to screw the board for a more secure fix.**

**\* For flush plastered ceilings we recommend using 9.5mm or 12.5mm Rhinoboard**

# Estimating guide for 6,4mm Rhinoboard Ceilings

When calculating quantities, please note the following standard sizes:

STANDARD SIZES	WIDTHS	LENGTHS
<b>6,4mm Rhinoboard</b>	900 and 1 200mm	2 700 - 4 200 (300mm increments)
<b>75mm RhinoArt Cornice</b>		2700 - 4 200 (300mm increments)
<b>M-Strip</b>		2 700 - 4 200 (300mm increments)
<b>125mm</b>		3 000mm only

All gypsum cornices available in 2 000mm and 3 000mm lengths only.  
All RhinoArt Decor cornices available in 2000mm.

## GUIDE FOR CALCULATING MATERIAL FOR A BRANDERED CEILING

**Step 1.** Calculate the area in m<sup>2</sup> of 6.4mm of ceilings (length x breadth).

**Step 2.** For every m<sup>2</sup> Rhinoboard, you will need:

- a) 1.7 lm of 75mm RhinoArt
- b) 0.75 lm of M-Strip
- c) 3.9 lm Timber Brandering
- d) 0.08 kg 75mm Nails
- e) 0.05 kg 32mm galvanised clout or semi-clout nails or screws.

**N.B.:** Rhinoboard must always be fixed with the length of the board at right angles to the brandering, (i.e. in the same direction as roof trusses and with the printed side uppermost).

### 6.4 RHINOBOARD

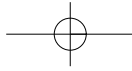
1. Select Rhinoboard lengths to suit length of room, (i.e in the direction of roof trusses).

2.	WIDTH	REQUIREMENTS
	2 700	3 x 900
	3 000	2 x 900 + 1 x 1 200
	3 300	1 x 900 + 2 x 1 200
	3 600	3 x 1 200
	3 900	3 x 900 + 1 x 1 200
	4 200	2 x 900 + 2 x 1 200

For room lengths longer than 4 200mm remember to stagger butt joints.

**Note:** Steel brandering calculations differ from timber ie. lengths, suspension brackets, joiners.

lm = linear metres



# RhinoCeil Timber Branded Ceilings

## 1. SPECIFICATION

Branding  
Truss (Tie Beam) spacings will determine the size of branding to be used.

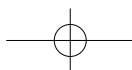
Truss spacing	Brander size
Up to 1 000mm	38mm x 38mm
1 001mm- 1 200mm	38mm x 50mm (with 50mm dimension vertical)
1 201mm- 1 400mm	50mm x 75mm or introduce extra tie beams

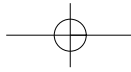
## NOTE

All sizes refer to 38mm x 38mm SABS approved S.A. Pine or 32mm x 32mm SABS approved Saligna branding.  
\* Staples are not recommended to secure board to branders.

## 2. BRANDER CENTRES

Type of ceiling	Brander Centres	RhinoCeil Fixing
6,4mm Rhino M-Strip	400mm centres in one direction only.	32mm galvanised clout nails 32mm grabber screws spaced at 150mm centres.
9,5mm RhinoCeil Flush Jointed Ceiling	500mm centres in one direction only.	32mm galvanised clout nails 32mm grabber screws spaced at 150mm centres.
9,5mm RhinoCeil Flush Plastered Ceilings	400mm centres in one direction only.	32mm grabber screws spaced at 150mm centres. 32mm galvanised clout nails
12,5mm RhinoCeil Flush Jointed Ceiling	600mm centres in one direction only.	32mm galvanised clout nails 32mm grabber screws spaced at 150mm centres.
12,5mm RhinoCeil Flush Plastered Ceiling	600mm centres in one direction only.	32mm galvanised clout nails 32mm grabber screws spaced at 150mm centres.





# Rhinoboard Brandered Ceilings cont.

### 3. FIXING OF BRANDERING

Branding is nailed to tie beams using a 75-100mm nail. For fixing 75mm RhinoArt Standard, brander should be 38mm centres from wall line. Level branding from lowest point. Insert a wedge between brander and tie-beam and secure with skew-nail. Use a cleat for gaps exceeding 13mm.

**NB:** Light fittings must be fixed to the brandering or conduit not to the board.

### 4. RHINOBOARD

Rhinoboard must be fixed with length at right angles to brandering. Rhinoboard is fixed printed side up for direct decoration or plastering. Nail or screw from board centre outwards. Gap between boards should not exceed 2mm.

#### 4.1 Rhino M-Strip

Fix first board up to 150mm from long edge. Slip Rhino M-strip over board edge, narrow flange facing down. Slip second board into Rhino M-strip and fix both boards to within 25mm from Rhino M-strip. For end joints, fix 2 parallel branders at 100mm centres, board ends overlapping respective branders by approximately 30mm (Fig. 3&4).

#### 4.2 Rhinoboard Flush Plastered Ceilings

Fix Rhinoboard at right angles to branders so end joints fall on a 50mm brander. No brander required behind long edge joints. Nail/Screw at 150mm centres. Apply RhinoTape over joints, double over butt joints. If wire scrim used, fix with staples or nails (Fig 5). Apply not less than 3mm - 6mm of RhinoLite or CreteStone.

**NB** Ceiling must be plastered on same day as Rhinoboard erected. Check with engineer if expansion joints are needed for large areas.

#### 4.3 9.5mm & 12.5mm Rhinoboard Flush Jointed Ceilings

Fix Taper-edge Rhinoboard at right angles to brandering so butt joints fall on 50mm brander. Nail/screw at 150mm centres. Joints to be jointed as per Rhino Drywall Hand Jointing data sheet.

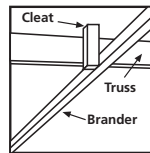


FIG. 1

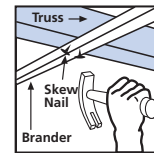


FIG. 2

#### Long Joint 6,4mm Rhinoboard

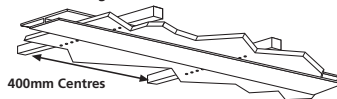


FIG. 3

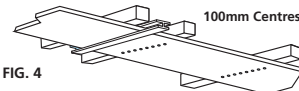


FIG. 4

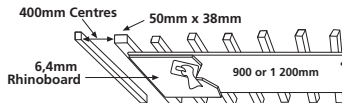


FIG. 5

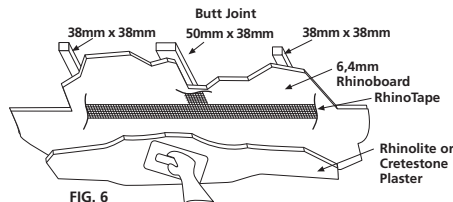
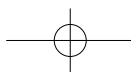
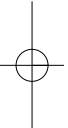
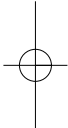


FIG. 6



## RhinoCeil Branded Ceilings cont.

### 5. DECORATION

#### (a) M-Strip Ceilings

Spot fill all nail and screw heads and sand down when dry.

##### (i) Galvanised and Aluzinc M-Strip

- Lightly sand to create a key.
- Apply one coat of primer.
- Apply PVA as required.

##### (ii) Plastic M-Strip

- No primer necessary.
- Apply two coats of super acrylic PVA.

#### (b) Flush Plastered Ceilings

Before decorating check the entire surface carefully to see that the plaster has set hard and is dry and free from powder/dust. All plastered surfaces be sealed with an oil or solvent based sealer such as paint bonding liquid or a pigmented plaster primer. Allow to dry for 24 hours before applying paint as required.

#### (c) 9,5mm and 12,5mm RhinoCeil Jointed Ceilings

A good quality oil based plaster primer must be used on the entire surface.

# Steel Brandering



Steel Brandering is designed to replace the conventional timber brandering offers you the following advantages:

1. Reduced weight for transportation and easier handling.
2. Guaranteed straightness of long sections.
3. Quick and easy levelling by means of the suspension bracket / levelling clip.

4. Reduced waste due to availability of different lengths.
5. Improved accuracy.
6. Easier cutting on site.

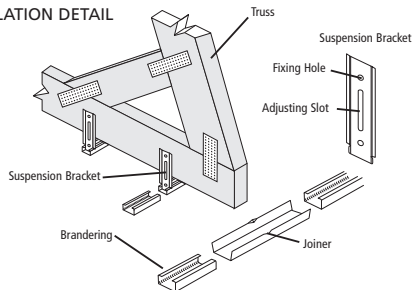
Steel Brandering should be installed as follows:

1. The brandering section should be fixed at 90 deg. to the roof trusses with a drywall grabber screw or nail of suitable length while not exceeding a 1200mm truss spacing. Suspension brackets should be used where necessary.
2. The brandering should be fixed at centres as follows. The Rhinoboard must be fixed at 90 deg to the steel brandering: e.g. parallel to the roof truss, with drywall screws at 100mm to 150mm centres
3. The steel brandering system can be used with either the M-strip detail or as a flush plastered or jointed ceiling as per standard timber brandering.
4. A joiner section should be used to join two pieces of brandering for applications over 4200mm.

**NOTE:** Steel Brandering is not designed to replace a conventional T37 ceiling but rather to offer an alternative to timber brandering.

Type of ceiling	Brander Centres	Rhinoboard Fixing
6,4mm Rhinoboard M-Strip	400mm centres in one direction only.	25mm Streaker screws spaced at 150mm centres.
9,5mm Rhinoboard Flush Jointed Ceiling	500mm centres in one direction only.	25mm Streaker screws spaced at 150mm centres.
9,5mm Rhinoboard Flush Plastered Ceilings	400mm centres in one direction only.	25mm Streaker screws spaced at 150mm centres.
12,5mm Rhinoboard Flush Jointed Ceiling	600mm centres in one direction only.	25mm Streaker screws spaced at 150mm centres.
12,5mm Rhinoboard Flush Plastered Ceiling	600mm centres in one direction only.	25mm Streaker screws spaced at 150mm centres.

## INSTALLATION DETAIL



# Flush Plastered Ceilings



## SPECIFICATION

Install Donn T37K screw up grid (3600) main tees at (1200) centres and T32K (1200mm) cross tees at (600, 400, 300) centres with capping of galvanised steel. Tapered edge (6,4mm, 9,5mm, 12,5mm) Rhinoboard should be screwed to the underside of the ceiling grid with drywall screws spaced at 150mm centres.

**NOTE:** Where 12,5mm Rhinoboard is used, cross tees can be at 600mm centres, where 9,5mm Rhinoboard is used cross tees shall be at 400mm centres and where 6,4mm board is used cross tees shall be at 300mm centres and skim plastered.

Refer to RhinoLite data sheet for plastering specifications.

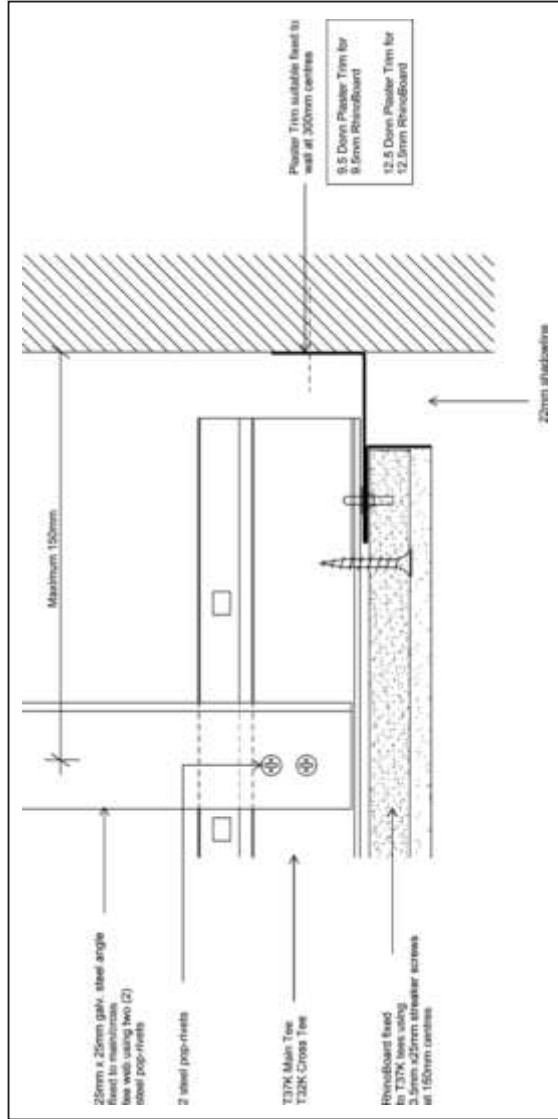
## CEILING INSTALLATION

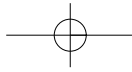
Subject to loading detail suspension should not normally exceed 1200mm centres. The suspension must not be out of plumb more than 25mm for each 150mm of plenum depth and in no case should it exceed 500mm to a 3000mm depth.

Whenever the above is exceeded and/or when the angle suspension is more than 3000mm long, then a sub-grid is recommended. Sub-grid, when used, should be formed using burgess channel. An angle suspension point within 400mm from the wall angle must be installed on the main tees. Where cut cross tees exceed 600mm and rest on the wall angle, these should have additional suspension. All flush plastered ceilings must be constructed or suspended using 25x25 angle, no less than two steel pop rivets or wafer head screws should be used with a shear strength 3 times that of the maximum allowed ceiling load. The angle can be fixed in a number of different ways all depending on what the structure that is being fixed to is. The board must run in the same direction as the main tees and be fixed to the cross tees.

# Flush Plastered Ceilings

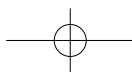
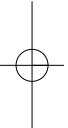
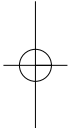
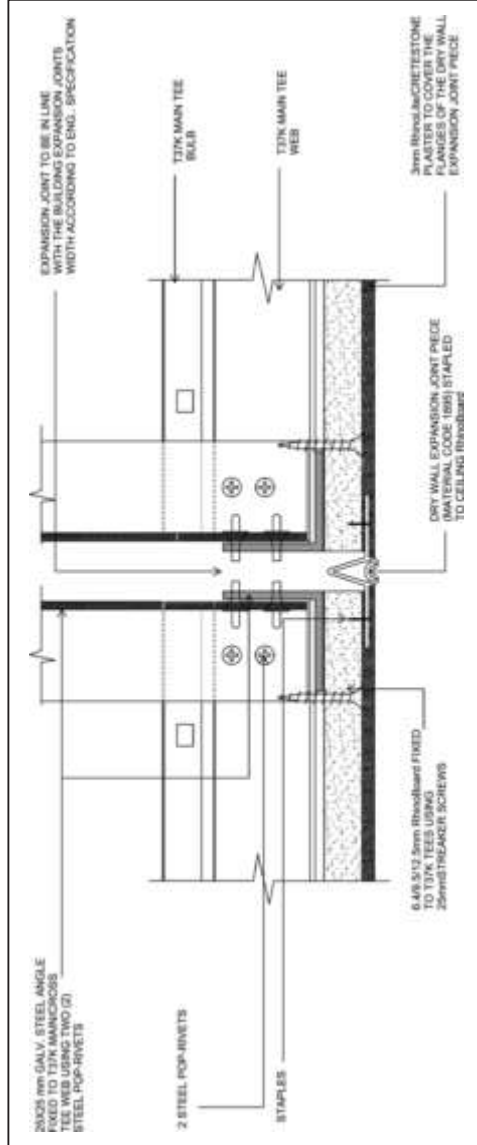
Plaster trim perimeter detail





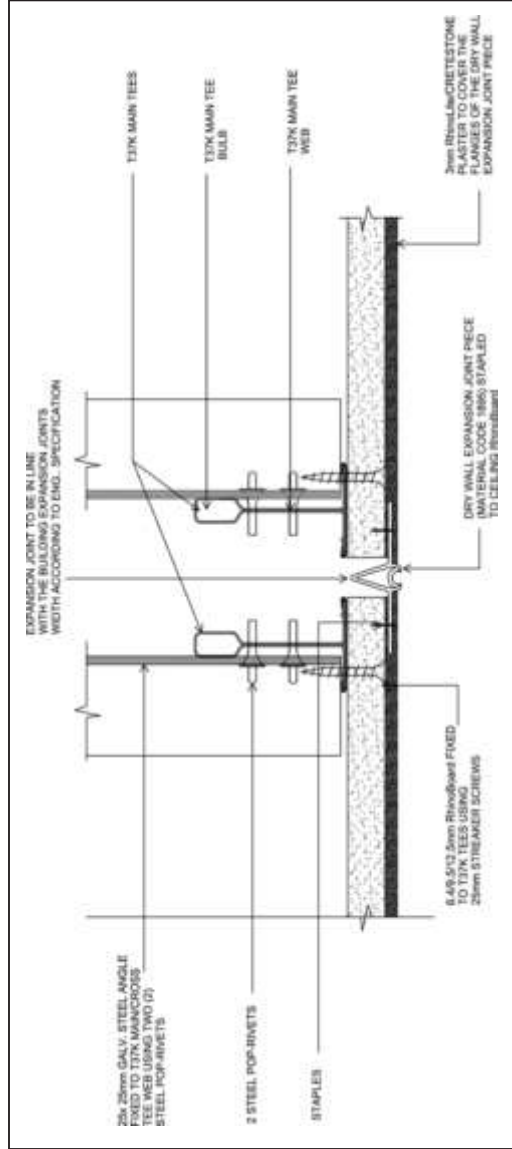
# Flush Plastered Ceilings

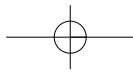
Expansion joint detail -  
across main tees



# Flush Plastered Ceilings

Expansion joint detail -  
along main tees



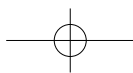
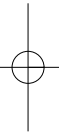
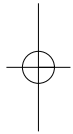


## Rhinoboard Storage

Rhinoboards should be stacked on a level surface in a dry place, preferably inside a building and properly protected from damp and inclement weather.

If Rhinoboards are to be stacked on a concrete floor inside a building, a damp proof membrane should be laid down, or a timber platform should be provided. A suitable platform can be constructed from timber bearers 75 x 75mm wide spaced at 400mm centres for all boards. The ends and edges of the boards should be neatly aligned.

Rhinoboards stored outside should be stacked on a level platform of timber bearers as described above, away from the ground. The stack should be completely covered with a securely anchored polythene sheet or tarpaulin.



## Handling & Cutting

### RHINOBOARD HANDLING

When board is manually off-loaded or stacked it should be carried on edge, two men to a pair of boards. Boards should not be carried with the surfaces horizontal, since this imposes an undesirable strain on the core. When a board is stacked or removed from a stack, the long edge should be placed down before it is turned horizontal.

Boards should not be slid over each other as this can scuff the surface. Rhinoboard is particularly suited to mechanical handling, but this should be done with care. Forklifts should be equipped with multipronged forks to handle boards exceeding 3000mm in length.



### RHINOBOARD CUTTING

Place the board flat on a level surface with the face upwards. Demarcate the cut. Place a straight edge next to the mark and with a sharp utility knife cut through the face layer of paper. Slide the board over the edge of the level surface or stand it on edge. Snap the core of the board and cut through the back layer of paper.

When required to cut and L-shape out of a board, the one limb must be cut with a fine toothed saw and the other limb with a utility knife as described above.

