



creason[®]

acoustic perforated
plasterboard for ceilings

Disclaimer

Products manufactured and systems designed by Etex Australia Pty Ltd and branded Siniat, are produced in accordance with the Building Code of Australia and relevant Australian Standards. Information in this document is to be used as a guide only and is subject to project approval as many aspects of construction are not comprehensively covered. It is also the responsibility of the project to determine if our products and systems are suitable for the intended application and they meet the relevant building code and project requirements. Etex Australia Pty Ltd will not be held responsible for any claims resulting from the installation of its products or other associated products not in accordance with the recommendations of the manufacturer's technical literature or relevant Australian Standards, or for situations not covered by our certification reports.

Siniat technical information is regularly updated. To ensure this document is current with the latest information, visit:

www.siniat.com.au

or contact Siniat's Customer Service Centre on

1300 724 505

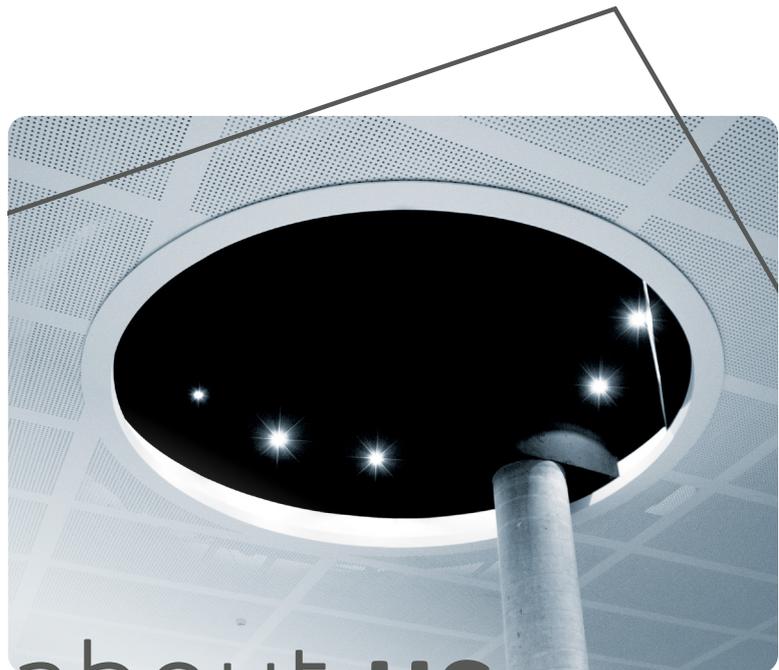
Warranty

Siniat products are covered by a comprehensive warranty.

Visit

www.siniat.com.au/warranty

Version 4
Nov 2022



about us

Siniat is one of the Etex Group's flagship commercial brands, and one of the leading global manufacturers of interior and exterior materials for drywall construction.

In Australia, Etex has Siniat manufacturing facilities located in Sydney, Melbourne, Bundaberg and Brisbane. Etex supplies Siniat branded plasterboard, compounds, cornice, steel profiles and associated products and systems to the Australian building industry through its national distribution network.

Siniat's comprehensive range of quality wall and ceiling lining products are developed with specific characteristics to enhance performance and provide fire, water, acoustic and decorative solutions to all construction projects.

The Siniat team is committed to providing excellent technical service and sales support to help with innovative solutions for your next project.

contents

| | |
|---|-----------|
| 1 introduction | 4 |
| 2 introducing CAPT'AIR® | 5 |
| 3 product range and acoustic performance | 6 |
| 4 installation | 12 |
| 5 construction details | 27 |



introduction

We spend 90% of our time indoors, so we should focus on making it healthy and comfortable to be inside.

Acoustic comfort is an important part of that. Architects and designers are becoming increasingly aware of the importance of achieving comfort due to its role in boosting productivity, reducing levels of stress and anxiety and achieving an overall feeling of wellness in an indoor environment.

creason is an effective and attractive way of creating the ultimate acoustic comfort in public spaces, including schools, hospitals, workplaces and restaurants.

It can also be used in residential applications such as open plan living areas and home theatres.

creason comes with the added benefit of CAPT'AIR® clean air technology, CAPT'AIR® clean air technology works quietly in the background to remove up to 80% of formaldehyde from the indoor air. Formaldehyde is a dangerous Volatile Organic Compound (VOC) that's often found in building materials and household products.

With **creason** it's easy ensure acoustic comfort of any interior space, while adding a beautiful decorative touch and improving the indoor air quality.

introducing CAPT'AIR®



improved indoor air quality — healthier spaces

Introducing Siniat CAPT'AIR®.

CAPT'AIR® technology was developed after 4 years of intensive technical research by our research partners in Europe.

CAPT'AIR® technology has been added to our **creason** perforated board range and actively works to capture formaldehyde, improving the air quality within buildings.

Once installed, the CAPT'AIR® technology in **creason** boards actively works to decompose formaldehyde emissions found in the air.

A polymer inside the board reacts with harmful formaldehyde to create a safe compound that is absorbed back into the board, resulting in a safer environment in any interior space that it is installed.

what is formaldehyde?

Formaldehyde is a volatile organic compound (VOC) that is commonly found in work and living spaces. This pollutant is known to increase health risks and impact our general wellbeing.

Due to its presence in manufactured wood products, fabrics and household products such as glues, paints cosmetics and detergents, formaldehyde is the most common volatile organic compound found in indoor spaces.

short-term health issues of VOCs:

- Headaches
- Nausea
- Eye irritation
- Coughing

long-term health issues of VOCs:

- Fatigue
- Respiratory issues
- Dizziness



creason®

creason provides superior sound absorption properties while adding a beautiful decorative touch.

It is suitable for internal application, and most often used in ceilings. It can however also be used at the top of internal walls (above traffic areas) where control of sound absorption and reverberation time is required.

creason is ideal for ceilings in high traffic public spaces, including schools, hospitals, the workplace and restaurants. It can also be used in residential applications such as open plan living areas and home theatres for the ultimate acoustic comfort.

The CAPT'AIR® technology incorporated in the boards actively removes harmful VOCs, thereby improving the air quality.

creason is available in two perforation patterns:

- round R12/25
- cube 12/25

Boards come with two longitudinal tapered edges and two transversal squared edges and is installed like regular plasterboard.

For more information download the Technical Data Sheet from siniat.com.au

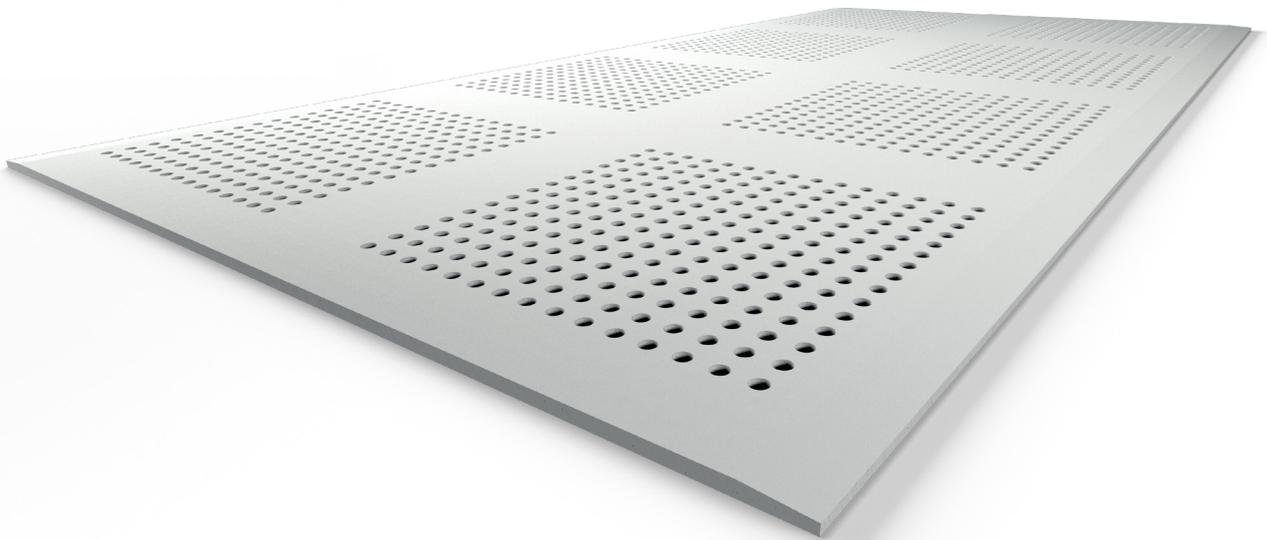
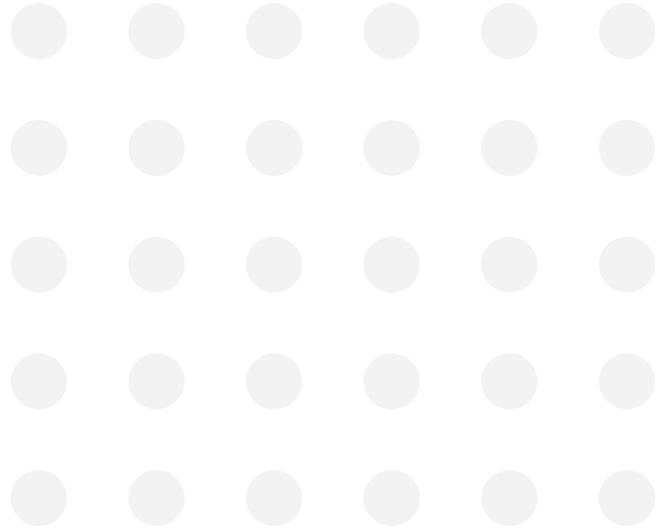
| design | perforation pattern | perforation ratio (%) | absorption (α_w / NRC) | Nominal sheet dimensions | | edge type |
|--------------------------------------|---------------------|-----------------------|--------------------------------|--------------------------|-------------|-----------------|
| | | | | width (mm) | length (mm) | 2 sides tapered |
| standard perforation patterns | | | | | | |
| round | R12/25 no.8 | 10.2 | 0.5 - 0.6 | 1200 | 2400 | • |
| cube | C12/25 no.8 | 16.1 | 0.6 - 0.8 | | | • |



creason® round R12/25 no.8

12mm diameter circle perforations

- Open Area: 10.2 %
- Nominal Sheet Dimensions: 12.5 x 1200 x 2400mm
- Actual Sheet Dimensions: 12.5 x 1197 x 2397mm
- Weight: 10 kg/m² (approximate)





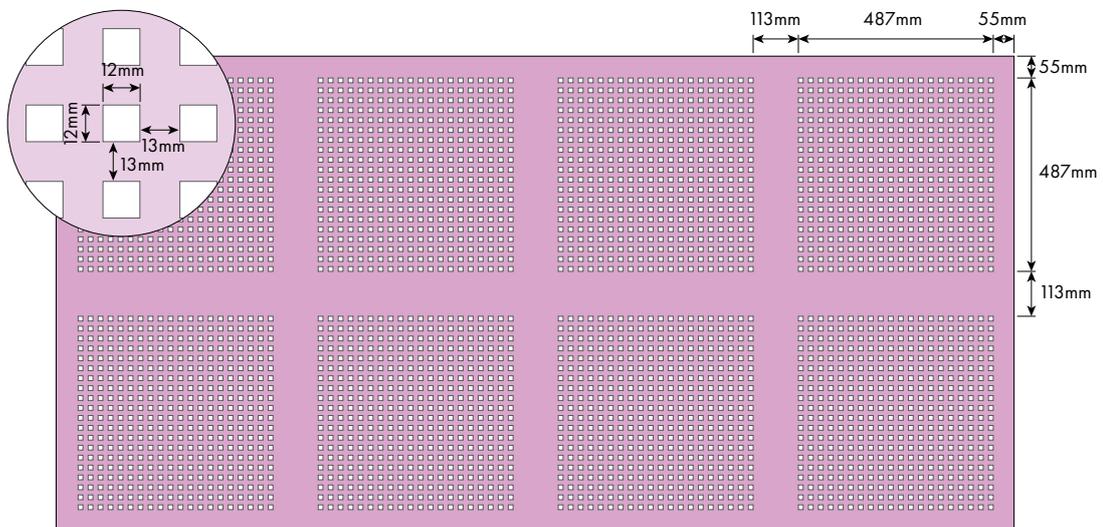
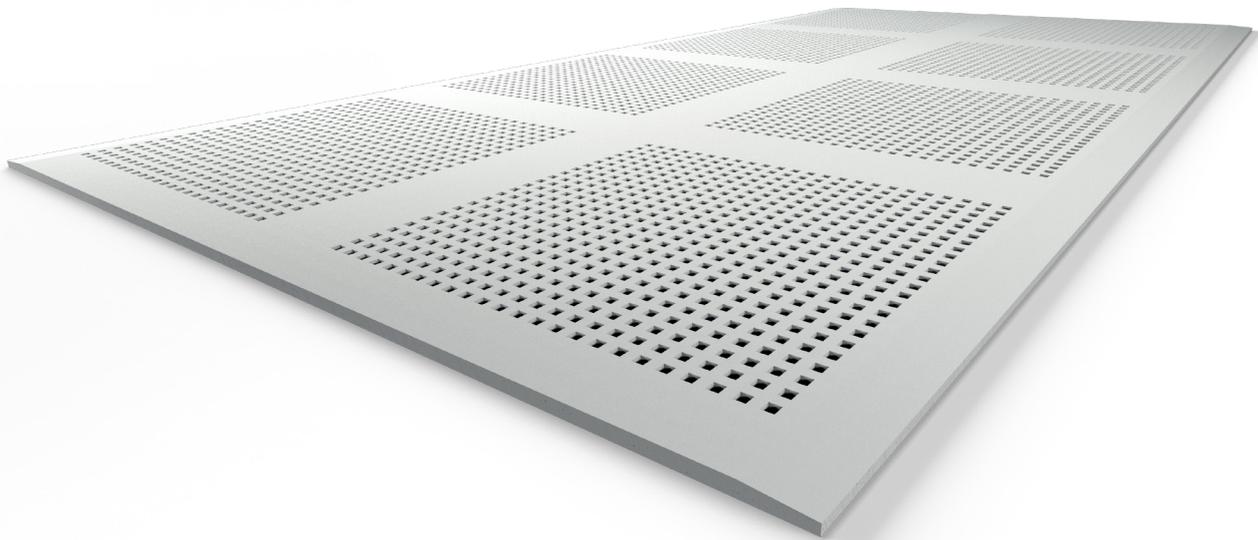
| creason R12/25 | ceiling cavity (mm) | α_p - Frequency (Hz) | | | | | | α_w | NRC |
|---|---------------------------|-----------------------------|-----|------|------|------|------|-------------|------------|
| | | 125 | 250 | 500 | 1000 | 2000 | 4000 | | |
| No Insulation | 187 | 0.4 | 0.7 | 0.65 | 0.55 | 0.45 | 0.4 | 0.5 | 0.6 |
| Pink® Partition 75mm 14kg/m³ R1.9 | 187 | 0.55 | 0.7 | 0.65 | 0.55 | 0.5 | 0.45 | 0.55 | 0.6 |



creason® cube C12/25 no.8

12mm square perforations

- Open Area: 16.1 %
- Nominal Sheet Dimensions: 12.5 x 1200 x 2400mm
- Actual Sheet Dimensions: 12.5 x 1197 x 2397mm
- Weight: 10 kg/m² (approximate)





| creason C12/25 | ceiling cavity (mm) | α_p - Frequency (Hz) | | | | | | α_w | NRC |
|---|---------------------------|-----------------------------|------|------|------|------|------|-------------|-------------|
| | | 125 | 250 | 500 | 1000 | 2000 | 4000 | | |
| No Insulation | 47 | 0.15 | 0.45 | 0.75 | 0.8 | 0.6 | 0.45 | 0.6 | 0.65 |
| | 187 | 0.45 | 0.75 | 0.8 | 0.65 | 0.55 | 0.5 | 0.6 | 0.7 |
| Pink® Partition 75mm 14kg/m³ R1.9 | 47 | 0.4 | 0.75 | 0.9 | 0.8 | 0.65 | 0.55 | 0.7 | 0.8 |
| | 187 | 0.6 | 0.85 | 0.8 | 0.75 | 0.7 | 0.65 | 0.75 | 0.8 |
| | 587 | 0.7 | 0.75 | 0.8 | 0.7 | 0.6 | 0.6 | 0.7 | 0.7 |



General Requirements

Install control joints in plasterboard ceilings:

- › **At 12m maximum intervals**
- › **At all control joints in the structure**
- › **At any change in the substrate**
- › **At the junction of a large room and passageway.**

Separate **creason** ceilings from other building elements, such as walls and columns by creating control joints that allow for movement, e.g. utilising a shadow line profile or tear away bead.

All ceilings in this section are non-trafficable. Do not walk on plasterboard ceilings!

Limit dead loads on plasterboard ceilings to 2 kg/m² for plasterboard spanning 600mm framing centres.

Limit dead loads on plasterboard ceilings to 2.5 kg/m² for plasterboard spanning 450mm framing centres.

Attach ceiling fixtures to framing members only. Ensure the framing is designed to carry any additional load.

Framing

- › **creason** must have an air cavity behind it for it to perform as a sound absorber.
- › Plasterboard installations in close proximity to metal roofs (i.e. raked ceiling or with small ceiling cavities) require smaller control joint intervals or joints left unfilled as they are exposed to larger rates of thermal expansion and contraction of the roof and/or ceiling framing otherwise cracking of the ceiling and joint peaking is expected.
- › Excessive vibration of the ceiling (by the installation of ceiling services, etc is known to cause jointing cracking and joint peaking.
- › Locate ceiling services so they do not cut through ceiling framing members, otherwise some degradation of the ceiling can be expected

 Use the Siniat Reverberation time calculator to assist in determining how much of the ceiling and or wall area should be covered. Alternatively involve an acoustic consultant, especially for very high ceilings and unusually shaped rooms such as those with domed or sloping ceilings.

Siniat Reverberation Time Calculator



Use Siniat's Reverberation Time Calculator by clicking on the link or by focusing your phone's camera on the QR code.

Framing members as per framing tables or structural design up to 600mm maximum. Also refer to Section 5.1 for more information on ceiling framing.

For a specific project, determine the relevant wind pressure load on an internal ceiling from Section 2.3, or the QR link below in the Span Tables section. Wind pressure loads must be considered for internal ceilings to comply with AS/NZS 1170.2 *Wind Actions* and AS/NZS 2785 *Suspended Ceilings - Design and Installation*.

Contact Siniat or a structural engineer to check ceiling for earthquake actions. Specific project information is required.

Stagger joints in adjacent Top Cross Rails and Furring Channels by 1200mm minimum.

Install additional framing members around openings.

Non-Fire Rated
Internal Direct Fix Ceiling Frames

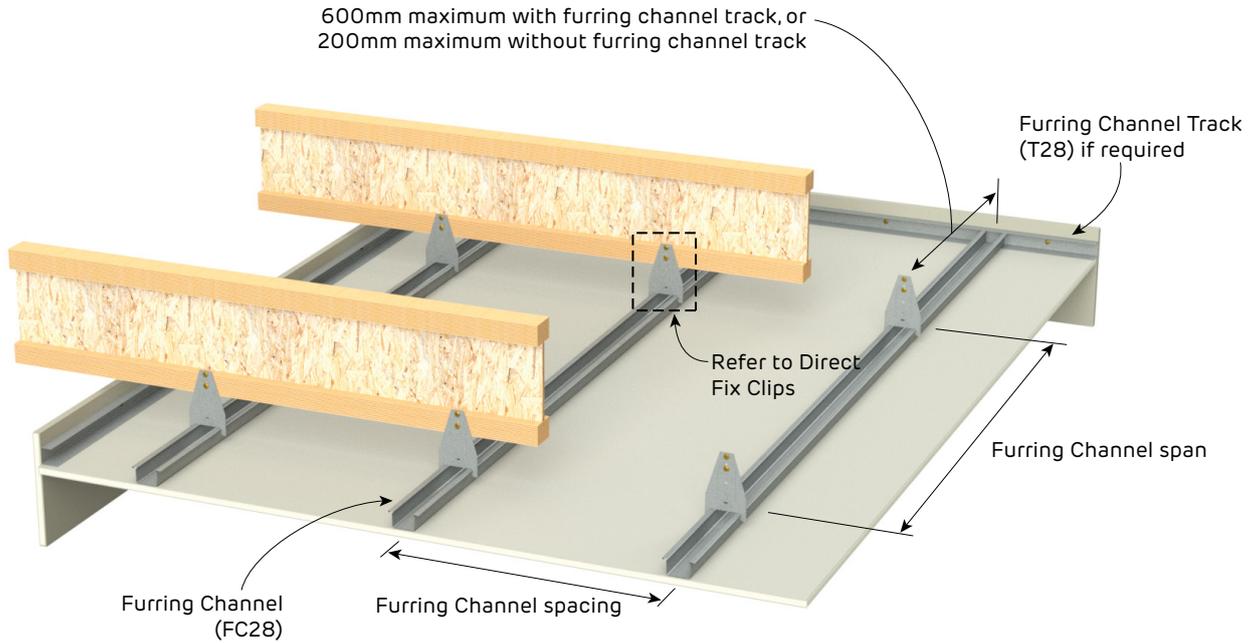


FIGURE 1 Direct Fix Furring Channel Ceiling Frame
Perspective

Non-Fire Rated
Details for Single Span, Double Span or 3-or-More Span Ceilings

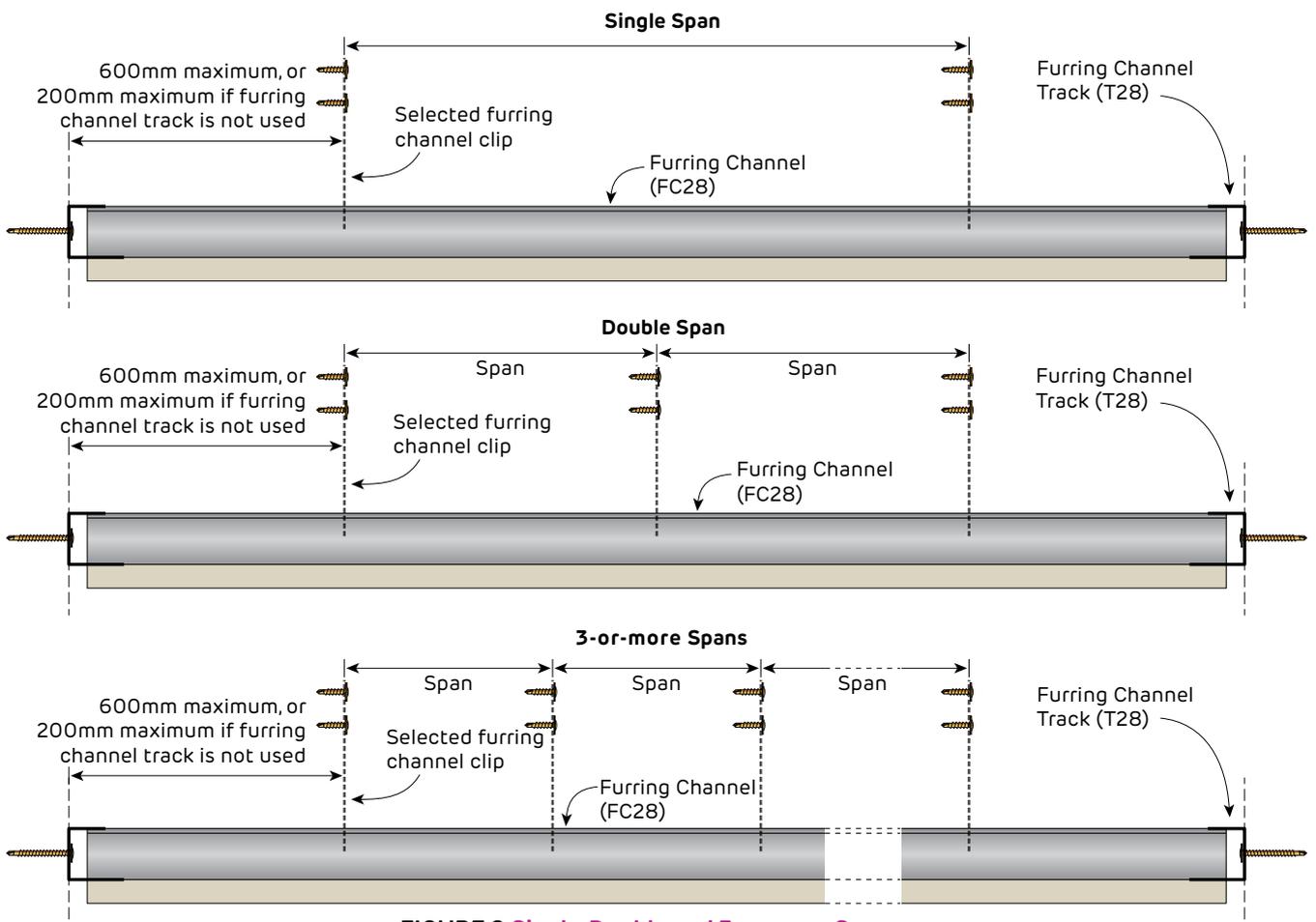
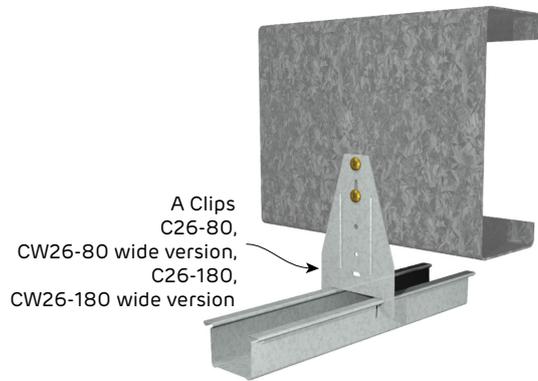


FIGURE 2 Single, Double and 3-or-more Spans
Section



Non-Fire Rated Typical Direct Fix Clips



A Clips
C26-80,
CW26-80 wide version,
C26-180,
CW26-180 wide version

FIGURE 3 A Clip and Furring Channel
Perspective

Furring Channel Anchor Clip
C37-7H,
CW37-7H wide version,
C37-9H,
CW37-9H wide version

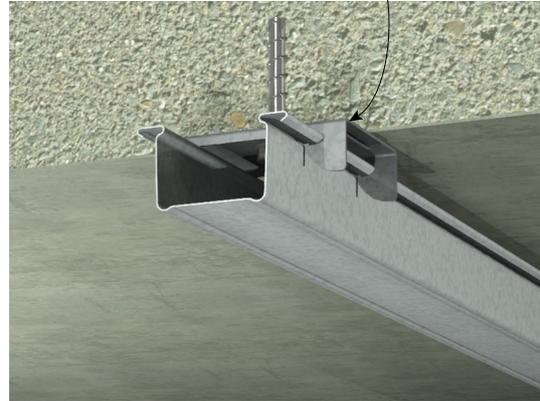


FIGURE 4 Anchor Clip and Furring Channel
Perspective



Direct fixing clips may generate noise when fixed to materials subject to daily thermal expansion and contraction

**Table 1 28mm Furring Channel Ceiling Span Table - REGION A**

Refer to Section 2.3 for assistance determining the relevant wind pressures for a specific project.

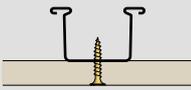
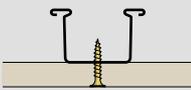
| 28mm Furring Channel (AFC28) Ceiling Span Table | |  | | Up to BCA Building Importance Level 3 | | Ultimate pressure W_U (kPa) | | 0.39 | |
|---|------------------------------|---|------------------------|---------------------------------------|------------------------|-------------------------------------|------------------------|------|--|
| | | | | | | Serviceability pressure W_S (kPa) | | 0.25 | |
| Ceiling Lining | Furring Channel Spacing (mm) | Single Span | | Double Span | | 3-or-more Spans | | | |
| | | Span (mm) | Connection Demand (kN) | Spans (mm) | Connection Demand (kN) | Spans (mm) | Connection Demand (kN) | | |
| 1 layer of 12.5mm Creason | 600 | 1180 | 0.21 | 1580 | 0.72 | 1460 | 0.60 | | |
| | 400 | 1350 | 0.16 | 1810 | 0.55 | 1670 | 0.46 | | |
| | 300 | 1480 | 0.13 | 1990 | 0.45 | 1840 | 0.38 | | |

Table 2 28mm Furring Channel Ceiling Span Table - REGION A

Refer to Section 2.3 for assistance determining the relevant wind pressures for a specific project.

| 28mm Furring Channel (AFC28) Ceiling Span Table | |  | | Up to BCA Building Importance Level 3 | | Ultimate pressure W_U (kPa) | | 0.46 | |
|---|------------------------------|---|------------------------|---------------------------------------|------------------------|-------------------------------------|------------------------|------|--|
| | | | | | | Serviceability pressure W_S (kPa) | | 0.3 | |
| Ceiling Lining | Furring Channel Spacing (mm) | Single Span | | Double Span | | 3-or-more Spans | | | |
| | | Span (mm) | Connection Demand (kN) | Spans (mm) | Connection Demand (kN) | Spans (mm) | Connection Demand (kN) | | |
| 1 layer of 12.5mm Creason | 600 | 1110 | 0.22 | 1490 | 0.75 | 1370 | 0.63 | | |
| | 400 | 1270 | 0.17 | 1700 | 0.57 | 1570 | 0.48 | | |
| | 300 | 1400 | 0.14 | 1870 | 0.47 | 1730 | 0.40 | | |

1. Table based upon downward (suction) and upward (uplift) pressures, intended for internal use only.
2. Table includes self weight and 1 kg/m² insulation weight with an additional 3 kg/m² service load. No further allowance for additional point loads or live loads.
3. Contact Siniat or a structural engineer to check ceiling for earthquake actions. Specific project information is required.
4. Table refers to Siniat Furring Channel of Base Metal Thickness (BMT) 0.42mm of grade G550 steel with Zinalume™ AM150 corrosion protection. Maximum production lengths available are 6.0m
5. Designed in accordance with AS/NZS 4600:2018 Cold Formed Steel Structures and AS/NZS 2785:2020 Suspended Ceilings - Design and Installation.
6. Wind pressures determined in accordance with AS/NZS 1170.2 Wind Actions.
7. Connections to clips must be checked with the *Clip Capacity Table*.
8. Ultimate Limit State Load Case 1: 1.2G + W_u (Suction) + $Q_{0.03kPa}$ Service Load
Ultimate Limit State Load Case 2: 0.9G + W_u (Uplift).
9. Serviceability Limit State Load Case 1: G, with deflection limited to Span/500.
Serviceability Limit State Load Case 2: W_s , with deflection limited to Span/360.
10. Perimeter anchors at 600mm maximum centres and 100mm maximum from track ends with minimum 0.7 kN shear capacity.
11. The nominated lateral pressures and deflection limits must be checked for suitability for a specific project.
12. For BCA Building Importance Level 4, please contact Siniat.

Siniat Internal Wind Load Calculator



Refer to Section 2.3 for assistance determining the relevant internal wind pressures for a specific project. Or use the Siniat Internal Wind Load Calculator by clicking on the link or by focusing your phone's camera on the QR code.


Table 3 28mm Furring Channel Ceiling Span Table - REGION B

Refer to Section 2.3 for assistance determining the relevant wind pressures for a specific project.

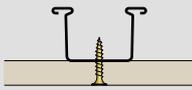
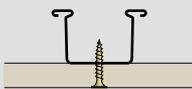
| 28mm Furring Channel (AFC28) Ceiling Span Table | |  | | Up to BCA Building Importance Level 3 | | Ultimate pressure W_U (kPa) | 0.59 |
|---|------------------------------|---|------------------------|---------------------------------------|------------------------|-------------------------------------|------------------------|
| | | | | | | Serviceability pressure W_S (kPa) | 0.25 |
| Ceiling Lining | Furring Channel Spacing (mm) | Single Span | | Double Span | | 3-or-more Spans | |
| | | Span (mm) | Connection Demand (kN) | Spans (mm) | Connection Demand (kN) | Spans (mm) | Connection Demand (kN) |
| 1 layer of 12.5mm Creason | 600 | 1130 | 0.27 | 1410 | 0.85 | 1410 | 0.78 |
| | 400 | 1350 | 0.22 | 1730 | 0.70 | 1670 | 0.61 |
| | 300 | 1480 | 0.18 | 1990 | 0.60 | 1840 | 0.51 |

Table 4 28mm Furring Channel Ceiling Span Table - REGION B

Refer to Section 2.3 for assistance determining the relevant wind pressures for a specific project.

| 28mm Furring Channel (AFC28) Ceiling Span Table | |  | | Up to BCA Building Importance Level 3 | | Ultimate pressure W_U (kPa) | 0.71 |
|---|------------------------------|---|------------------------|---------------------------------------|------------------------|-------------------------------------|------------------------|
| | | | | | | Serviceability pressure W_S (kPa) | 0.3 |
| Ceiling Lining | Furring Channel Spacing (mm) | Single Span | | Double Span | | 3-or-more Spans | |
| | | Span (mm) | Connection Demand (kN) | Spans (mm) | Connection Demand (kN) | Spans (mm) | Connection Demand (kN) |
| 1 layer of 12.5mm Creason | 600 | 1050 | 0.29 | 1310 | 0.91 | 1310 | 0.83 |
| | 400 | 1270 | 0.23 | 1610 | 0.74 | 1570 | 0.66 |
| | 300 | 1400 | 0.19 | 1860 | 0.64 | 1730 | 0.55 |

- Table based upon downward (suction) and upward (uplift) pressures, intended for internal use only.
- Table includes self weight and 1 kg/m² insulation weight with an additional 3 kg/m² service load. No further allowance for additional point loads or live loads.
- Contact Siniat or a structural engineer to check ceiling for earthquake actions. Specific project information is required.
- Table refers to Siniat Furring Channel of Base Metal Thickness (BMT) 0.42mm of grade G550 steel with Zinalume™ AM150 corrosion protection. Maximum production lengths available are 6.0m
- Designed in accordance with AS/NZS 4600:2018 *Cold Formed Steel Structures* and AS/NZS 2785:2020 *Suspended Ceilings - Design and Installation*.
- Wind pressures determined in accordance with AS/NZS 1170.2 *Wind Actions*.
- Connections to clips must be checked with the *Clip Capacity Table*.
- Ultimate Limit State Load Case 1: 1.2G + W_u (Suction) + $Q_{0.03kPa}$ Service Load
Ultimate Limit State Load Case 2: 0.9G + W_u (Uplift).
- Serviceability Limit State Load Case 1: G, with deflection limited to Span/500.
Serviceability Limit State Load Case 2: W_s , with deflection limited to Span/360.
- Perimeter anchors at 600mm maximum centres and 100mm maximum from track ends with minimum 0.7 kN shear capacity.
- The nominated lateral pressures and deflection limits must be checked for suitability for a specific project.
- For BCA Building Importance Level 4, please contact Siniat.

Non-Fire Rated
Internal Suspended Ceiling Frames

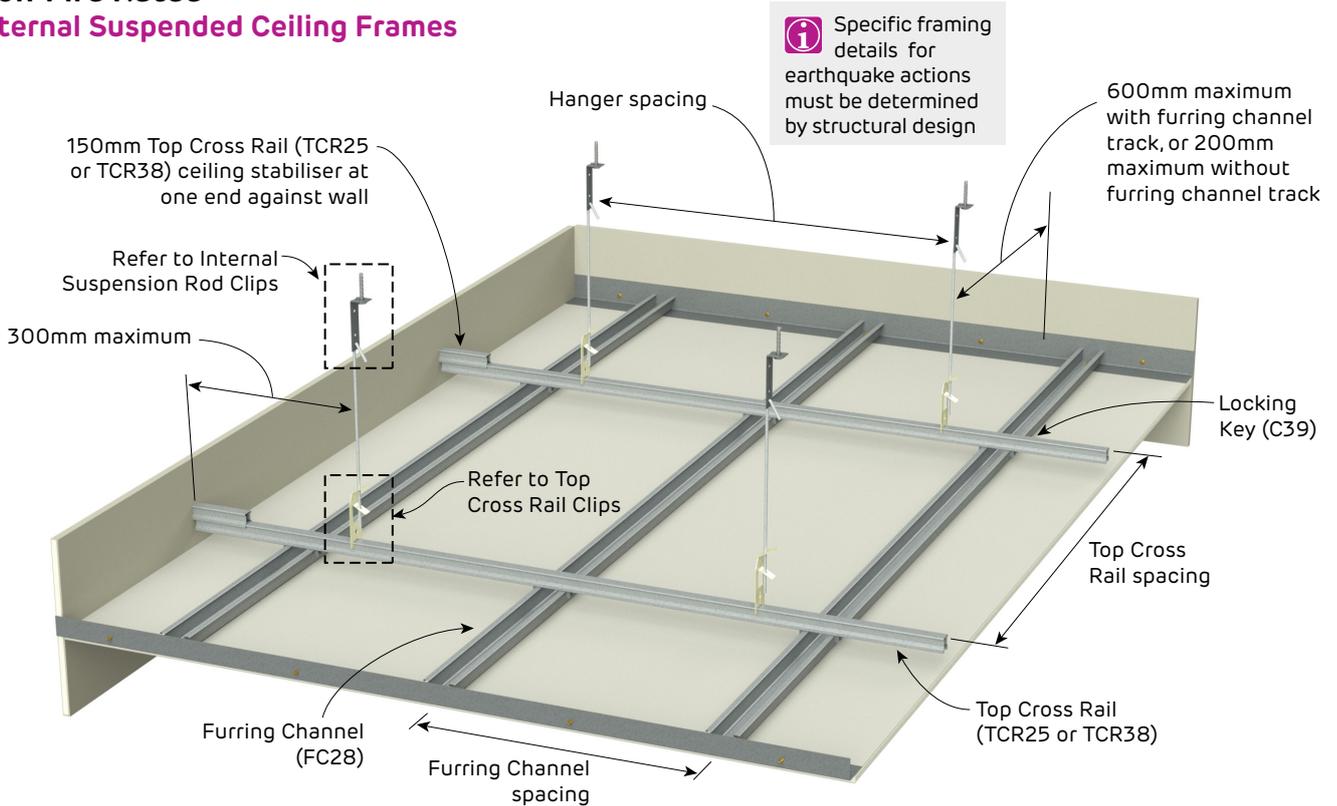


FIGURE 5 Suspended Ceiling Frame
Perspective

Non-Fire Rated
Details for Single Span, Double Span or 3-or-More Span Ceilings

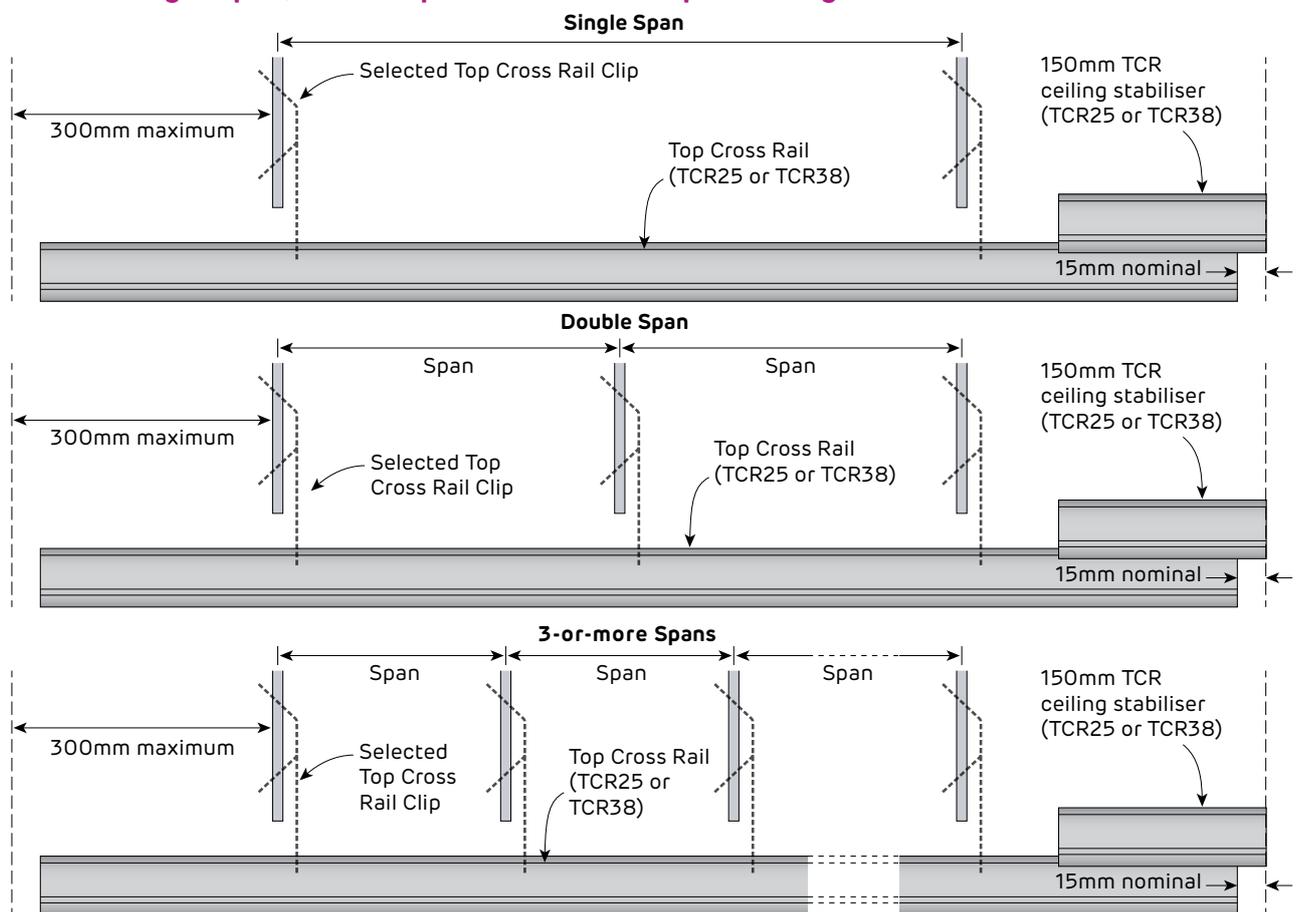


FIGURE 6 Top Cross Rail - Single, Double and 3-or-more Spans
Section



**Non-Fire Rated
Typical Suspension Rod Clips**

Spring Adjustable Anchor
to Suspension Rod Clip
(C60LDF)

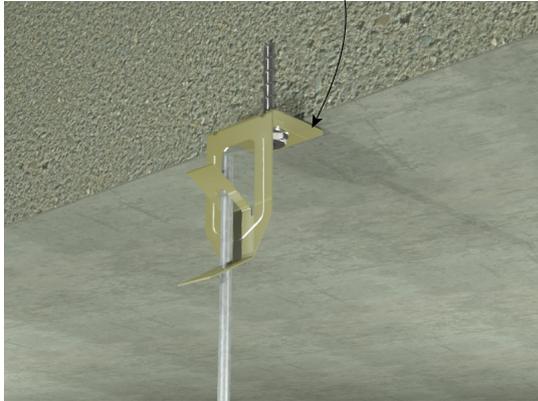


FIGURE 7 Spring Adjustable Direct Fix Clip to Concrete
Perspective

Spring Adjustable Purlin
to Suspension Rod Clip
(C60DF)

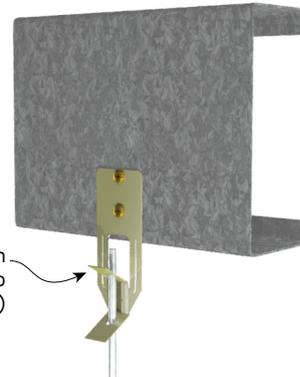


FIGURE 8 Spring Adjustable Direct Fix Clip to Purlin
Perspective

Typical Top Cross Rail Clips

Spring Adjustable
Suspension Rod to Top
Cross Rail Clip (C60)

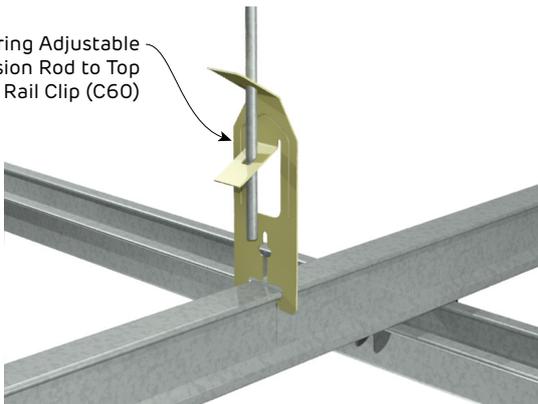


FIGURE 9 Spring Adjustable Suspension Rod to TCR Clip
Perspective and Sections

Top Cross Rail to
Purlin Clip (C66)

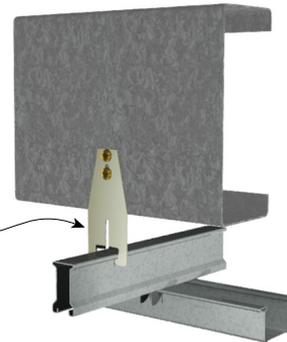


FIGURE 10 Top Cross Rail Direct Fix Clip to Purlin
Perspective and Sections

Locking Key

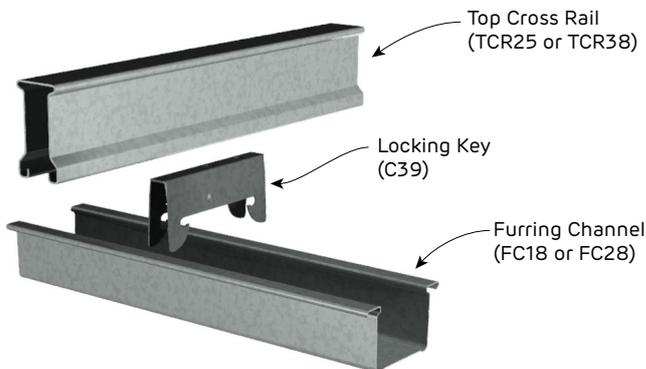


FIGURE 11 Locking Key
Perspective



Table 5 25mm Top Cross Rail Ceiling Span Table - REGION A

Refer to Section 2.3 for assistance determining the relevant wind pressures for a specific project.

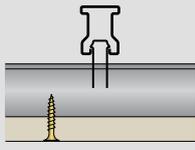
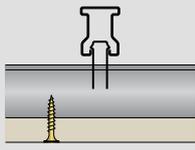
| 25mm Top Cross Rail Span Suspended Ceiling Table | | |  | | Up to BCA Building Importance Level 3 | | Ultimate pressure W_U (kPa) | | 0.39 | |
|--|-----------------------------------|-----------------------------|---|--------------------|--|--------------------|-------------------------------------|--------------------|---------------------|--------------------|
| | | | | | | | Serviceability pressure W_S (kPa) | | 0.25 | |
| Ceiling Lining | 28mm Furring Channel Spacing (mm) | Top Cross Rail Spacing (mm) | Single Span | | Double Span | | 3-or-more Spans | | | |
| | | | Hanger Spacing (mm) | Hanger Demand (kN) | Hanger Spacing (mm) | Hanger Demand (kN) | Hanger Spacing (mm) | Hanger Demand (kN) | Hanger Spacing (mm) | Hanger Demand (kN) |
| 1 layer of 12.5mm Creason | 600 | 900 | 1040 | 0.42 | 970 | 0.99 | 1050 | 0.98 | | |
| | | 1050 | 990 | 0.47 | 900 | 1.07 | 970 | 1.05 | | |
| | | 1200 | 950 | 0.52 | 840 | 1.14 | 910 | 1.13 | | |
| | 400 | 900 | 1040 | 0.42 | 1040 | 1.06 | 1120 | 1.04 | | |
| | | 1050 | 990 | 0.47 | 960 | 1.14 | 1040 | 1.13 | | |
| | | 1200 | 900 | 0.52 | 900 | 1.22 | 970 | 1.20 | | |

Table 6 25mm Top Cross Rail Ceiling Span Table - REGION B

Refer to Section 2.3 for assistance determining the relevant wind pressures for a specific project.

| 25mm Top Cross Rail Span Suspended Ceiling Table | | |  | | Up to BCA Building Importance Level 3 | | Ultimate pressure W_U (kPa) | | 0.59 | |
|--|-----------------------------------|-----------------------------|--|--------------------|--|--------------------|-------------------------------------|--------------------|---------------------|--------------------|
| | | | | | | | Serviceability pressure W_S (kPa) | | 0.25 | |
| Ceiling Lining | 28mm Furring Channel Spacing (mm) | Top Cross Rail Spacing (mm) | Single Span | | Double Span | | 3-or-more Spans | | | |
| | | | Hanger Spacing (mm) | Hanger Demand (kN) | Hanger Spacing (mm) | Hanger Demand (kN) | Hanger Spacing (mm) | Hanger Demand (kN) | Hanger Spacing (mm) | Hanger Demand (kN) |
| 1 layer of 12.5mm Creason | 600 | 750 | 1110 | 0.50 | 920 | 1.04 | 1000 | 1.03 | | |
| | | 900 | 1040 | 0.56 | 840 | 1.14 | 910 | 1.13 | | |
| | | 1050 | 960 | 0.61 | 780 | 1.23 | 840 | 1.22 | | |
| | 400 | 900 | 1040 | 0.56 | 900 | 1.22 | 970 | 1.20 | | |
| | | 1050 | 960 | 0.61 | 830 | 1.31 | 900 | 1.30 | | |
| | | 1200 | 900 | 0.65 | 780 | 1.41 | 840 | 1.39 | | |

Anchor Table

| Concrete Grade | Anchor |
|----------------|---------|
| 20 - 25 MPa | SSA6x60 |
| ≥32MPa | SSA6x45 |

1. No edge / spacing effects.

- Table based upon downward (suction) and upward (uplift) pressures, intended for internal use only. Down- struts are required for uplift.
- Table includes self weight and 1 kg/m² insulation weight with an additional 3 kg/m² service load. No further allowance for additional point loads or live loads.
- Contact Siniat or a structural engineer to check ceiling for earthquake actions. Specific project information is required.
- Table refers to Siniat Furring Channels of 0.42mm Base Metal Thickness (BMT) of grade G550 steel and Siniat Top Cross Rails of 0.75mm BMT of grade G300, both with Zinalume™ AM150 corrosion protection. Maximum production lengths available are 6.0m
- Furring Channels checked for 2-or-more spans only. If required, contact Siniat for Single Span furring channel check.
- Designed in accordance with AS/NZS 4600:2018 Cold Formed Steel Structures and AS/NZS 2785:2020 Suspended Ceilings - Design and Installation.
- Wind pressures determined in accordance with AS/NZS 1170.2 Wind Actions.
- Connections to clips must be checked with the *Clip Capacity Table*.
- Ultimate Limit State Load Case 1: 1.2G + Wu (Suction) + Q_{0.03kPa Service Load}
Ultimate Limit State Load Case 2: 0.9G + Wu (Uplift).
- Serviceability Limit State Load Case 1: G, with deflection limited to Span/500.
Serviceability Limit State Load Case 2: G + Ws, with deflection limited to Span/200.
- Perimeter anchors at 600mm maximum centres and 100mm maximum from track ends with minimum 0.7 kN shear capacity.
- The nominated lateral pressures and deflection limits must be checked for suitability for a specific project.
- For BCA Building Importance Level 4, please contact Siniat.


Table 7 38mm Top Cross Rail Ceiling Span Table - REGION A

Refer to Section 2.3 for assistance determining the relevant wind pressures for a specific project.

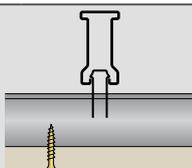
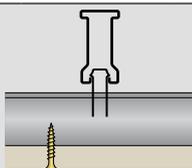
| 38mm Top Cross Rail Span Suspended Ceiling Table | |  | | Up to BCA Building Importance Level 3 | | Ultimate pressure W_U (kPa) | | 0.39 | |
|---|-----------------------------------|---|---------------------|---------------------------------------|---------------------|-------------------------------------|---------------------|--------------------|--------------------|
| | | | | | | Serviceability pressure W_S (kPa) | | 0.25 | |
| Ceiling Lining | 28mm Furring Channel Spacing (mm) | Top Cross Rail Spacing (mm) | Single Span | | Double Span | | 3-or-more Spans | | |
| | | | Hanger Spacing (mm) | Hanger Demand (kN) | Hanger Spacing (mm) | Hanger Demand (kN) | Hanger Spacing (mm) | Hanger Demand (kN) | Hanger Demand (kN) |
| 1 layer of 12.5mm Creason | 600 | 1050 | 1410 | 0.67 | 107 | 1.27 | 115 | 1.25 | |
| | | 1200 | 1350 | 0.73 | 100 | 1.36 | 108 | 1.34 | |
| | | 1350 | 1300 | 0.79 | 940 | 1.44 | 102 | 1.43 | |
| | 400 | 1050 | 1410 | 0.67 | 1150 | 1.37 | 1240 | 1.35 | |
| | | 1200 | 1350 | 0.73 | 1080 | 1.47 | 1160 | 1.44 | |
| | | 1350 | 1300 | 0.79 | 1010 | 1.54 | 1100 | 1.54 | |

Table 8 38mm Top Cross Rail Ceiling Span Table - REGION A

Refer to Section 2.3 for assistance determining the relevant wind pressures for a specific project.

| 38mm Top Cross Rail Span Suspended Ceiling Table | |  | | Up to BCA Building Importance Level 3 | | Ultimate pressure W_U (kPa) | | 0.46 | |
|---|-----------------------------------|--|---------------------|---------------------------------------|---------------------|-------------------------------------|---------------------|--------------------|--------------------|
| | | | | | | Serviceability pressure W_S (kPa) | | 0.3 | |
| Ceiling Lining | 28mm Furring Channel Spacing (mm) | Top Cross Rail Spacing (mm) | Single Span | | Double Span | | 3-or-more Spans | | |
| | | | Hanger Spacing (mm) | Hanger Demand (kN) | Hanger Spacing (mm) | Hanger Demand (kN) | Hanger Spacing (mm) | Hanger Demand (kN) | Hanger Demand (kN) |
| 1 layer of 12.5mm Creason | 600 | 900 | 1360 | 0.72 | 1010 | 1.34 | 1090 | 1.32 | |
| | | 1050 | 1300 | 0.79 | 940 | 1.42 | 1020 | 1.41 | |
| | | 1200 | 1250 | 0.85 | 890 | 1.52 | 960 | 1.50 | |
| | 400 | 1050 | 1360 | 0.72 | 1090 | 1.45 | 1180 | 1.43 | |
| | | 1200 | 1300 | 0.79 | 1020 | 1.55 | 1100 | 1.52 | |
| | | 1350 | 1250 | 0.85 | 960 | 1.64 | 1040 | 1.62 | |

Anchor Table

| Concrete Grade | Anchor |
|----------------|---------|
| 20 - 25 MPa | SSA6x60 |
| ≥32MPa | SSA6x45 |

1. No edge / spacing effects.

- Table based upon downward (suction) and upward (uplift) pressures, intended for internal use only. Downstruts are required for uplift.
- Table includes self weight and 2 kg/m² insulation weight with an additional 3 kg/m² service load. No further allowance for additional point loads or live loads.
- Contact Siniat or a structural engineer to check ceiling for earthquake actions. Specific project information is required.
- Table refers to Siniat Furring Channels of 0.42mm Base Metal Thickness (BMT) of grade G550 steel and Siniat Top Cross Rails of 0.75mm BMT of grade G300, both with Zinalume™ AM150 corrosion protection. Maximum production lengths available are 6.0m
- Furring Channels checked for 2-or-more spans only. If required, contact Siniat for Single Span furring channel check.
- Designed in accordance with AS/NZS 4600:2018 *Cold Formed Steel Structures* and AS/NZS 2785:2020 *Suspended Ceilings - Design and Installation*.
- Wind pressures determined in accordance with AS/NZS 1170.2 *Wind Actions*.
- Connections to clips must be checked with the *Clip Capacity Table* in Section 5.1.
- Ultimate Limit State Load Case 1: 1.2G + W_u (Suction) + $Q_{0.03kPa}$ Service Load
Ultimate Limit State Load Case 2: 0.9G + W_u (Uplift).
- Serviceability Limit State Load Case 1: G, with deflection limited to Span/500.
Serviceability Limit State Load Case 2: G + W_s , with deflection limited to Span/200.
- Perimeter anchors at 600mm maximum centres and 100mm maximum from track ends with minimum 0.7 kN shear capacity.
- The nominated lateral pressures and deflection limits must be checked for suitability for a specific project.
- For BCA Building Importance Level 4, please contact Siniat.



Table 9 38mm Top Cross Rail Ceiling Span Table - REGION B

Refer to Section 2.3 for assistance determining the relevant wind pressures for a specific project.

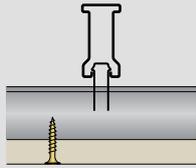
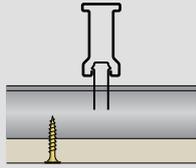
| 38mm Top Cross Rail Span Suspended Ceiling Table | | |  | | Up to BCA Building Importance Level 3 | | Ultimate pressure W_U (kPa) | | 0.59 | |
|--|-----------------------------------|-----------------------------|---|--------------------|---------------------------------------|--------------------|-------------------------------------|--------------------|---------------------|--------------------|
| | | | | | | | Serviceability pressure W_S (kPa) | | 0.25 | |
| Ceiling Lining | 28mm Furring Channel Spacing (mm) | Top Cross Rail Spacing (mm) | Single Span | | Double Span | | 3-or-more Spans | | | |
| | | | Hanger Spacing (mm) | Hanger Demand (kN) | Hanger Spacing (mm) | Hanger Demand (kN) | Hanger Spacing (mm) | Hanger Demand (kN) | Hanger Spacing (mm) | Hanger Demand (kN) |
| 1 layer of 12.5mm Creason | 600 | 900 | 1380 | 0.75 | 1000 | 1.36 | 1080 | 1.34 | | |
| | | 1050 | 1290 | 0.82 | 920 | 1.46 | 1000 | 1.45 | | |
| | | 1200 | 1220 | 0.88 | 860 | 1.55 | 930 | 1.54 | | |
| | 400 | 900 | 1380 | 0.75 | 1080 | 1.46 | 1160 | 1.44 | | |
| | | 1050 | 1290 | 0.82 | 1000 | 1.58 | 1080 | 1.56 | | |
| | | 1200 | 1220 | 0.88 | 930 | 1.68 | 1010 | 1.67 | | |

Table 10 38mm Top Cross Rail Ceiling Span Table - REGION B

Refer to Section 2.3 for assistance determining the relevant wind pressures for a specific project.

| 38mm Top Cross Rail Span Suspended Ceiling Table | | |  | | Up to BCA Building Importance Level 3 | | Ultimate pressure W_U (kPa) | | 0.71 | |
|--|-----------------------------------|-----------------------------|--|--------------------|---------------------------------------|--------------------|-------------------------------------|--------------------|---------------------|--------------------|
| | | | | | | | Serviceability pressure W_S (kPa) | | 0.3 | |
| Ceiling Lining | 28mm Furring Channel Spacing (mm) | Top Cross Rail Spacing (mm) | Single Span | | Double Span | | 3-or-more Spans | | | |
| | | | Hanger Spacing (mm) | Hanger Demand (kN) | Hanger Spacing (mm) | Hanger Demand (kN) | Hanger Spacing (mm) | Hanger Demand (kN) | Hanger Spacing (mm) | Hanger Demand (kN) |
| 1 layer of 12.5mm Creason | 600 | 900 | 1300 | 0.81 | 930 | 1.45 | 1000 | 1.43 | | |
| | | 1050 | 1220 | 0.89 | 860 | 1.56 | 930 | 1.55 | | |
| | | 1200 | 1150 | 0.96 | 800 | 1.66 | 870 | 1.65 | | |
| | 400 | 900 | 1300 | 0.81 | 1000 | 1.56 | 1090 | 1.55 | | |
| | | 1050 | 1220 | 0.89 | 930 | 1.69 | 1000 | 1.66 | | |
| | | 1200 | 1150 | 0.96 | 840 | 1.75 | 920 | 1.75 | | |

Anchor Table

| Concrete Grade | Anchor |
|----------------|---------|
| 20 - 25 MPa | SSA6x60 |
| ≥32MPa | SSA6x45 |

1. No edge / spacing effects.

- Table based upon downward (suction) and upward (uplift) pressures, intended for internal use only. Downstruts are required for uplift.
- Table includes self weight and 2 kg/m² insulation weight with an additional 3 kg/m² service load. No further allowance for additional point loads or live loads.
- Contact Siniat or a structural engineer to check ceiling for earthquake actions. Specific project information is required.
- Table refers to Siniat Furring Channels of 0.42mm Base Metal Thickness (BMT) of grade G550 steel and Siniat Top Cross Rails of 0.75mm BMT of grade G300, both with Zinalume™ AM150 corrosion protection. Maximum production lengths available are 6.0m
- Furring Channels checked for 2-or-more spans only. If required, contact Siniat for Single Span furring channel check.
- Designed in accordance with AS/NZS 4600:2018 Cold Formed Steel Structures and AS/NZS 2785:2020 Suspended Ceilings - Design and Installation.
- Wind pressures determined in accordance with AS/NZS 1170.2 Wind Actions.
- Connections to clips must be checked with the Clip Capacity Table in Section 5.1.
- Ultimate Limit State Load Case 1: 1.2G + W_u (Suction) + $Q_{0.03kPa}$ Service Load
Ultimate Limit State Load Case 2: 0.9G + W_u (Uplift).
- Serviceability Limit State Load Case 1: G, with deflection limited to Span/500.
Serviceability Limit State Load Case 2: G + W_s , with deflection limited to Span/200.
- Perimeter anchors at 600mm maximum centres and 100mm maximum from track ends with minimum 0.7 kN shear capacity.
- The nominated lateral pressures and deflection limits must be checked for suitability for a specific project.
- For BCA Building Importance Level 4, please contact Siniat.



Layout

| |
|---|
| Plan the ceiling layout to suit the creason sheet size in order to minimise the number of joints and create symmetrical patterns. |
| Start sheeting from the centre of the room. |
| Install creason ceilings perpendicular to framing members. |
| Chamfer butt joints and cut edges in preparation for jointing. |
| Fix butt joints on Wide-face Furring Channel (FC60/28). |
| Install one entire row in each direction before proceeding. Refer to Figure 12. |

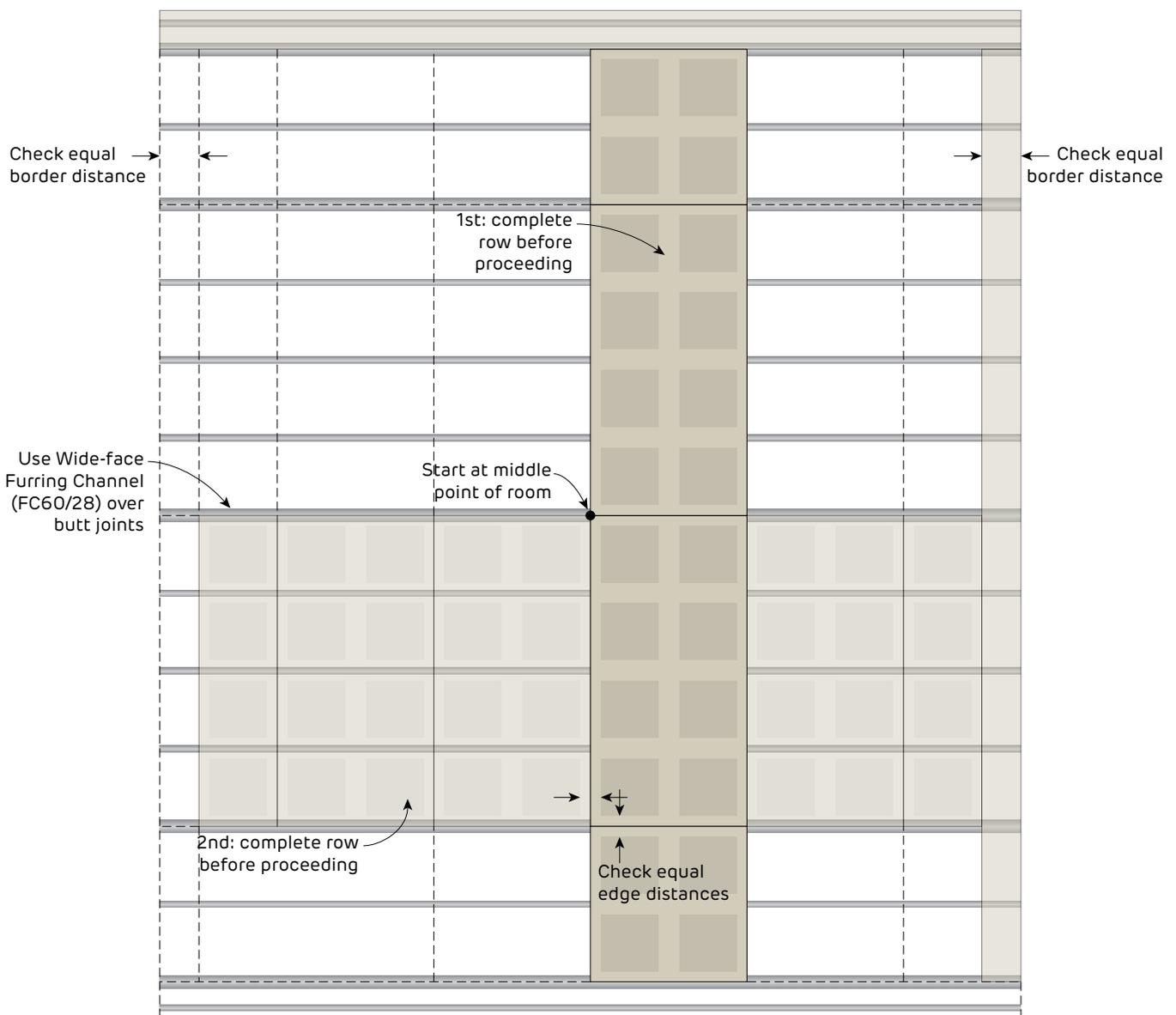


FIGURE 12 Ceiling Layout Plan

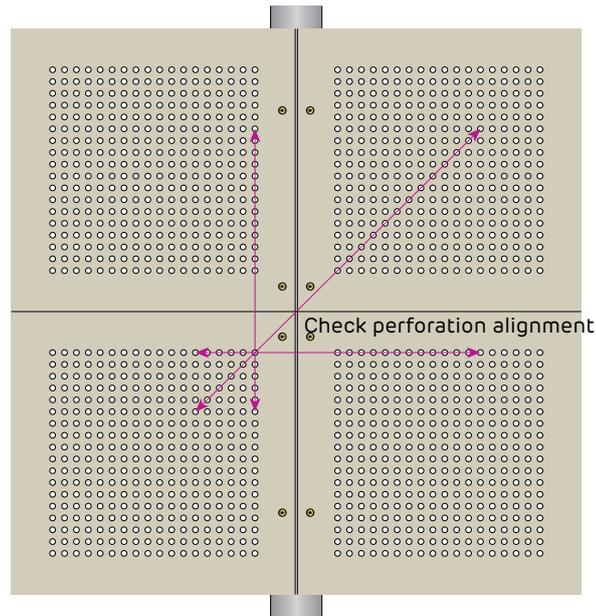


FIGURE 13 Perforation Alignment Plan



Fixing

Use the 'Screw Only Method'. Adhesive is not permitted.

Drive screws to just below the sheet surface, taking care not to break the paper linerboard. For over-driven screws, install another screw 20mm away. Leave or remove the over-driven screw and patch.

Screw Type and Minimum Size for the Installation of Plasterboard to Steel

| Plasterboard Thickness | 1st Layer |
|------------------------|-----------------|
| 12.5mm | 6g x 25mm screw |

For steel ≤ 0.75 mm BMT, use fine thread needle point screws.

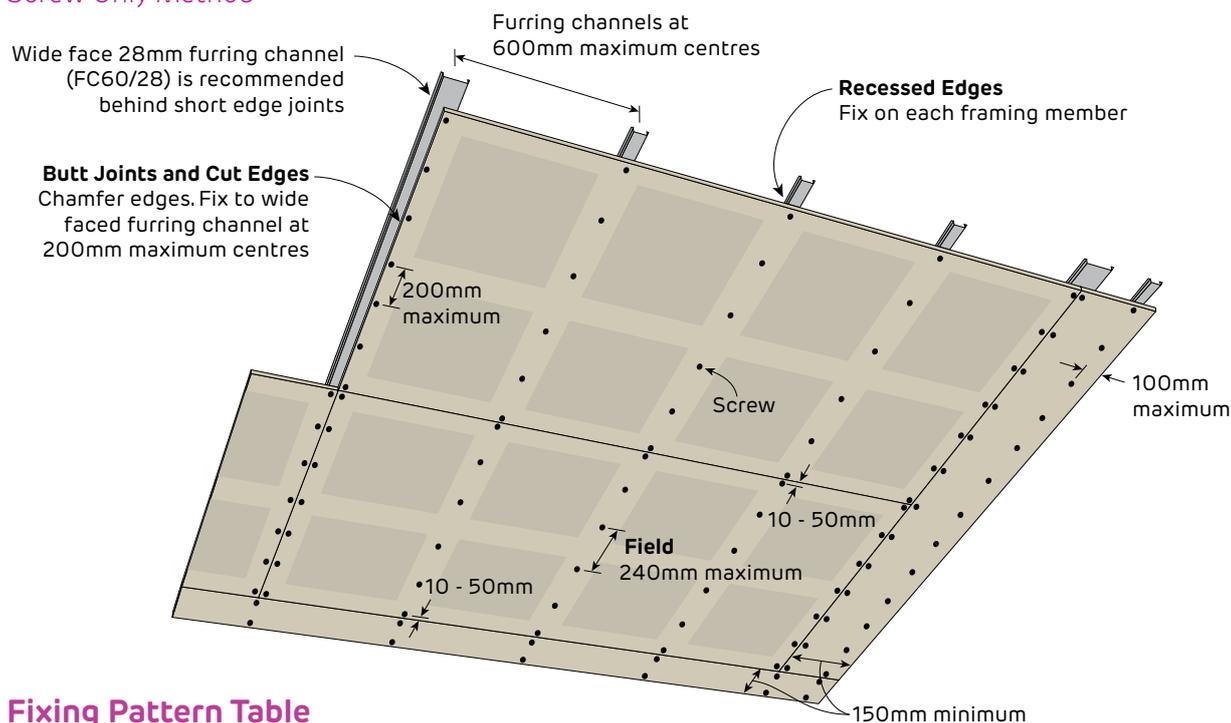
For steel ≥ 0.75 mm BMT, use fine thread drill point screws.

Fastener Type and Minimum Size for the Installation of Plasterboard to Softwood Timber

| Plasterboard Thickness | 1st Layer |
|------------------------|-----------------|
| 12.5mm | 6g x 32mm screw |

FIGURE 14 Creason Internal Ceiling - 1 Layer

Screw Only Method



Fixing Pattern Table

| Sheet Width | Location | Screw Fixing Pattern |
|-------------|---------------------------|----------------------|
| 1200mm | Field | S S S S S S (6) |
| | Short edges (butt joints) | S S S S S S S (7) |

S = One screw

Maximum Ultimate Limit State Wind Load Table (kPa)

| Plasterboard Thickness | Maximum Ceiling Frame Spacing | | |
|------------------------|-------------------------------|-------|-------|
| | 600mm | 400mm | 300mm |
| 12.5mm | 1.00 | 1.55 | 2.10 |

- Calculations do not include the framing which must be independently designed to suit the desired load.
- Calculations include a ceiling insulation with maximum weight of 1.05 kg/m² (equivalent to Pink® Partition 75mm 14kg/m³ R1.9 Batts).
- If higher internal wind pressures are expected, please contact Siniat for specific design.

Curving

Apply water on the front face with a roller and leave for 30 minutes.

Lay the sheet over a template. Secure the panel on one side of the template.

Press the sheet against the template using a batten, moving it every 100mm. Secure the panel on the other side of the template. Drying time approximately 2 hours.

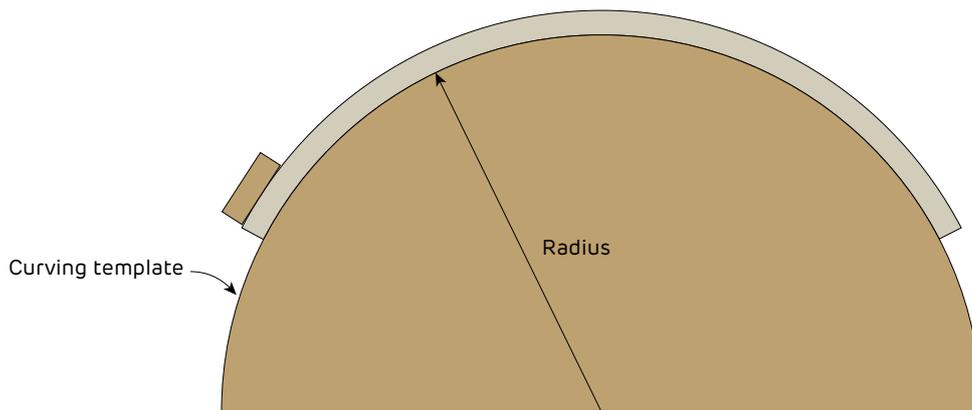


FIGURE 15 Curving Template
Section

Table 11 Maximum Frame Spacing and Minimum Curve Radius for Creason

| Creason | Curve Radius (mm) | | |
|-------------------------------|------------------------------|------|------|
| | 2000 | 2500 | 3000 |
| | Maximum Framing Centres (mm) | | |
| Concave - curved along length | 300 | 300 | 400 |
| Convex - curved along length | 300 | 300 | 400 |
| Concave - curved along width | - | 300 | 400 |
| Convex - curved along width | - | - | 400 |



Finishing

Jointing

| |
|--|
| |
| Jointing must not be conducted until all ceiling services and access panels are installed in the ceiling, otherwise the excessive vibration may cause joint cracking or peaking. |
| Dampen chamfered edges with water to remove any loose gypsum before applying jointing compounds. |
| Use paper tape and 2 coats of mastabase , mastalongset or mastatape-in and a finish coat of mastaglide , mastaline or mastalite . For more information refer to Section 7.3. |
| Do not obstruct perforations during jointing. |

Sanding

| |
|---|
| |
| Sanding is a critical part of achieving a high quality finish. Care should be taken when sanding joints to achieve a smooth surface. |
| Lightly sand to a smooth even surface using 150 to 220 grit sandpaper or sanding mesh. Do not expose or scuff the paper linerboard while sanding. |

Painting

| |
|--|
| |
| A three coat paint system must be applied in accordance with Australian Standard <i>AS/NZS 2311, Guide to the painting of buildings</i> . Both the quality of the paint and how it is applied have a large effect on the finished appearance of the creason plasterboard. |
| Apply the paint with a short napped roller and avoid the application of excess paint at any time. |



› Only use a roller application for painting. Roller application applies a uniform texture over the entire surface and ensures the paint does not fill the perforations or contact the acoustic felt on the back of the plasterboard.

- › Spray painting is not permitted.
- › For more information on finishing plasterboard refer to Section 7.

Non-Fire Rated Creason Details

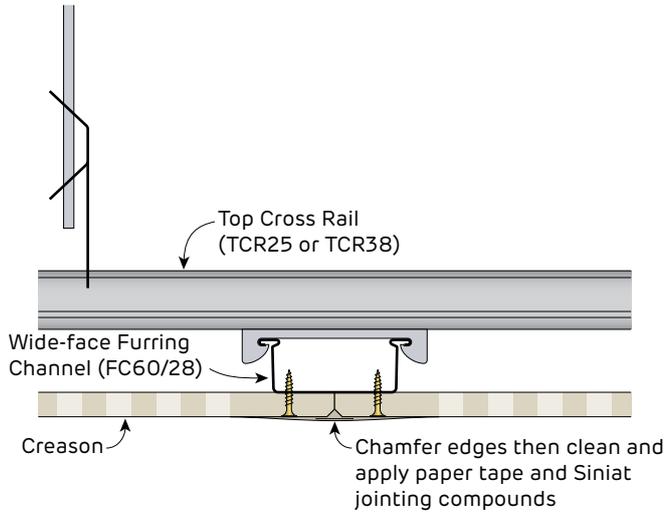


FIGURE 16 Butt Joints
Section

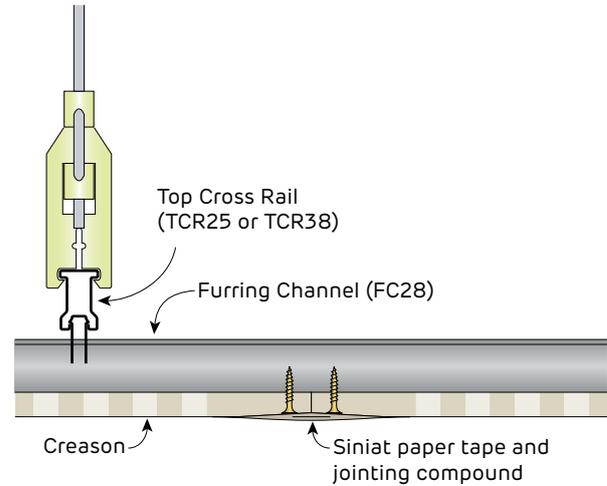


FIGURE 17 Recessed Joints
Section

Control Joints

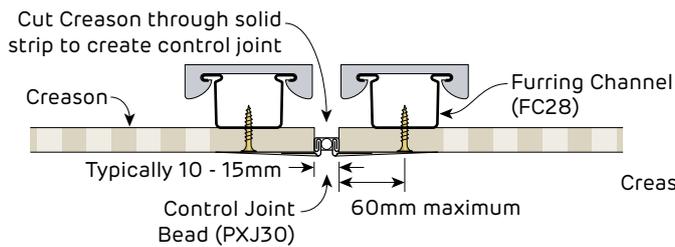


FIGURE 18 Control Joint
Parallel to furring channel
Section

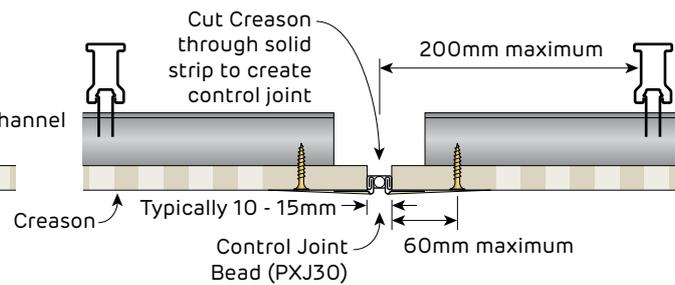


FIGURE 19 Control Joint
Perpendicular to furring channel
Section



Non-Fire Rated Ceiling Perimeter Finishing Details

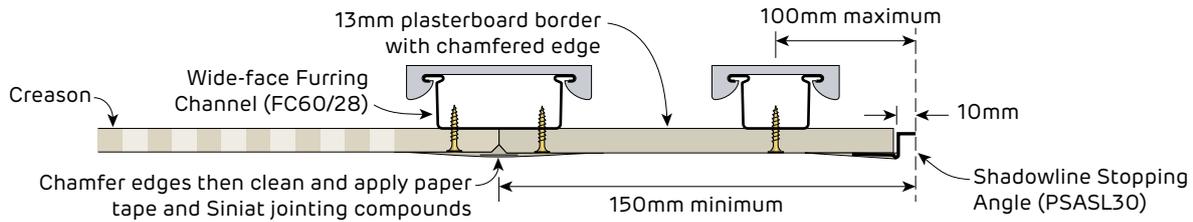


FIGURE 20 Finishing Detail - Shadowline
Section

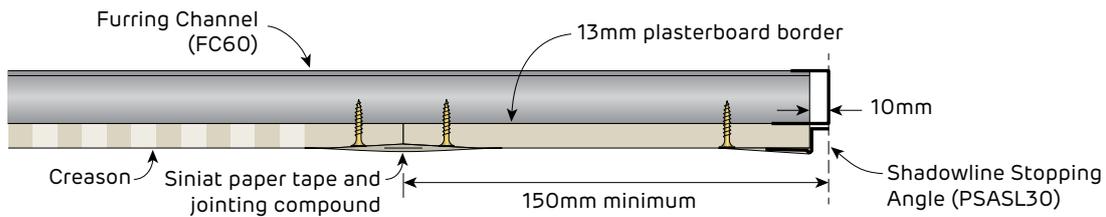


FIGURE 21 Finishing Detail - Shadowline
Section

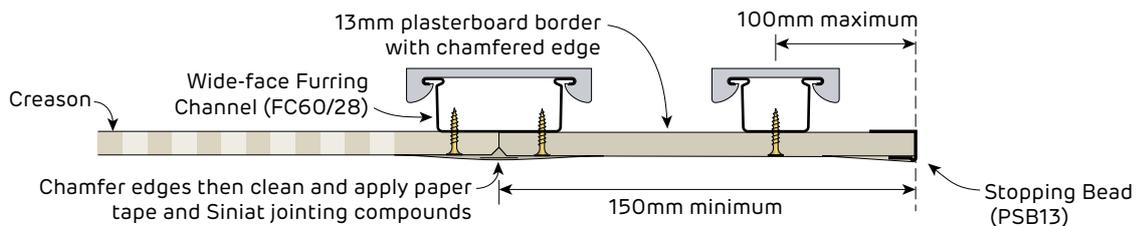


FIGURE 22 Finishing Detail - Stopping Bead
Section

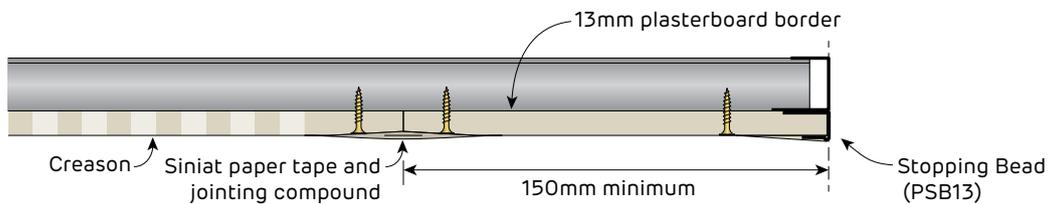


FIGURE 23 Finishing Detail - Stopping Bead
Section

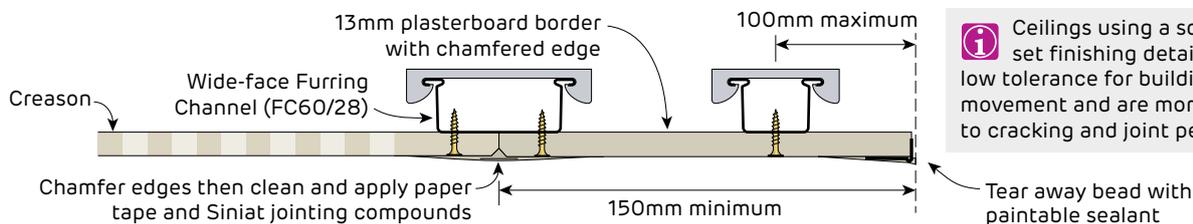


FIGURE 24 Finishing Detail - Tear Away Bead
Section

i Ceilings using a square set finishing detail have low tolerance for building movement and are more prone to cracking and joint peaking

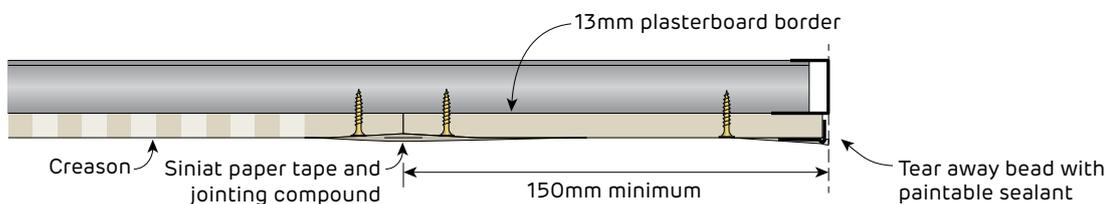
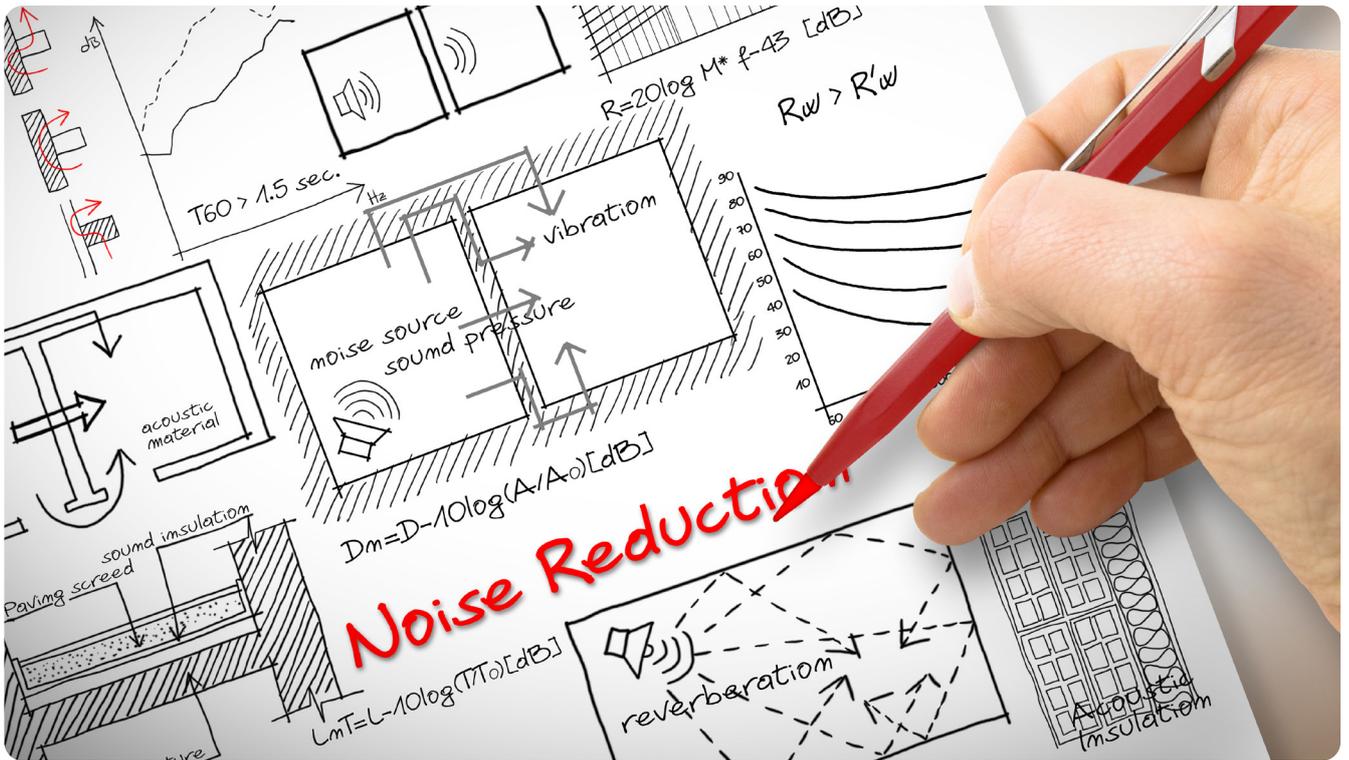


FIGURE 25 Finishing Detail - Tear Away Bead
Section



A word on reverberation

In an enclosed space, sound gets reflected many times from hard and smooth surfaces to create reverberation. This leads to the sound persisting long after its source ceased generating it.

The time required for the reverberated noise level to decay by 60dB is called reverberation time, represented by RT (or RT60), measured in seconds.

Spaces without sound absorbing materials such as large, unfurnished and empty rooms have long reverberation times. Spaces with lots of sound absorbers such as cinemas have short reverberation times.

The function of the room will determine its reverberation time requirements. Long reverberation times make a space acoustically "live" and may suit spaces optimized for music, while short reverberation times will reduce the noise. Shorter reverberation times enhance the speech intelligibility in a room.

AS/NZS 2107:2016 *Acoustics—Recommended design sound levels and reverberation times for building interiors* provides the recommended design sound levels and reverberation times for building interiors. See the table below.

| Application | Recommended Reverberation Time (seconds) |
|---|--|
| Primary school classroom | 0.4 ~ 0.5 |
| Secondary school classroom | 0.5 ~ 0.6 |
| Libraries, open plan offices, medical consulting rooms, hospital corridors & lobbies | 0.4 ~ 0.6 |
| Call centres | 0.1 ~ 0.4 |
| Meeting rooms, office corridors & lobbies, assembly halls, private offices | 0.6 ~ 0.8 |
| Hospital wards, laboratories, waiting rooms & reception areas | 0.4 ~ 0.7 |
| Speech auditoriums, lecture theatres, conference & convention centres, drama theatres | 0.7 ~ 0.10 |

Siniat offers an online reverberation time calculator where you can specify your reverberation time requirements, provide your room dimensions, existing building materials, furnishing level and occupancy of your space and find out the current estimated reverberation time.

Siniat Reverberation Time Calculator



Use Siniat's Reverberation Time Calculator by clicking on the link or by focusing your phone's camera on the QR code.

six reasons to love Siniat **SELECT**

Siniat SELECT (formerly known as K-SPEC) has been developed in-house by our team of technical specialists, making it easy for you to specify our wall and ceiling systems for your next project. As an architect, specifier or builder you cannot afford to miss out on the benefits of this service brought to you by Siniat.

1. It is free and for everyone

It's free to register for Siniat SELECT. All you need to do is to setup a password protected account and you will gain access to your own profile, with all your projects neatly listed. You do not have to be an existing Siniat client or customer to make use of the service. Siniat SELECT is a valuable tool for all architects, specifiers and builders, but anyone can register to make use of the program. You only need to register once, and all your project information will be safely and confidently stored on the platform. You can access your Siniat SELECT Project Proposals from any device and anywhere, you just need a modern browser and internet.

2. It makes specification easy

Siniat SELECT helps you to specify the right wall and ceiling systems that meet your project specific needs. Siniat's Blueprint Technical Manual is a comprehensive source of information on all our products and systems, their performances when it comes to fire ratings, acoustic ratings, etc., but finding the right system to suit your project can be time consuming. Siniat SELECT does the hard work for you. Simply enter the project requirements and the program will guide you through choosing the most cost effective solution from our wide range of systems. You can add all the required wall and ceiling types under your specific project and export your Siniat SELECT Project Proposal with a click of a button. You can attach associated product data sheets and test reports automatically.

3. It is customisable

In addition to System Selector, Siniat SELECT includes a System Maker to create and edit your own system. This means that you can put together your own specific wall and ceiling components out of a large range of products if there is not an existing Siniat system that ticks all the boxes.

4. It is project specific

System Selector not only will help you to find the right Siniat System to match your individual project specific architectural requirements, but you can also find and specify a suitable framing system from the range of Siniat non-load bearing lightweight steel frame options for the selected system. Siniat SELECT takes that one step further because it's been designed for the complete wall and ceiling systems. This means that Siniat SELECT will help you to create a proposal document for your entire project with everything saved together under one unique project ID.

5. It is linked to BIM

If you are a Revit user, you can add your Siniat SELECT Project Proposal in to your BIM project using Siniat's Revit Add-In, with just the click of a button. If you are an Archicad user, you can download Archicad files of any system in Siniat SELECT directly and import them as Archicad Composites in to your BIM project, without needing an Add-In.

6. Pre-defined templates available

You can load one of the pre-defined Siniat SELECT Project Proposal templates from a drop-down list and have your complete Siniat SELECT Project Proposal ready instantly. New templates have recently been added. Pre-defined Siniat SELECT Project Proposal templates include Siniat's recommended system solutions to meet or exceed the Building Code of Australia's deemed-to-satisfy or acceptable construction requirements for that specific type of building. You can access your Siniat SELECT Project Proposals from any device and anywhere, you just need a modern browser and internet.

To discover the benefits of Siniat SELECT, visit [siniat.com.au/siniat-solutions](https://www.siniat.com.au/siniat-solutions)



Etex Australia Pty Ltd
ABN 61 003 621 010

31 Military Road
Matraville NSW 2036

siniat.com.au

warranty

Siniat's products are guaranteed
by a comprehensive warranty.
For details visit siniat.com.au

customer service and
technical advice

AU 1300 724 505