5.3 Steel Stud Ceilings

The ceilings in this section are constructed using steel studs as the ceiling joists. Common applications for these ceilings include corridors, above stairwells, and under concrete floors.

This section contains systems for fire rated ceilings, including fire rated from above only, and fire rated from above and below.

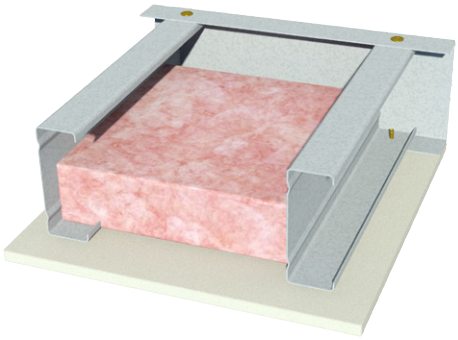
If access is from below only, and the ceiling is required to be fire rated from above, a sacrificaial frame must be installed first. Refer to 'built from the underside' construction details in this section for more information. Alternatively, consider the Shaft Wall Ceiling, refer to Section 5.4.

For acoustic ceiling systems using steel stud framing to control soil and waste pipe noise, refer to Section 6.1.

For additional information of ceiling installation, refer to Section 5.1.

Steel stud ceiling and duct systems are not suitable to operate as an air supply duct while exposed to an external fire or to contain products of combustion, ie: smoke exhaust. Shaft Wall systems have been tested to *AS 1530.4: Fire-resistance tests for elements of construction*, Section 3 (Walls) but not *AS 1530.4*, Section 9 (Air Ducts).

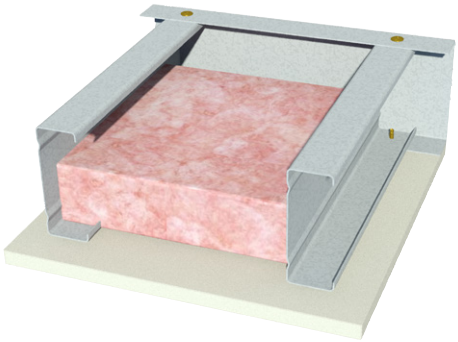
SSC102



- Minimum 64mm steel ceiling studs at maximum 450mm centres
- [Below] 1 layer of 10mm **span**shield

Stud Depth (mm)	**Ceiling Thickness (mm)**	**Sound Insulation** for studs at 450mm centres **Rw (Rw + Ctr)**		
		No insulation	Pink® Partition 50mm 11kg/m³	Report
64	74	28 (24)	31 (27)	Day Design 3094-35
76	86			
92	102			
150	160			

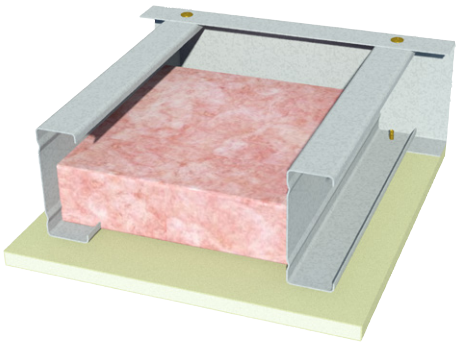
SSC104



- Minimum 64mm steel ceiling studs at maximum 450mm centres
- [Below] 1 layer of 13mm **masta**shield or **water**shield

Stud Depth (mm)	**Ceiling Thickness (mm)**	**Sound Insulation** for studs at 450mm centres **Rw (Rw + Ctr)**		
		No insulation	Pink® Partition 50mm 11kg/m³	Report
64	77	29 (25)	32 (28)	Day Design 3094-35
76	89			
92	105			
150	163			

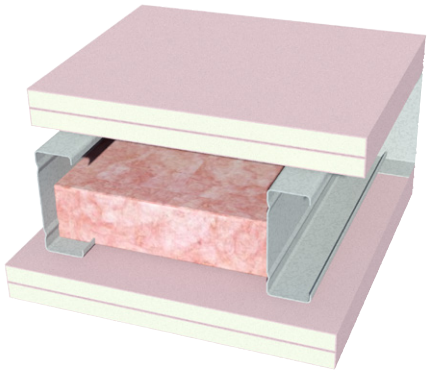
SSC108



- Minimum 64mm steel ceiling studs at maximum 450mm centres
- [Below] 1 layer of 13mm **sound**shield or **opal**

Stud Depth (mm)	**Ceiling Thickness (mm)**	**Sound Insulation** for studs at 450mm centres **Rw (Rw + Ctr)**		
		No insulation	Pink® Partition 50mm 11kg/m³	Report
64	77	30 (27)	33 (30)	Day Design 3094-35
76	89			
92	105			
150	163			

SSC2

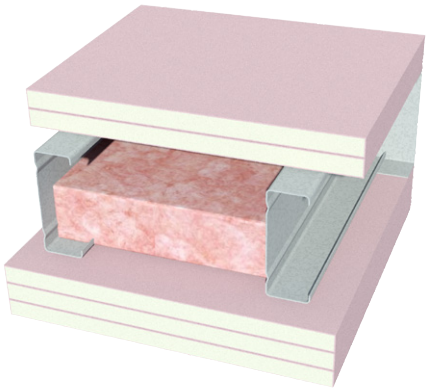


- [Above] 2 layers of 16mm **fire**shield or **multi**shield or **tru**rock
- Minimum 64mm steel ceiling studs at maximum 450mm centres
- [Below] 2 layers of 16mm **fire**shield or **multi**shield or **tru**rock

Fire Resistance Level
120/120/120
from above
90/90/90
from below
Report FC14332

Stud Depth (mm)	**Ceiling Thickness (mm)**	**Sound Insulation** for studs at 450mm centres **Rw (Rw + Ctr)**		
		No insulation	Pink® Partition 50mm 11kg/m³	Report
64	128	47 (38)	50 (42)	Day Design 3094-23 Insul v8
76	140	48 (39)	50 (43)	
92	156	49 (42)	55 (49)	
150	214	51 (44)	55 (**51**)	

SSC3



- [Above] 2 layers of 16mm **fire**shield or **multi**shield or **tru**rock
- Minimum 64mm steel ceiling studs at maximum 450mm centres
- [Below] 3 layers of 16mm **fire**shield or **multi**shield or **tru**rock

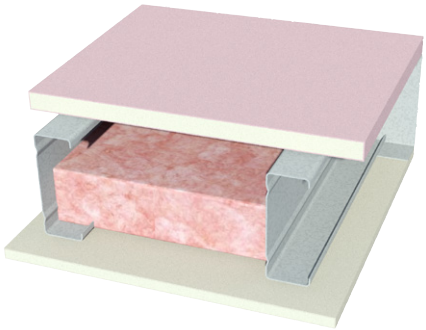
Fire Resistance Level

120/120/120
from above and below

Report FC14332

Stud Depth (mm)	**Ceiling Thickness** (mm)	**Sound Insulation** for studs at 450mm centres **Rw (Rw + Ctr)**		
		No insulation	Pink® Partition 50mm 11kg/m³	Report
64	144	50 (41)	52 (45)	Day Design 3094-23 Insul v8
76	156	50 (41)	52 (46)	
92	172	52 (45)	57 (**52**)	
150	230	54 (47)	57 (**53**)	

SSC4



- [Above] 1 layer of 16mm **fire**shield or **multi**shield or **tru**rock
- Minimum 64mm steel ceiling studs at maximum 450mm centres
- [Below] 1 layer of 10mm **masta**shield or **water**shield

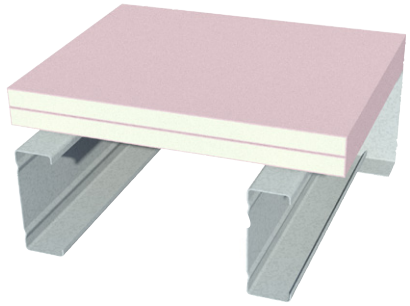
Fire Resistance Level

60/60/60
from above only

Report FC14332

Stud Depth (mm)	**Ceiling Thickness** (mm)	**Sound Insulation** for studs at 450mm centres **Rw (Rw + Ctr)**		
		No insulation	Pink® Partition 50mm 11kg/m³	Report
64	90	37 (28)	40 (31)	Insul v8
76	102	37 (29)	41 (31)	
92	118	38 (28)	42 (31)	
150	176	40 (30)	45 (35)	

SSC6



- [Above] 2 layers of 16mm **fire**shield or **multi**shield or **tru**rock
- Minimum 64mm steel ceiling studs at maximum 450mm centres

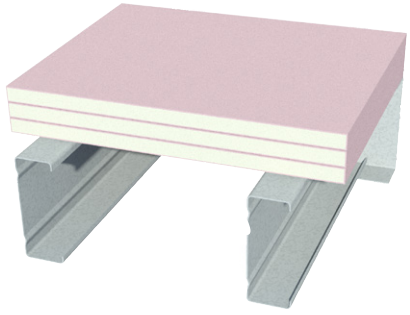
Fire Resistance Level

60/60/60
from above only

Report FC14332

Stud Depth (mm)	**Ceiling Thickness** (mm)	**Sound Insulation** for studs at 450mm centres **Rw (Rw + Ctr)**	
		No insulation	Report
64	96	35 (32)	Day Design 3094-23
76	108		
92	124		
150	182		

SSC7



- [Above] 3 layers of 13mm **fire**shield or **multi**shield or **impact**shield or **tru**rock
- Minimum 64mm steel ceiling studs at maximum 450mm centres

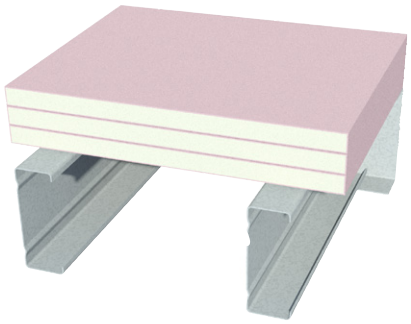
Fire Resistance Level

90/90/90
from above only

Report FC14332

Stud Depth (mm)	**Ceiling Thickness** (mm)	**Sound Insulation** for studs at 450mm centres **Rw (Rw + Ctr)**	
		No insulation	Report
64	103	37 (35)	Day Design 3094-23
76	115		
92	131		
150	189		

SSC8



- [Above] 3 layers of 16mm **fire**shield or **multi**shield or **tru**rock
- Minimum 64mm steel ceiling studs at maximum 450mm centres

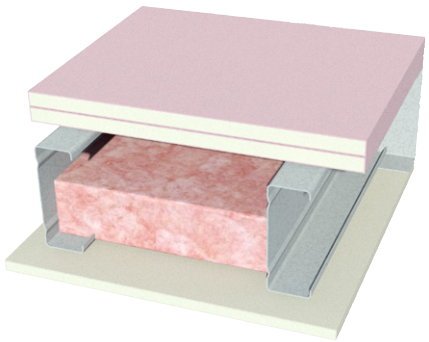
Fire Resistance Level

120/120/120
from above only

Report FC14332

Stud Depth (mm)	**Ceiling Thickness (mm)**	**Sound Insulation** for studs at 450mm centres **Rw (Rw + Ctr)**	
		No insulation	Report
64	112	38 (36)	Day Design 3094-23
76	124		
92	140		
150	198		

SSC9



- [Above] 2 layers of 13mm **fire**shield or **multi**shield or **impact**shield or **tru**rock
- Minimum 64mm steel ceiling studs at maximum 450mm centres
- [Below] 1 layer of 10mm **masta**shield or **water**shield

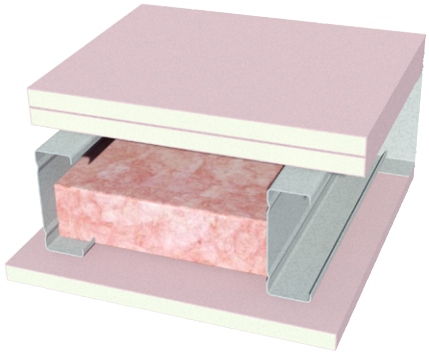
Fire Resistance Level

90/90/90
from above only

Report FC14332

Stud Depth (mm)	**Ceiling Thickness (mm)**	**Sound Insulation** for studs at 450mm centres **Rw (Rw + Ctr)**		
		No insulation	Pink® Partition 50mm 11kg/m³	
64	100	40 (31)	44 (34)	Report
76	112	41 (31)	44 (34)	Insul v8
92	128	42 (31)	47 (35)	
150	186	44 (34)	49 (39)	

SSC10



- [Above] 2 layers of 16mm **fire**shield or **multi**shield or **tru**rock
- Minimum 64mm steel ceiling studs at maximum 450mm centres
- [Below] 1 layer of 16mm **fire**shield or **multi**shield or **tru**rock

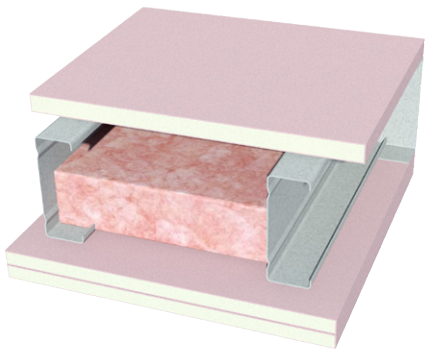
Fire Resistance Level

120/120/120
from above only

Report FC14332

Stud Depth (mm)	**Ceiling Thickness (mm)**	**Sound Insulation** for studs at 450mm centres **Rw (Rw + Ctr)**		
		No insulation	Pink® Partition 50mm 11kg/m³	
64	112	43 (32)	46 (37)	Report
76	124	44 (33)	47 (38)	Insul v8
92	140	44 (35)	48 (40)	
150	198	46 (38)	49 (43)	

SSC11



- [Above] 1 layers of 16mm **fire**shield or **multi**shield or **tru**rock
- Minimum 64mm steel ceiling studs at maximum 450mm centres
- [Below] 2 layer of 13mm **fire**shield or **multi**shield or **impact**shield or **tru**rock

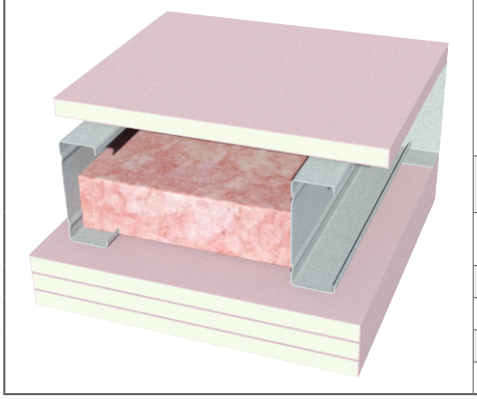
Fire Resistance Level

60/60/60
from above and below

Report FC14332

Stud Depth (mm)	**Ceiling Thickness (mm)**	**Sound Insulation** for studs at 450mm centres **Rw (Rw + Ctr)**		
		No insulation	Pink® Partition 50mm 11kg/m³	
64	106	43 (31)	46 (36)	Report
76	118	43 (32)	46 (37)	Insul v8
92	134	44 (35)	48 (40)	
150	192	46 (38)	49 (43)	

SSC12

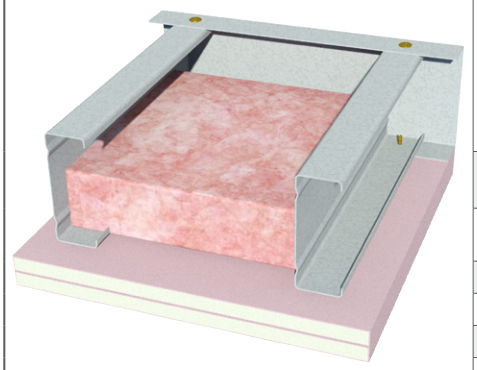


- [Above] 1 layer of 16mm **fire**shield or **multi**shield or **tru**rock
- Minimum 64mm steel ceiling studs at maximum 450mm centres
- [Below] 3 layers of 16mm **fire**shield or **multi**shield or **tru**rock

Fire Resistance Level
60/60/60
from above
120/120/120
from below
Report FC14332

Stud Depth (mm)	**Ceiling Thickness** (mm)	**Sound Insulation** for studs at 450mm centres **Rw (Rw + Ctr)**		
		No insulation	Pink® Partition 50mm 11kg/m³	Report
64	128	46 (35)	49 (40)	Day Design 3094-23 Insul v8
76	140	47 (36)	49 (41)	
92	156	48 (39)	51 (43)	
150	214	49 (42)	53 (46)	

SSC200

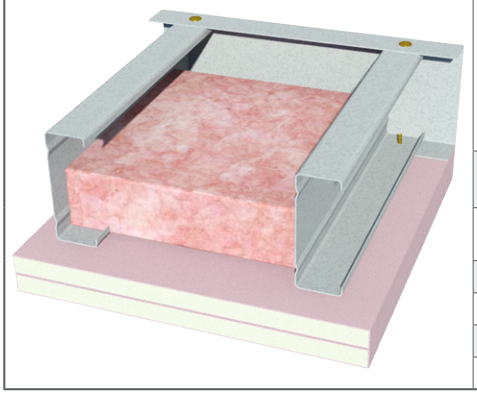


- Minimum 140mm cavity with minimum 64mm steel ceiling studs at maximum 450mm centres
- [Below] 2 layers of 13mm **fire**shield or **multi**shield or **impact**shield or **tru**rock

Fire Resistance Level
30/30/30
from below only
Report FC14332

Stud Depth (mm)	**Ceiling Thickness** (mm)	**Sound Insulation** for studs at 450mm centres **Rw (Rw + Ctr)**		
		No insulation	Pink® Partition 50mm 11kg/m³	Report
64	96	34 (31)	39 (35)	Day Design 3094-23 INSUL v9
76	108			
92	124			
150	182			

SSC201

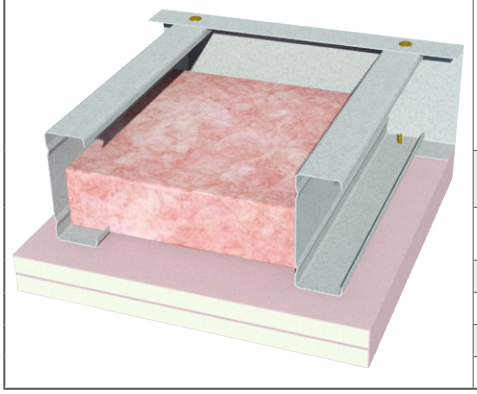


- Minimum 140mm cavity with minimum 64mm steel ceiling studs at maximum **600mm** centres
- [Below] 2 layers of 16mm **fire**shield or **multi**shield or **tru**rock

Fire Resistance Level
30/30/30
from below only
Report FC14332

Stud Depth (mm)	**Ceiling Thickness** (mm)	**Sound Insulation** for studs at 450mm centres **Rw (Rw + Ctr)**		
		No insulation	Pink® Partition 50mm 11kg/m³	Report
64	96	35 (32)	40 (37)	Day Design 3094-23 INSUL v9
76	108			
92	124			
150	182			

SSC202

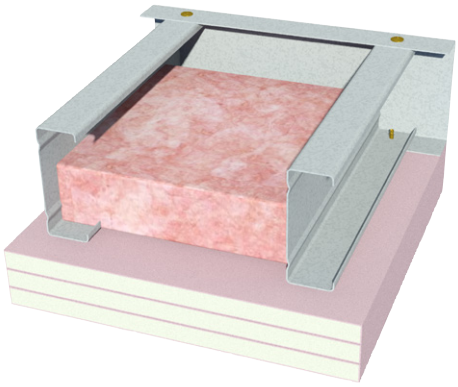


- Minimum 140mm cavity with minimum 64mm steel ceiling studs at maximum **450mm** centres
- [Below] 2 layers of 16mm **fire**shield or **multi**shield or **tru**rock

Fire Resistance Level
60/60/60
from below only
Report FC14332

Stud Depth (mm)	**Ceiling Thickness** (mm)	**Sound Insulation** for studs at 450mm centres **Rw (Rw + Ctr)**		
		No insulation	Pink® Partition 50mm 11kg/m³	Report
64	96	35 (32)	40 (37)	Day Design 3094-23 INSUL v9
76	108			
92	124			
150	182			

SSC203



- Minimum 140mm cavity with minimum 64mm steel ceiling studs at maximum 450mm centres
- [Below] 3 layers of 16mm **fire**shield or **multi**shield or **tru**rock

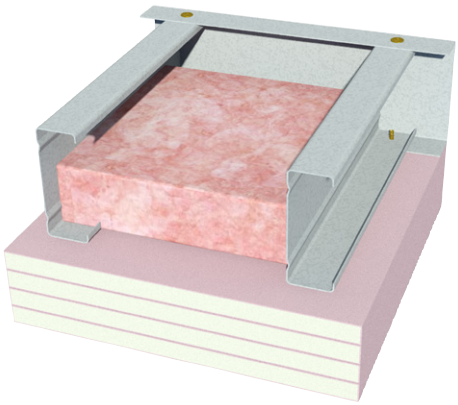
Fire Resistance Level

90/90/90
from below only

Report FC14332

Stud Depth (mm)	**Ceiling Thickness (mm)**	**Sound Insulation** for studs at 450mm centres **Rw (Rw + Ctr)**		
		No insulation	Pink® Partition 50mm 11kg/m³	Report
64	112	38 (36)	43 (40)	Day Design 3094-23 INSUL v9
76	124			
92	140			
150	198			

SSC204



- Minimum 140mm cavity with minimum 64mm steel ceiling studs at maximum 450mm centres
- [Below] 4 layers of 16mm **fire**shield or **multi**shield or **tru**rock

Fire Resistance Level

120/120/120
from below only

Report FC14332

Stud Depth (mm)	**Ceiling Thickness (mm)**	**Sound Insulation** for studs at 450mm centres **Rw (Rw + Ctr)**		
		No insulation	Pink® Partition 50mm 11kg/m³	Report
64	128	41 (39)	46 (43)	INSUL v9
76	140			
92	156			
150	214			

General Requirements

	Non-Fire Rated	Fire Rated
Install control joints in plasterboard ceilings: > At 12m maximum intervals for internal ceilings > At 6m maximum intervals for external ceilings > At all movement joints in the building > At any change in the substrate > At the junction of a larger room and passageway.	✓	✓
All ceilings in this section are non-trafficable. Do not walk on plasterboard ceilings!	✓	✓
Limit dead loads on plasterboard ceilings to 2 kg/m^2 for plasterboard spanning 600mm framing centres.	✓	✓
Limit dead loads on plasterboard ceilings to 2.5 kg/m^2 for plasterboard spanning 450mm framing centres where the plasterboard can usually span 600mm centres.	✓	✓
Only joint the face layer. As a minimum, use paper tape with either masta**base** or masta**longset**.		✓
Use approved fire rated penetration details. Fire penetrations may require fire collars or other devices to maintain fire performance.		✓
Use **bindex** fire and acoustic sealant on all gaps and around perimeter.		✓
Attach ceiling fixtures to framing members only. Ensure the framing is designed to carry any additional load.	✓	✓
All structures supporting fire rated ceilings must have an equal or greater FRL than the ceiling they support eg, a ceiling with FRL of 90/90/90 must be supported by a load bearing wall or column with FRL of at least 90 minutes.		✓
fireshield may be substituted with **multi**shield, **impact**shield, **tru**rock and **tru**rock HD of the same or greater thickness and maintain fire performance.		✓

> Structural beams enclosed by a fire rated ceiling are given the same structural protection rating as the ceiling eg, a structural beam located above a ceiling rated to FRL 90/90/90 would have FRL of 90/–/–.

> The FRL and RISF will not be reduced if a fire rated ceiling is built on an angle eg, a raked ceiling.

> Consider the corrosive effect of sea spray on steel components, select framing and fasteners accordingly.

> The FRL will not be reduced if the insulation directly above plasterboard is omitted.

> Plasterboard installations in close proximity to metal roofs (ie: raked ceiling or with small ceiling cavities) require smaller control joint intervals as they are exposed to larger rates of thermal expansion.

> Excessive vibration of the ceiling (by installing ceiling services, etc) is known to cause joint 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.

Framing

	Non-Fire Rated	Fire Rated
Framing members as per framing table or structural design up to 600mm maximum.	✓	✓
For a specific project, determine the relevant wind pressure load on an internal ceiling from Section 2.3, or the QR link below. 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.*	✓	✓
Stagger joins in adjacent Top Cross Rails and Furring Channels by 1200mm	✓	✓
Install additional framing members around openings.	✓	✓

Siniat Internal Wind Load Calculator

Table 1 Maximum Perimeter Track Anchor Spacing

Ceiling Framing Member Spacing (mm)	Maximum Anchor Spacing (mm)
600	600
450	600
400	600
300	450

1. Additional anchors 100mm maximum from track ends.
2. 150mm tracks require 2 anchors across width unless using an 80mm wide Universal Bracket (UB80).

Table 2 Maximum Span (Framing Spacing) for Plasterboard

Plasterboard Type	General Internal Areas	Areas of Intermittent High Humidity eg. Unventilated Bathrooms, Basements and External Ceilings
10mm **masta**shield	450mm	300mm
13mm **masta**shield	600mm	450mm
10mm **span**shield	600mm	450mm
10mm **opal**	600mm	450mm
10mm and 13mm **sound**shield	600mm	450mm
10mm and 13mm **water**shield	600mm	450mm
13mm and 16mm **fire**shield	600mm	450mm
13mm and 16mm **multi**shield	600mm	450mm
13mm and 16mm **tru**rock	600mm	450mm
13mm and 16mm **tru**rock hd	600mm	450mm

Fire Rated and Non-Fire Rated
Stud Ceiling End Connections

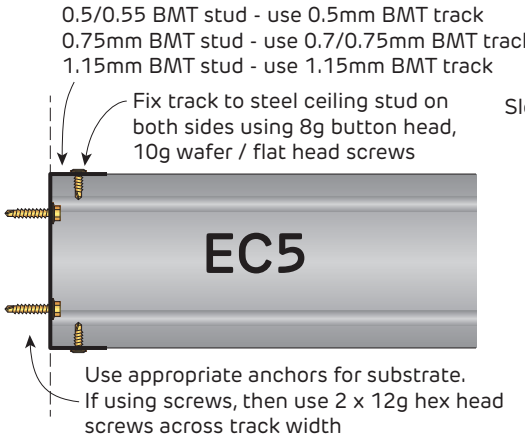


FIGURE 1 Fixed End Connection EC5
Section

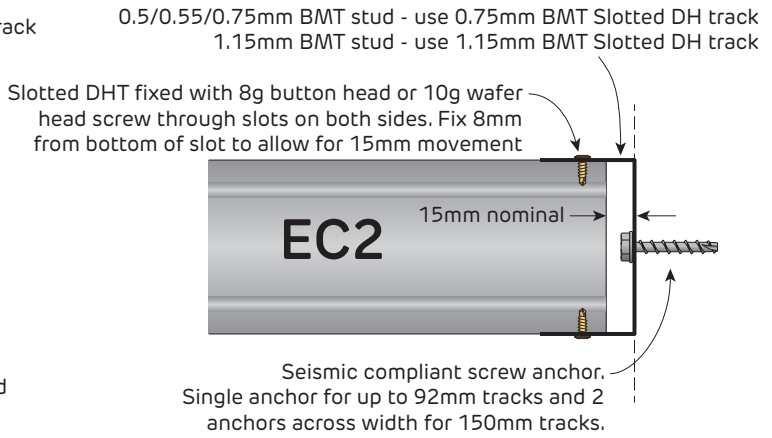


FIGURE 2 Sliding End Connection EC2
Section

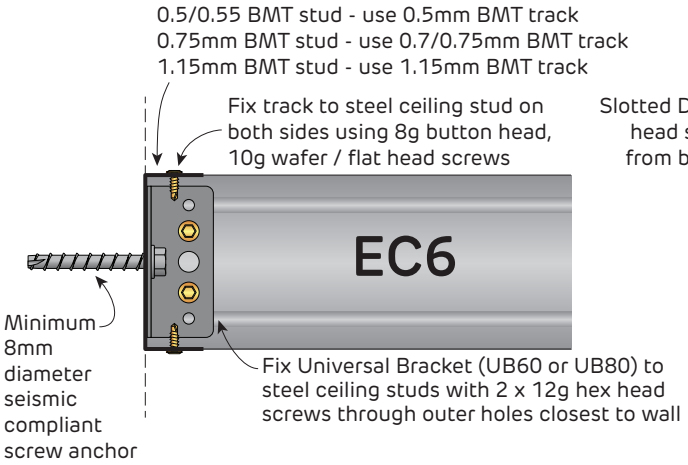


FIGURE 3 Fixed End Connection EC6
92mm or 150mm studs only
Section

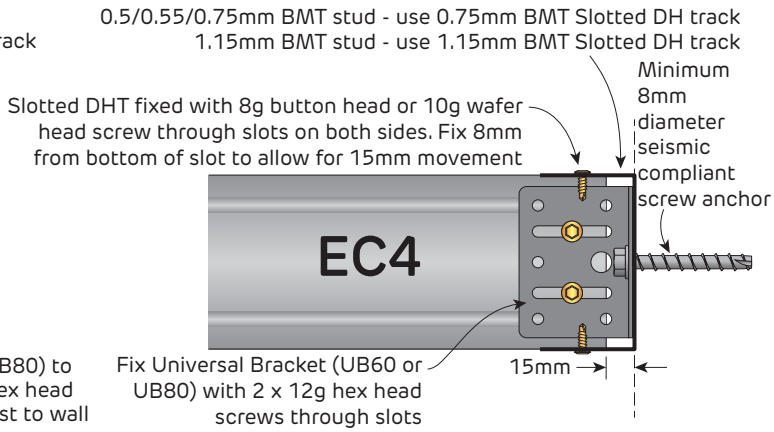
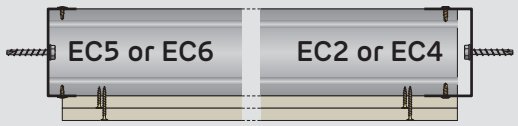


FIGURE 4 Sliding End Connection EC4
92mm or 150mm studs only
Section

8g framing screws recommended for 0.3 - 0.75mm BMT Siniat steel profiles.10g screws recommended for 1.15 - 1.5mm BMT Siniat steel profiles

Table 3 Single Span Internal Steel Stud Ceiling Span Table (mm) - REGION A

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

Steel stud ceiling lined on the underside only						Up to BCA Building Importance Level 3	Ultimate pressure W_U (kPa)			0.39
							Serviceability pressure W_S (kPa)			0.25
Ceiling Stud Depth and BMT (mm)	**Maximum Ceiling Stud Centres (mm)**	**1x10mm**	**2x10mm**	**1x13mm**	**2x13mm**	**3x13mm**	**1x16mm**	**2x16mm**	**3x16mm**	**4x16mm**
64 x 0.5	600	2080	1950	2010	1850	1720	1830	1830	-	-
	450	2290	2130	2210	2020	1890	2010	2010	1870	1710
	400	2370	2220	2300	2100	1970	2080	2080	1940	1780
	300	2600	2430	2520	2310	2150	2290	2290	2130	1960
64 x 0.75	600	2360	2210	2290	2090	1960	2080	2080	-	-
	450	2590	2420	2510	2300	2150	2280	2280	2120	1950
	400	2690	2520	2610	2390	2230	2370	2370	2210	2020
	300	2950	2760	2850	2620	2450	2600	2600	2420	2220
64 x 1.15	600	2710	2530	2620	2400	2240	2380	2380	-	-
	450	2960	2770	2870	2630	2460	2610	2610	2440	2240
	400	3070	2880	2980	2730	2560	2710	2710	2530	2320
	300	3350	3150	3250	2990	2800	2970	2970	2770	2540
76 x 0.55	600	2460	2290	2370	2170	2030	2150	2150	-	-
	450	2700	2520	2610	2390	2230	2370	2370	2200	2020
	400	2800	2620	2710	2480	2320	2460	2460	2290	2100
	300	3070	2870	2970	2720	2540	2700	2700	2520	2310
76 x 0.75	600	2740	2560	2650	2430	2260	2410	2410	-	-
	450	3000	2810	2910	2660	2490	2640	2640	2460	2260
	400	3120	2910	3020	2770	2580	2740	2740	2560	2350
	300	3410	3190	3300	3030	2830	3010	3010	2800	2570
76 x 1.15	600	3100	2900	3000	2750	2570	2730	2730	-	-
	450	3390	3180	3290	3020	2820	2990	2990	2790	2560
	400	3520	3300	3410	3130	2930	3110	3110	2900	2660
	300	3840	3600	3720	3420	3210	3400	3400	3170	2910
92 x 0.55	600	2860	2670	2760	2530	2360	2510	2510	-	-
	450	3130	2930	3030	2780	2590	2750	2750	2560	2350
	400	3250	3040	3150	2890	2690	2860	2860	2660	2440
	300	3560	3330	3450	3160	2960	3140	3140	2930	2680
92 x 0.75	600	3140	2940	3040	2790	2600	2760	2760	-	-
	450	3440	3220	3330	3060	2860	3030	3030	2830	2590
	400	3570	3340	3460	3180	2970	3150	3150	2940	2690
	300	3910	3660	3780	3480	3250	3450	3450	3220	2950
92 x 1.15	600	3590	3360	3480	3190	2980	3170	3170	-	-
	450	3930	3680	3810	3500	3270	3470	3470	3240	2970
	400	4060	3820	3950	3630	3400	3600	3600	3360	3080
	300	4400	4160	4300	3970	3710	3930	3930	3680	3370
150 x 0.75	600	4540	4320	4430	4100	3740	4060	4060	-	-
	450	4850	4620	4740	4450	4200	4420	4420	4160	3640
	400	4990	4750	4870	4570	4350	4550	4550	4320	3910
	300	5320	5080	5200	4890	4660	4860	4860	4620	4340
150 x 1.15	600	5010	4770	4890	4590	4370	4560	4560	-	-
	450	5340	5100	5220	4910	4680	4880	4880	4640	4360
	400	5480	5230	5360	5050	4810	5020	5020	4770	4480
	300	5830	5580	5710	5380	5130	5350	5350	5100	4790

Nogging Table

Ceiling Span (m)	Number of Noggings evenly spaced along ceiling joist
0 - 2.0	0
2.0 - 4.0	1
above 4.0	2

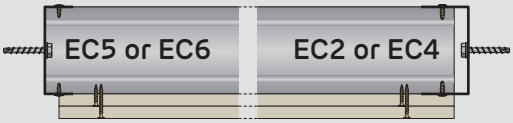
End Track Anchor Demand

1. Maximum anchor shear and tension demand = 1.32 kN
2. Anchors at maximum 1.5 x stud spacing up to 600mm maximum, and 100mm maximum from ends.
3. 150mm tracks require 2 anchors across width unless using an 80mm wide Universal Bracket (UB80).

1. Table refers to Siniat steel studs of grade G300 steel with Zincalume™ AM150 corrosion protection. Maximum production lengths available are 7.2m
2. End Connection 1 is **Sliding** type EC2 or EC4. End Connection 2 is **Fixed** type EC5 or EC6. Refer to *Stud Ceiling End Connections* for end connection details including track BMT.
3. Table based upon downward (suction) and upward (uplift) ultimate (Wu) lateral wind pressure and serviceability (Ws) deflection limits stated, for internal use only.
4. Table includes self weight plus 2 kg/m^2 insulation weight with an additional 3 kg/m^2 service load. No further allowance for additional point loads or live loads.
5. Designed in accordance with *AS/NZS 4600:2018 Cold Formed Steel Structures*.
6. Wind pressures determined in accordance with *AS/NZS 1170.2 Wind Actions*.
7. Ultimate Load Case1: 1.2G + Wu (suction) + $Q_{0.03kPa\ Service\ Load}$
   Ultimate Load Case 2: 0.9G + Wu (uplift).
8. Serviceability Load Case 1: G with deflection limited to span/500
   Serviceability Load Case 2: G + Ws with deflection limited to span/360 or 12mm.
9. The nominated lateral wind pressures and deflection limits must be checked for suitability for a specific project.
10. Contact Siniat or a structural engineer to check ceiling for earthquake actions. Specific project information is required.

Table 4 Single Span Internal Steel Stud Ceiling Span Table (mm) - REGION A

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

Steel stud ceiling lined on the underside only							Up to BCA Building Importance Level 3	Ultimate pressure W_U (kPa)	0.54
								Serviceability pressure W_S (kPa)	0.35

Ceiling Stud Depth and BMT (mm)	Maximum Ceiling Stud Centres (mm)	1x10mm	2x10mm	1x13mm	2x13mm	3x13mm	1x16mm	2x16mm	3x16mm	4x16mm
64 x 0.5	600	1920	1820	1870	1740	1640	1860	1730	-	-
	450	2110	2000	2050	1910	1800	2040	1900	1790	1650
	400	2190	2070	2130	1990	1870	2120	1970	1860	1720
	300	2410	2280	2340	2180	2060	2330	2160	2040	1890
64 x 0.75	600	2180	2070	2130	1980	1870	2120	1970	-	-
	450	2400	2270	2330	2170	2050	2320	2160	2030	1880
	400	2490	2360	2420	2260	2130	2410	2240	2110	1960
	300	2730	2580	2660	2480	2340	2650	2460	2310	2150
64 x 1.15	600	2500	2370	2440	2270	2140	2430	2250	-	-
	450	2740	2600	2670	2490	2350	2660	2470	2330	2160
	400	2850	2700	2770	2590	2440	2760	2570	2420	2240
	300	3110	2950	3030	2830	2670	3020	2810	2650	2460
76 x 0.55	600	2270	2140	2210	2050	1910	2200	2040	-	-
	450	2490	2360	2420	2250	2120	2410	2240	2100	1940
	400	2590	2450	2520	2340	2210	2510	2330	2190	2030
	300	2840	2690	2760	2570	2430	2750	2550	2400	2230
76 x 0.75	600	2530	2390	2460	2290	2160	2450	2280	-	-
	450	2780	2630	2700	2520	2370	2690	2500	2350	2180
	400	2880	2730	2810	2610	2470	2790	2600	2440	2260
	300	3160	2990	3080	2870	2710	3060	2850	2680	2490
76 x 1.15	600	2870	2720	2790	2600	2450	2780	2580	-	-
	450	3140	2980	3060	2850	2690	3050	2830	2670	2470
	400	3260	3090	3180	2960	2800	3160	2940	2770	2570
	300	3560	3380	3470	3240	3060	3460	3220	3040	2820
92 x 0.55	600	2640	2490	2570	2390	2250	2550	2370	-	-
	450	2890	2740	2820	2620	2470	2810	2600	2450	2270
	400	3010	2850	2930	2720	2570	2910	2710	2550	2360
	300	3300	3120	3210	2990	2820	3200	2970	2800	2590
92 x 0.75	600	2900	2750	2830	2630	2480	2820	2610	-	-
	450	3180	3020	3100	2890	2720	3090	2870	2700	2500
	400	3310	3130	3220	3000	2830	3210	2980	2810	2600
	300	3620	3430	3530	3290	3110	3510	3270	3080	2850
92 x 1.15	600	3330	3150	3240	3020	2850	3230	3000	-	-
	450	3640	3450	3550	3310	3120	3530	3290	3100	2870
	400	3780	3580	3680	3430	3240	3670	3410	3210	2980
	300	4120	3920	4020	3760	3550	4000	3730	3520	3270
150 x 0.75	600	4270	4050	4160	3730	3540	4140	3710	-	-
	450	4580	4400	4500	4250	4010	4480	4220	3870	3230
	400	4710	4530	4620	4390	4170	4610	4360	4130	3630
	300	5040	4850	4940	4700	4500	4930	4670	4470	4200
150 x 1.15	600	4730	4550	4640	4410	4190	4630	4380	-	-
	450	5060	4860	4960	4710	4520	4950	4690	4490	4220
	400	5190	5000	5100	4850	4650	5080	4820	4620	4370
	300	5540	5330	5440	5180	4970	5420	5150	4940	4670

Nogging Table

Ceiling Span (m)	Number of Noggings evenly spaced along ceiling joist
0 - 2.0	0
2.0 - 4.0	1
above 4.0	2

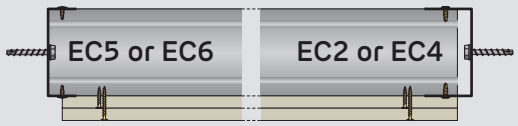
End Track Anchor Demand

1. Maximum anchor shear and tension demand = 1.48 kN
2. Anchors at maximum 1.5 x stud spacing up to 600mm maximum, and 100mm maximum from ends.
3. 150mm tracks require 2 anchors across width unless using an 80mm wide Universal Bracket (UB80).

1. Table refers to Siniat steel studs of grade G300 steel with Zincalume™ AM150 corrosion protection. Maximum production lengths available are 7.2m
2. End Connection 1 is **Sliding** type EC2 or EC4. End Connection 2 is **Fixed** type EC5 or EC6. Refer to *Stud Ceiling End Connections* for end connection details including track BMT.
3. Table based upon downward (suction) and upward (uplift) ultimate (Wu) lateral wind pressure and serviceability (Ws) deflection limits stated, for internal use only.
4. Table includes self weight plus 2 kg/m^2 insulation weight with an additional 3 kg/m^2 service load. No further allowance for additional point loads or live loads.
5. Designed in accordance with *AS/NZS 4600:2018 Cold Formed Steel Structures*.
6. Wind pressures determined in accordance with *AS/NZS 1170.2 Wind Actions*.
7. Ultimate Load Case1: 1.2G + Wu (suction) + $Q_{0.03kPa}$ Service Load Ultimate Load Case 2: 0.9G + Wu (uplift).
8. Serviceability Load Case 1: G with deflection limited to span/500 Serviceability Load Case 2: G + Ws with deflection limited to span/360 or 12mm.
9. The nominated lateral wind pressures and deflection limits must be checked for suitability for a specific project.
10. Contact Siniat or a structural engineer to check ceiling for earthquake actions. Specific project information is required.

Table 5 Single Span Internal Steel Stud Ceiling Span Table (mm) - REGION B

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

Steel stud ceiling lined on the underside only						Up to BCA Building Importance Level 3	Ultimate pressure W_U (kPa)		0.59	
							Serviceability pressure W_S (kPa)		0.25	
Ceiling Stud Depth and BMT (mm)	**Maximum Ceiling Stud Centres (mm)**	**1x10mm**	**2x10mm**	**1x13mm**	**2x13mm**	**3x13mm**	**1x16mm**	**2x16mm**	**3x16mm**	**4x16mm**
64 x 0.5	600	2080	1820	2010	1760	1680	2000	1750	-	-
	450	2290	2130	2210	2020	1840	2200	2010	1830	1710
	400	2370	2220	2300	2100	1910	2280	2080	1890	1780
	300	2600	2430	2520	2310	2150	2500	2290	2130	1950
64 x 0.75	600	2360	2210	2290	2090	1950	2270	2080	-	-
	450	2590	2420	2510	2300	2150	2490	2280	2120	1950
	400	2690	2520	2610	2390	2230	2590	2370	2210	2020
	300	2950	2760	2850	2620	2450	2840	2600	2420	2220
64 x 1.15	600	2710	2530	2620	2400	2240	2610	2380	-	-
	450	2960	2770	2870	2630	2460	2850	2610	2440	2240
	400	3070	2880	2980	2730	2560	2960	2710	2530	2320
	300	3350	3150	3250	2990	2800	3230	2970	2770	2540
76 x 0.55	600	2460	2290	2370	2170	2030	2360	2150	-	-
	450	2700	2520	2610	2390	2230	2590	2370	2200	2020
	400	2800	2620	2710	2480	2320	2690	2460	2290	2100
	300	3070	2870	2970	2720	2540	2960	2700	2520	2310
76 x 0.75	600	2740	2560	2650	2430	2260	2630	2410	-	-
	450	3000	2810	2910	2660	2490	2890	2640	2460	2260
	400	3120	2910	3020	2770	2580	3000	2740	2560	2350
	300	3410	3190	3300	3030	2830	3280	3010	2800	2570
76 x 1.15	600	3100	2900	3000	2750	2570	2990	2730	-	-
	450	3390	3180	3290	3020	2820	3270	2990	2790	2560
	400	3520	3300	3410	3130	2930	3390	3110	2900	2660
	300	3840	3600	3720	3420	3210	3700	3400	3170	2910
92 x 0.55	600	2860	2670	2760	2530	2360	2750	2510	-	-
	450	3130	2930	3030	2780	2590	3010	2750	2560	2350
	400	3250	3040	3150	2890	2690	3130	2860	2660	2440
	300	3560	3330	3450	3160	2960	3430	3140	2930	2680
92 x 0.75	600	3140	2940	3040	2790	2600	3020	2760	-	-
	450	3440	3220	3330	3060	2860	3310	3030	2830	2590
	400	3570	3340	3460	3180	2970	3440	3150	2940	2690
	300	3910	3660	3780	3480	3250	3760	3450	3220	2950
92 x 1.15	600	3590	3360	3480	3190	2980	3460	3170	-	-
	450	3930	3680	3810	3500	3270	3790	3470	3240	2970
	400	4060	3820	3950	3630	3400	3920	3600	3360	3080
	300	4400	4160	4300	3970	3710	4270	3930	3680	3370
150 x 0.75	600	4390	4170	4280	4000	3480	4270	3640	-	-
	450	4850	4620	4740	4430	3840	4720	4350	3780	3120
	400	4990	4750	4870	4570	4310	4850	4550	4220	3500
	300	5320	5080	5200	4890	4660	5180	4860	4620	4340
150 x 1.15	600	5010	4770	4890	4590	4370	4870	4560	-	-
	450	5340	5100	5220	4910	4680	5200	4880	4640	4360
	400	5480	5230	5360	5050	4810	5340	5020	4770	4480
	300	5830	5580	5710	5380	5130	5690	5350	5100	4790

Nogging Table

Ceiling Span (m)	Number of Noggings evenly spaced along ceiling joist
0 - 2.0	0
2.0 - 4.0	1
above 4.0	2

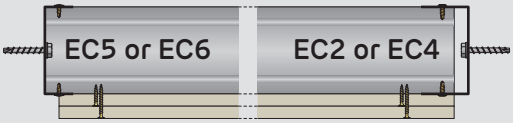
End Track Anchor Demand

1. Maximum anchor shear and tension demand = 1.61 kN
2. Anchors at maximum 1.5 x stud spacing up to 600mm maximum, and 100mm maximum from ends.
3. 150mm tracks require 2 anchors across width unless using an 80mm wide Universal Bracket (UB80).

1. Table refers to Siniat steel studs of grade G300 steel with Zincalume™ AM150 corrosion protection. Maximum production lengths available are 7.2m
2. End Connection 1 is **Sliding** type EC2 or EC4. End Connection 2 is **Fixed** type EC5 or EC6. Refer to *Stud Ceiling End Connections* for end connection details including track BMT.
3. Table based upon downward (suction) and upward (uplift) ultimate (Wu) lateral wind pressure and serviceability (Ws) deflection limits stated, for internal use only.
4. Table includes self weight plus 2 kg/m^2 insulation weight with an additional 3 kg/m^2 service load. No further allowance for additional point loads or live loads.
5. Designed in accordance with *AS/NZS 4600:2018 Cold Formed Steel Structures*.
6. Wind pressures determined in accordance with *AS/NZS 1170.2 Wind Actions*.
7. Ultimate Load Case1: 1.2G + Wu (suction) + $Q_{0.03kPa}$ Service Load Ultimate Load Case 2: 0.9G + Wu (uplift).
8. Serviceability Load Case 1: G with deflection limited to span/500 Serviceability Load Case 2: G + Ws with deflection limited to span/360 or 12mm.
9. The nominated lateral wind pressures and deflection limits must be checked for suitability for a specific project.
10. Contact Siniat or a structural engineer to check ceiling for earthquake actions. Specific project information is required.

Table 6 Single Span Internal Steel Stud Ceiling Span Table (mm) - REGION B

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

Steel stud ceiling lined on the underside only							Up to BCA Building Importance Level 3	Ultimate pressure W_U (kPa)		0.83
								Serviceability pressure W_S (kPa)		0.35
Ceiling Stud Depth and BMT (mm)	**Maximum Ceiling Stud Centres (mm)**	**1x10mm**	**2x10mm**	**1x13mm**	**2x13mm**	**3x13mm**	**1x16mm**	**2x16mm**	**3x16mm**	**4x16mm**
64 x 0.5	600	1730	1680	1710	1630	1560	1700	1620	-	-
	450	2110	2000	2050	1790	1730	2040	1790	1720	1620
	400	2190	2070	2130	1860	1790	2120	1850	1780	1690
	300	2410	2280	2340	2180	2060	2330	2160	2040	1850
64 x 0.75	600	2180	2070	2130	1910	1850	2120	1910	-	-
	450	2400	2270	2330	2170	2050	2320	2160	2030	1880
	400	2490	2360	2420	2260	2130	2410	2240	2110	1960
	300	2730	2580	2660	2480	2340	2650	2460	2310	2150
64 x 1.15	600	2500	2370	2440	2270	2140	2430	2250	-	-
	450	2740	2600	2670	2490	2350	2660	2470	2330	2160
	400	2850	2700	2770	2590	2440	2760	2570	2420	2240
	300	3110	2950	3030	2830	2670	3020	2810	2650	2460
76 x 0.55	600	2180	2070	2130	1830	1770	2120	1830	-	-
	450	2490	2360	2420	2250	2120	2410	2240	2100	1830
	400	2590	2450	2520	2340	2210	2510	2330	2190	2030
	300	2840	2690	2760	2570	2430	2750	2550	2400	2230
76 x 0.75	600	2530	2390	2460	2290	2160	2450	2280	-	-
	450	2780	2630	2700	2520	2370	2690	2500	2350	2180
	400	2880	2730	2810	2610	2470	2790	2600	2440	2260
	300	3160	2990	3080	2870	2710	3060	2850	2680	2490
76 x 1.15	600	2870	2720	2790	2600	2450	2780	2580	-	-
	450	3140	2980	3060	2850	2690	3050	2830	2670	2470
	400	3260	3090	3180	2960	2800	3160	2940	2770	2570
	300	3560	3380	3470	3240	3060	3460	3220	3040	2820
92 x 0.55	600	2520	2410	2470	2310	2180	2460	2290	-	-
	450	2870	2740	2820	2620	2470	2810	2600	2450	2270
	400	3010	2850	2930	2720	2570	2910	2710	2550	2360
	300	3300	3120	3210	2990	2820	3200	2970	2800	2590
92 x 0.75	600	2900	2750	2830	2630	2480	2820	2610	-	-
	450	3180	3020	3100	2890	2720	3090	2870	2700	2500
	400	3310	3130	3220	3000	2830	3210	2980	2810	2600
	300	3620	3430	3530	3290	3110	3510	3270	3080	2850
92 x 1.15	600	3330	3150	3240	3020	2850	3230	3000	-	-
	450	3640	3450	3550	3310	3120	3530	3290	3100	2870
	400	3780	3580	3680	3430	3240	3670	3410	3210	2980
	300	4120	3920	4020	3760	3550	4000	3730	3520	3270
150 x 0.75	600	3610	3490	3550	3380	3110	3540	3370	-	-
	450	4230	3840	4050	3570	3180	4010	3520	3120	2660
	400	4610	4320	4530	3880	3570	4500	3870	3500	2980
	300	5040	4850	4940	4700	4500	4930	4670	4460	3810
150 x 1.15	600	4730	4550	4640	4410	4190	4630	4380	-	-
	450	5060	4860	4960	4710	4520	4950	4690	4490	4220
	400	5190	5000	5100	4850	4650	5080	4820	4620	4370
	300	5540	5330	5440	5180	4970	5420	5150	4940	4670

Nogging Table

Ceiling Span (m)	Number of Noggings evenly spaced along ceiling joist
0 - 2.0	0
2.0 - 4.0	1
above 4.0	2

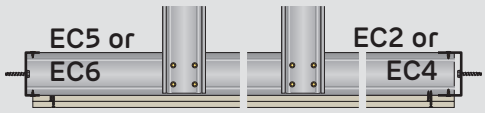
End Track Anchor Demand

1. Maximum anchor shear and tension demand = 1.89 kN
2. Anchors at maximum 1.5 x stud spacing up to 600mm maximum, and 100mm maximum from ends.
3. 150mm tracks require 2 anchors across width unless using an 80mm wide Universal Bracket (UB80).

1. Table refers to Siniat steel studs of grade G300 steel with Zincalume™ AM150 corrosion protection. Maximum production lengths available are 7.2m
2. End Connection 1 is **Sliding** type EC2 or EC4. End Connection 2 is **Fixed** type EC5 or EC6. Refer to *Stud Ceiling End Connections* for end connection details including track BMT.
3. Table based upon downward (suction) and upward (uplift) ultimate (Wu) lateral wind pressure and serviceability (Ws) deflection limits stated, for internal use only.
4. Table includes self weight plus 2 kg/m^2 insulation weight with an additional 3 kg/m^2 service load. No further allowance for additional point loads or live loads.
5. Designed in accordance with *AS/NZS 4600:2018 Cold Formed Steel Structures*.
6. Wind pressures determined in accordance with *AS/NZS 1170.2 Wind Actions*.
7. Ultimate Load Case1: 1.2G + Wu (suction) + $Q_{0.03kPa}$ Service Load Ultimate Load Case 2: 0.9G + Wu (uplift).
8. Serviceability Load Case 1: G with deflection limited to span/500 Serviceability Load Case 2: G + Ws with deflection limited to span/360 or 12mm.
9. The nominated lateral wind pressures and deflection limits must be checked for suitability for a specific project.
10. Contact Siniat or a structural engineer to check ceiling for earthquake actions. Specific project information is required.

Table 7 2-or-more Span Internal Steel Stud Ceiling Span Table (mm) - REGION A

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

Steel stud ceiling lined on the underside only				Up to BCA Building Importance Level 3	Ultimate pressure W_U (kPa)		0.39
					Serviceability pressure W_S (kPa)		0.25
Ceiling Stud Depth and BMT (mm)	**Maximum Ceiling Stud Centres (mm)**	**1 layer** up to 13 kg/m²	Intermediate Support Demand (kN)	**2 layers** up to 26 kg/m²	Intermediate Support Demand (kN)	**3 layers** up to 39 kg/m²	Intermediate Support Demand (kN)
64 x 0.5	600	2020	0.93	1880	1.08	-	-
	450	2180	0.75	2050	0.89	1940	1.01
	400	2240	0.69	2120	0.82	2010	0.93
	300	2410	0.56	2280	0.66	2170	0.76
64 x 0.75	600	2270	1.05	2140	1.24	-	-
	450	2450	0.86	2310	1.01	2200	1.16
	400	2520	0.79	2380	0.93	2270	1.06
	300	2710	0.64	2560	0.76	2440	0.86
64 x 1.15	600	2630	1.23	2480	1.45	-	-
	450	2840	1.01	2670	1.19	2540	1.35
	400	2930	0.93	2760	1.09	2620	1.24
	300	3160	0.77	2980	0.90	2830	1.02
76 x 0.55	600	2210	1.01	2080	1.20	-	-
	450	2370	0.82	2240	0.97	2140	1.12
	400	2440	0.75	2310	0.89	2200	1.02
	300	2620	0.61	2480	0.72	2360	0.83
76 x 0.75	600	2500	1.16	2360	1.37	-	-
	450	2690	0.94	2540	1.12	2420	1.27
	400	2770	0.87	2610	1.02	2490	1.17
	300	2970	0.71	2810	0.84	2680	0.95
76 x 1.15	600	2800	1.32	2640	1.55	-	-
	450	3020	1.08	2840	1.27	2710	1.45
	400	3110	1.00	2930	1.17	2790	1.33
	300	3350	0.82	3160	0.96	3010	1.09
92 x 0.55	600	2390	1.10	2250	1.30	-	-
	450	2570	0.90	2420	1.06	2310	1.21
	400	2640	0.82	2490	0.97	2380	1.11
	300	2830	0.67	2680	0.79	2560	0.90
92 x 0.75	600	2580	1.20	2440	1.42	-	-
	450	2770	0.98	2620	1.15	2500	1.32
	400	2860	0.90	2700	1.06	2570	1.21
	300	3070	0.74	2900	0.87	2760	0.99
92 x 1.15	600	2950	1.39	2780	1.64	-	-
	450	3180	1.15	3000	1.34	2860	1.53
	400	3280	1.06	3090	1.24	2940	1.41
	300	3520	0.87	3320	1.02	3170	1.16
150 x 0.75	600	3030	1.42	2860	1.68	-	-
	450	3250	1.16	3070	1.37	2930	1.56
	400	3340	1.07	3160	1.26	3020	1.44
	300	3570	0.88	3380	1.03	3240	1.17
150 x 1.15	600	3400	1.63	3220	1.93	-	-
	450	3650	1.34	3450	1.57	3300	1.79
	400	3760	1.24	3550	1.45	3390	1.65
	300	4020	1.03	3810	1.20	3640	1.36

Noggings

Spans in this table do not require noggings

End Track Anchor Demand

1. Maximum anchor shear and tension demand = 0.68 kN
2. Anchors at maximum 1.5 x stud spacing up to 600mm maximum, and 100mm maximum from ends.
3. 150mm tracks require 2 anchors across width unless using an 80mm wide Universal Bracket (UB80).

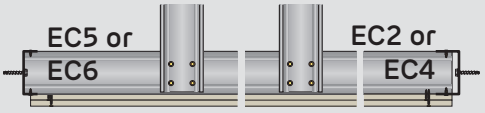
Intermediate Support

Stud BMT	Soffit Connection (kN)						
	SC1	SC2 2x10g screws	SC2 3x10g screws	SC2 4x10g screws	SC3 2x10g screws	SC3 3x10g screws	SC3 4x10g screws
0.5	0.51	1.08	1.62	2.16	1.08	1.62	2.16
0.55	0.61	1.26	1.89	2.50	1.26	1.89	2.52
0.75	0.96	2.00	2.50	2.50	2.00	3.00	4.00
1.15	1.68	2.50	2.50	2.50	3.80	5.70	7.60

1. Table refers to Siniat steel studs of grade G300 steel with Zincalume™ AM150 corrosion protection. Maximum production lengths available are 7.2m
2. End Connection 1 is **Sliding** type EC2 or EC4. End Connection 2 is **Fixed** type EC5 or EC6. Refer to *Stud Ceiling End Connections* for end connection details including track BMT.
3. For anchors used with intermediate supports, refer to the Siniat Anchor Product Data Sheet on current capacity information into concrete.
4. Table based upon downward (suction) and upward (uplift) ultimate (Wu) lateral wind pressure and serviceability (Ws) deflection limits stated, for internal use only.
5. Table includes self weight plus 2 kg/m² insulation weight with an additional 3 kg/m² service load. No further allowance for additional point loads or live loads.
6. Designed in accordance with *AS/NZS 4600:2018 Cold Formed Steel Structures*.
7. Wind pressures determined in accordance with *AS/NZS 1170.2 Wind Actions*.
8. Ultimate Load Case1: 1.2G + Wu (suction) + $Q_{0.03kPa}$ Service Load Ultimate Load Case 2: 0.9G + Wu (uplift).
9. Serviceability Load Case 1: G with deflection limited to span/500 Serviceability Load Case 2: G + Ws with deflection limited to span/360 or 12mm.
10. The nominated lateral wind pressures and deflection limits must be checked for suitability for a specific project.
11. Contact Siniat or a structural engineer to check ceiling for earthquake actions. Specific project information is required.

Table 8 2-or-more Span Internal Steel Stud Ceiling Span Table (mm) - REGION A

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

Steel stud ceiling lined on the underside only				Up to BCA Building Importance Level 3	Ultimate pressure W_U (kPa)		0.54
					Serviceability pressure W_S (kPa)		0.35
Ceiling Stud Depth and BMT (mm)	**Maximum Ceiling Stud Centres (mm)**	**1 layer** up to 13 kg/m²	Intermediate Support Demand (kN)	**2 layers** up to 26 kg/m²	Intermediate Support Demand (kN)	**3 layers** up to 39 kg/m²	Intermediate Support Demand (kN)
64 x 0.5	600	1890	1.08	1780	1.22	-	-
	450	2060	0.89	1940	1.00	1850	1.12
	400	2120	0.81	2010	0.93	1920	1.04
	300	2280	0.66	2180	0.76	2090	0.85
64 x 0.75	600	2150	1.24	2050	1.42	-	-
	450	2310	1.00	2200	1.15	2120	1.29
	400	2380	0.92	2270	1.06	2180	1.18
	300	2560	0.75	2440	0.86	2350	0.96
64 x 1.15	600	2480	1.44	2360	1.65	-	-
	450	2680	1.18	2550	1.35	2440	1.50
	400	2760	1.09	2630	1.24	2520	1.39
	300	2980	0.89	2840	1.02	2720	1.13
76 x 0.55	600	2090	1.19	1990	1.37	-	-
	450	2240	0.96	2140	1.11	2060	1.25
	400	2310	0.89	2200	1.01	2120	1.14
	300	2480	0.72	2370	0.82	2280	0.93
76 x 0.75	600	2360	1.36	2250	1.56	-	-
	450	2540	1.11	2420	1.27	2330	1.42
	400	2620	1.02	2500	1.17	2400	1.31
	300	2810	0.83	2680	0.95	2580	1.06
76 x 1.15	600	2640	1.54	2520	1.76	-	-
	450	2850	1.26	2710	1.44	2600	1.61
	400	2940	1.16	2800	1.33	2680	1.48
	300	3170	0.96	3020	1.09	2890	1.21
92 x 0.55	600	2250	1.29	2130	1.47	-	-
	450	2430	1.05	2320	1.21	2210	1.34
	400	2500	0.96	2390	1.11	2290	1.24
	300	2680	0.78	2560	0.90	2460	1.01
92 x 0.75	600	2440	1.41	2330	1.62	-	-
	450	2620	1.14	2500	1.31	2410	1.48
	400	2700	1.05	2580	1.21	2480	1.35
	300	2900	0.86	2770	0.98	2660	1.10
92 x 1.15	600	2790	1.63	2660	1.87	-	-
	450	3000	1.33	2860	1.52	2750	1.71
	400	3090	1.23	2950	1.40	2830	1.57
	300	3330	1.01	3170	1.15	3050	1.28
150 x 0.75	600	2870	1.67	2740	1.92	-	-
	450	3070	1.36	2940	1.56	2820	1.74
	400	3160	1.25	3020	1.43	2910	1.60
	300	3390	1.02	3240	1.17	3120	1.31
150 x 1.15	600	3220	1.91	3070	2.18	-	-
	450	3460	1.57	3300	1.78	3170	1.99
	400	3560	1.44	3400	1.65	3270	1.84
	300	3820	1.19	3650	1.35	3510	1.51

Noggings

Spans in this table do not require noggings

End Track Anchor Demand

1. Maximum anchor shear and tension demand = 0.76 kN
2. Anchors at maximum 1.5 x stud spacing up to 600mm maximum, and 100mm maximum from ends.
3. 150mm tracks require 2 anchors across width unless using an 80mm wide Universal Bracket (UB80).

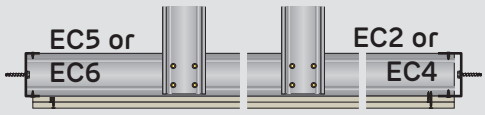
Intermediate Support

Stud BMT	Soffit Connection (kN)						
	SC1	SC2 2x10g screws	SC2 3x10g screws	SC2 4x10g screws	SC3 2x10g screws	SC3 3x10g screws	SC3 4x10g screws
0.5	0.51	1.08	1.62	2.16	1.08	1.62	2.16
0.55	0.61	1.26	1.89	2.50	1.26	1.89	2.52
0.75	0.96	2.00	2.50	2.50	2.00	3.00	4.00
1.15	1.68	2.50	2.50	2.50	3.80	5.70	7.60

1. Table refers to Siniat steel studs of grade G300 steel with Zincalume™ AM150 corrosion protection. Maximum production lengths available are 7.2m
2. End Connection 1 is **Sliding** type EC2 or EC4. End Connection 2 is **Fixed** type EC5 or EC6. Refer to *Stud Ceiling End Connections* for end connection details including track BMT.
3. For anchors used with intermediate supports, refer to the Siniat Anchor Product Data Sheet on current capacity information into concrete.
4. Table based upon downward (suction) and upward (uplift) ultimate (Wu) lateral wind pressure and serviceability (Ws) deflection limits stated, for internal use only.
5. Table includes self weight plus 2 kg/m² insulation weight with an additional 3 kg/m² service load. No further allowance for additional point loads or live loads.
6. Designed in accordance with *AS/NZS 4600:2018 Cold Formed Steel Structures*.
7. Wind pressures determined in accordance with *AS/NZS 1170.2 Wind Actions*.
8. Ultimate Load Case1: 1.2G + Wu (suction) + $Q_{0.03kPa}$ Service Load Ultimate Load Case 2: 0.9G + Wu (uplift).
9. Serviceability Load Case 1: G with deflection limited to span/500 Serviceability Load Case 2: G + Ws with deflection limited to span/360 or 12mm.
10. The nominated lateral wind pressures and deflection limits must be checked for suitability for a specific project.
11. Contact Siniat or a structural engineer to check ceiling for earthquake actions. Specific project information is required.

Table 9 2-or-more Span Internal Steel Stud Ceiling Span Table (mm) - REGION B

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

Steel stud ceiling lined on the underside only				Up to BCA Building Importance Level 3	Ultimate pressure W_U (kPa)		0.59
					Serviceability pressure W_S (kPa)		0.25
Ceiling Stud Depth and BMT (mm)	**Maximum Ceiling Stud Centres (mm)**	**1 layer** up to 13 kg/m²	Intermediate Support Demand (kN)	**2 layers** up to 26 kg/m²	Intermediate Support Demand (kN)	**3 layers** up to 39 kg/m²	Intermediate Support Demand (kN)
64 x 0.5	600	1850	1.13	1750	1.27	-	-
	450	2020	0.93	1910	1.04	1830	1.16
	400	2090	0.85	1980	0.96	1890	1.07
	300	2240	0.69	2150	0.79	2060	0.88
64 x 0.75	600	2110	1.29	2020	1.47	-	-
	450	2270	1.05	2170	1.19	2090	1.33
	400	2340	0.96	2240	1.10	2150	1.22
	300	2520	0.79	2410	0.89	2320	1.00
64 x 1.15	600	2440	1.51	2320	1.71	-	-
	450	2630	1.23	2510	1.40	2410	1.55
	400	2720	1.14	2590	1.29	2490	1.43
	300	2930	0.93	2800	1.06	2690	1.17
76 x 0.55	600	2050	1.25	1950	1.41	-	-
	450	2210	1.01	2110	1.15	2030	1.29
	400	2270	0.93	2170	1.06	2090	1.18
	300	2440	0.75	2340	0.86	2250	0.96
76 x 0.75	600	2320	1.42	2220	1.62	-	-
	450	2500	1.16	2390	1.32	2300	1.47
	400	2570	1.06	2460	1.21	2370	1.35
	300	2770	0.87	2650	0.99	2550	1.10
76 x 1.15	600	2600	1.61	2480	1.83	-	-
	450	2800	1.32	2680	1.50	2570	1.66
	400	2890	1.22	2760	1.38	2650	1.53
	300	3110	1.00	2970	1.13	2860	1.25
92 x 0.55	600	2210	1.35	2090	1.52	-	-
	450	2390	1.10	2280	1.25	2180	1.39
	400	2460	1.01	2350	1.15	2260	1.28
	300	2640	0.82	2530	0.93	2430	1.04
92 x 0.75	600	2400	1.48	2300	1.68	-	-
	450	2580	1.20	2470	1.37	2380	1.52
	400	2660	1.10	2540	1.25	2450	1.40
	300	2860	0.90	2730	1.02	2630	1.14
92 x 1.15	600	2740	1.71	2620	1.94	-	-
	450	2950	1.39	2820	1.58	2710	1.76
	400	3040	1.29	2910	1.46	2800	1.62
	300	3280	1.06	3130	1.19	3010	1.32
150 x 0.75	600	2820	1.75	2700	1.99	-	-
	450	3030	1.42	2900	1.62	2790	1.80
	400	3110	1.31	2980	1.48	2870	1.65
	300	3340	1.07	3200	1.21	3080	1.35
150 x 1.15	600	3170	2.00	3030	2.27	-	-
	450	3400	1.63	3260	1.85	3140	2.06
	400	3500	1.51	3350	1.70	3230	1.90
	300	3760	1.24	3600	1.40	3470	1.55

Noggings

Spans in this table do not require noggings

End Track Anchor Demand

1. Maximum anchor shear and tension demand = 0.79 kN
2. Anchors at maximum 1.5 x stud spacing up to 600mm maximum, and 100mm maximum from ends.
3. 150mm tracks require 2 anchors across width unless using an 80mm wide Universal Bracket (UB80).

Intermediate Support

Stud BMT	Soffit Connection (kN)						
	SC1	SC2 2x10g screws	SC2 3x10g screws	SC2 4x10g screws	SC3 2x10g screws	SC3 3x10g screws	SC3 4x10g screws
0.5	0.51	1.08	1.62	2.16	1.08	1.62	2.16
0.55	0.61	1.26	1.89	2.50	1.26	1.89	2.52
0.75	0.96	2.00	2.50	2.50	2.00	3.00	4.00
1.15	1.68	2.50	2.50	2.50	3.80	5.70	7.60

1. Table refers to Siniat steel studs of grade G300 steel with Zincalume™ AM150 corrosion protection. Maximum production lengths available are 7.2m
2. End Connection 1 is **Sliding** type EC2 or EC4. End Connection 2 is **Fixed** type EC5 or EC6. Refer to *Stud Ceiling End Connections* for end connection details including track BMT.
3. For anchors used with intermediate supports, refer to the Siniat Anchor Product Data Sheet on current capacity information into concrete.
4. Table based upon downward (suction) and upward (uplift) ultimate (Wu) lateral wind pressure and serviceability (Ws) deflection limits stated, for internal use only.
5. Table includes self weight plus 2 kg/m² insulation weight with an additional 3 kg/m² service load. No further allowance for additional point loads or live loads.
6. Designed in accordance with *AS/NZS 4600:2018 Cold Formed Steel Structures*.
7. Wind pressures determined in accordance with *AS/NZS 1170.2 Wind Actions*.
8. Ultimate Load Case1: 1.2G + Wu (suction) + $Q_{0.03kPa}$ Service Load Ultimate Load Case 2: 0.9G + Wu (uplift).
9. Serviceability Load Case 1: G with deflection limited to span/500 Serviceability Load Case 2: G + Ws with deflection limited to span/360 or 12mm.
10. The nominated lateral wind pressures and deflection limits must be checked for suitability for a specific project.
11. Contact Siniat or a structural engineer to check ceiling for earthquake actions. Specific project information is required.

Table 10 2-or-more Span Internal Steel Stud Ceiling Span Table (mm) - REGION B

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

Steel stud ceiling lined on the underside only				Up to BCA Building Importance Level 3	Ultimate pressure W_U (kPa)		0.83
					Serviceability pressure W_S (kPa)		0.35
Ceiling Stud Depth and BMT (mm)	**Maximum Ceiling Stud Centres (mm)**	**1 layer** up to 13 kg/m²	Intermediate Support Demand (kN)	**2 layers** up to 26 kg/m²	Intermediate Support Demand (kN)	**3 layers** up to 39 kg/m²	Intermediate Support Demand (kN)
64 x 0.5	600	1700	1.34	1620	1.47	-	-
	450	1870	1.11	1790	1.22	1720	1.32
	400	1930	1.02	1850	1.12	1780	1.22
	300	2100	0.84	2020	0.92	1950	1.00
64 x 0.75	600	1980	1.57	1910	1.74	-	-
	450	2130	1.27	2050	1.40	1990	1.54
	400	2190	1.17	2110	1.29	2050	1.41
	300	2360	0.95	2280	1.05	2210	1.15
64 x 1.15	600	2270	1.81	2190	2.01	-	-
	450	2450	1.48	2360	1.63	2290	1.78
	400	2530	1.36	2440	1.50	2360	1.64
	300	2730	1.12	2630	1.23	2550	1.34
76 x 0.55	600	1910	1.51	1830	1.66	-	-
	450	2070	1.23	1990	1.36	1920	1.48
	400	2130	1.13	2060	1.25	1990	1.36
	300	2290	0.91	2210	1.01	2140	1.10
76 x 0.75	600	2180	1.73	2100	1.91	-	-
	450	2340	1.40	2260	1.55	2190	1.70
	400	2410	1.29	2330	1.43	2260	1.56
	300	2590	1.05	2500	1.16	2430	1.27
76 x 1.15	600	2430	1.95	2340	2.15	-	-
	450	2620	1.59	2520	1.75	2440	1.91
	400	2700	1.46	2600	1.61	2520	1.76
	300	2910	1.20	2810	1.32	2720	1.44
92 x 0.55	600	2040	1.61	1960	1.78	-	-
	450	2220	1.32	2130	1.46	2060	1.59
	400	2300	1.22	2210	1.35	2130	1.46
	300	2480	0.99	2390	1.10	2320	1.20
92 x 0.75	600	2250	1.79	2170	1.98	-	-
	450	2420	1.45	2330	1.60	2260	1.75
	400	2490	1.33	2400	1.47	2330	1.61
	300	2680	1.09	2580	1.20	2510	1.31
92 x 1.15	600	2560	2.06	2470	2.27	-	-
	450	2760	1.68	2660	1.85	2580	2.02
	400	2850	1.55	2740	1.70	2660	1.86
	300	3060	1.26	2960	1.40	2860	1.52
150 x 0.75	600	2640	2.11	2540	2.33	-	-
	450	2840	1.72	2740	1.90	2660	2.08
	400	2920	1.58	2820	1.74	2740	1.91
	300	3130	1.28	3030	1.42	2940	1.55
150 x 1.15	600	2970	2.41	2870	2.66	-	-
	450	3190	1.96	3080	2.17	2990	2.37
	400	3290	1.81	3170	1.99	3080	2.18
	300	3530	1.49	3410	1.63	3310	1.78

Noggings

Spans in this table do not require noggings

End Track Anchor Demand

1. Maximum anchor shear and tension demand = 0.91 kN
2. Anchors at maximum 1.5 x stud spacing up to 600mm maximum, and 100mm maximum from ends.
3. 150mm tracks require 2 anchors across width unless using an 80mm wide Universal Bracket (UB80).

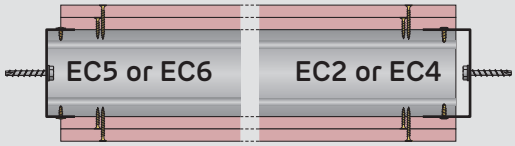
Intermediate Support

Stud BMT	Soffit Connection (kN)						
	SC1	SC2 2x10g screws	SC2 3x10g screws	SC2 4x10g screws	SC3 2x10g screws	SC3 3x10g screws	SC3 4x10g screws
0.5	0.51	1.08	1.62	2.16	1.08	1.62	2.16
0.55	0.61	1.26	1.89	2.50	1.26	1.89	2.52
0.75	0.96	2.00	2.50	2.50	2.00	3.00	4.00
1.15	1.68	2.50	2.50	2.50	3.80	5.70	7.60

1. Table refers to Siniat steel studs of grade G300 steel with Zincalume™ AM150 corrosion protection. Maximum production lengths available are 7.2m
2. End Connection 1 is **Sliding** type EC2 or EC4. End Connection 2 is **Fixed** type EC5 or EC6. Refer to *Stud Ceiling End Connections* for end connection details including track BMT.
3. For anchors used with intermediate supports, refer to the Siniat Anchor Product Data Sheet on current capacity information into concrete.
4. Table based upon downward (suction) and upward (uplift) ultimate (Wu) lateral wind pressure and serviceability (Ws) deflection limits stated, for internal use only.
5. Table includes self weight plus 2 kg/m² insulation weight with an additional 3 kg/m² service load. No further allowance for additional point loads or live loads.
6. Designed in accordance with *AS/NZS 4600:2018 Cold Formed Steel Structures*.
7. Wind pressures determined in accordance with *AS/NZS 1170.2 Wind Actions*.
8. Ultimate Load Case1: 1.2G + Wu (suction) + $Q_{0.03kPa\ Service\ Load}$
   Ultimate Load Case 2: 0.9G + Wu (uplift).
9. Serviceability Load Case 1: G with deflection limited to span/500
   Serviceability Load Case 2: G + Ws with deflection limited to span/360 or 12mm.
10. The nominated lateral wind pressures and deflection limits must be checked for suitability for a specific project.
11. Contact Siniat or a structural engineer to check ceiling for earthquake actions. Specific project information is required.

Table 11 Single Span Internal Steel Stud Ceiling Span Table (mm) - REGION A

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

Steel stud ceiling lined above and below		Up to BCA Building Importance Level 3	Ultimate pressure W_U (kPa)	0.54
			Serviceability pressure W_S (kPa)	0.35

Ceiling Stud Depth and BMT (mm)	Maximum Ceiling Stud Centres (mm)	System Number			
		SSC4	SSC9, SSC10, SSC11	SSC2, SSC12	SSC3
64 x 0.5	450	2230	2020	1880	1760
	400	2330	2120	1980	1870
	300	2600	2350	2200	2070
64 x 0.75	450	2470	2250	2110	2000
	400	2580	2340	2200	2080
	300	2870	2600	2430	2300
64 x 1.15	450	2770	2520	2370	2240
	400	2890	2620	2460	2340
	300	3190	2900	2730	2580
76 x 0.55	450	2640	2350	2190	2050
	400	2770	2490	2320	2180
	300	3090	2780	2600	2450
76 x 0.75	450	2880	2610	2440	2310
	400	3010	2720	2550	2410
	300	3350	3030	2830	2680
76 x 1.15	450	3200	2900	2720	2580
	400	3340	3020	2840	2690
	300	3690	3350	3140	2980
92 x 0.55	450	3090	2730	2540	2380
	400	3270	2890	2690	2530
	300	3650	3280	3060	2890
92 x 0.75	450	3370	3030	2830	2680
	400	3520	3170	2960	2800
	300	3910	3530	3300	3120
92 x 1.15	450	3760	3390	3180	3010
	400	3920	3540	3320	3150
	300	4320	3920	3680	3490
150 x 0.75	450	4930	3950	3430	3030
	400	5080	4190	3640	3210
	300	5450	5080	4810	4250
150 x 1.15	450	5290	4920	4700	4510
	400	5440	5070	4840	4650
	300	5800	5430	5200	5000

*Greater span possible using **Sliding** type EC4 end connection. Contact Siniat if required.

Nogging Table

Ceiling Span (m)	Number of Noggings evenly spaced along ceiling joist
0 - 2.0	0
2.0 - 4.0	1
above 4.0	2

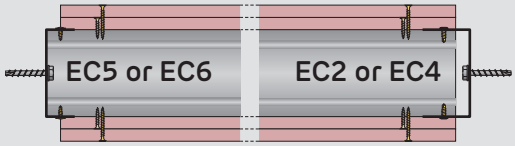
End Track Anchor Demand

1. Maximum anchor shear and tension demand = 1.64 kN
2. Anchors at maximum 1.5 x stud spacing up to 600mm maximum, and 100mm maximum from ends.
3. 150mm tracks require 2 anchors across width unless using an 80mm wide Universal Bracket (UB80).

1. Table refers to Siniat steel studs of grade G300 steel with Zincalume™ AM150 corrosion protection. Maximum production lengths available are 7.2m
2. End Connection 1 is **Sliding** type EC2 or EC4. End Connection 2 is **Fixed** type EC5 or EC6. Refer to *Stud Ceiling End Connections* for end connection details including track BMT.
3. Table based upon downward (suction) and upward (uplift) ultimate (Wu) lateral wind pressure and serviceability (Ws) deflection limits stated, for internal use only.
4. Table includes self weight plus 2 kg/m^2 insulation weight with an additional 3 kg/m^2 service load. No further allowance for additional point loads or live loads.
5. Designed in accordance with *AS/NZS 4600:2018 Cold Formed Steel Structures*.
6. Wind pressures determined in accordance with *AS/NZS 1170.2 Wind Actions*.
7. Ultimate Load Case1: 1.2G + Wu (suction) + $Q_{0.03kPa\ Service\ Load}$
   Ultimate Load Case 2: 0.9G + Wu (uplift).
8. Serviceability Load Case 1: G with deflection limited to span/500
   Serviceability Load Case 2: G + Ws with deflection limited to span/360 or 12mm.
9. The nominated lateral wind pressures and deflection limits must be checked for suitability for a specific project.
10. Contact Siniat or a structural engineer to check ceiling for earthquake actions. Specific project information is required.

Table 12 Single Span Internal Steel Stud Ceiling Span Table (mm) - REGION B

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

Steel stud ceiling lined above and below		Up to BCA Building Importance Level 3	Ultimate pressure W_U (kPa)	0.83
			Serviceability pressure W_S (kPa)	0.35

Ceiling Stud Depth and BMT (mm)	Maximum Ceiling Stud Centres (mm)	System Number			
		SSC4	SSC9, SSC10, SSC11	SSC2, SSC12	SSC3
64 x 0.5	450	1990	1800	1700	1610
	400	2110	1910	1800	1710
	300	2430	2200	2080	1970
64 x 0.75	450	2470	2250	2110	2000
	400	2580	2340	2200	2080
	300	2870	2600	2430	2300
64 x 1.15	450	2770	2520	2370	2240
	400	2890	2620	2460	2340
	300	3190	2900	2730	2580
76 x 0.55	450	2320	2100	1980	1880
	400	2450	2230	2100	1990
	300	2830	2570	2420	2300
76 x 0.75	450	2880	2610	2440	2310
	400	3010	2720	2550	2410
	300	3350	3030	2830	2680
76 x 1.15	450	3200	2900	2720	2580
	400	3340	3020	2840	2690
	300	3690	3350	3140	2980
92 x 0.55	450	2690	2440	2300	2180
	400	2850	2580	2440	2310
	300	3280	2980	2810	2550
92 x 0.75	450	3320	3010	2830	2550
	400	3520	3170	2960	2710
	300	3910	3530	3300	3120
92 x 1.15	450	3760	3390	3180	3010
	400	3920	3540	3320	3150
	300	4320	3920	3680	3490
150 x 0.75	450	3830	3160	2820	2540
	400	4070	3360	2990	2700
	300	5220	4440	3960	3570
150 x 1.15	450	5290	4920	4700	4510
	400	5440	5070	4840	4650
	300	5800	5430	5200	5000

*Greater span possible using **Sliding** type EC4 end connection. Contact Siniat if required.

Nogging Table

Ceiling Span (m)	Number of Noggings evenly spaced along ceiling joist
0 - 2.0	0
2.0 - 4.0	1
above 4.0	2

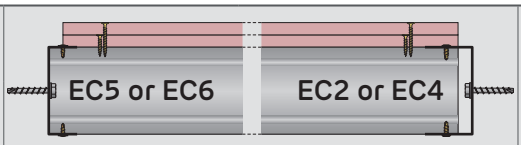
End Track Anchor Demand

1. Maximum anchor shear and tension demand = 1.64 kN
2. Anchors at maximum 1.5 x stud spacing up to 600mm maximum, and 100mm maximum from ends.
3. 150mm tracks require 2 anchors across width unless using an 80mm wide Universal Bracket (UB80).

1. Table refers to Siniat steel studs of grade G300 steel with Zincalume™ AM150 corrosion protection. Maximum production lengths available are 7.2m
2. End Connection 1 is **Sliding** type EC2 or EC4. End Connection 2 is **Fixed** type EC5 or EC6. Refer to *Stud Ceiling End Connections* for end connection details including track BMT.
3. Table based upon downward (suction) and upward (uplift) ultimate (Wu) lateral wind pressure and serviceability (Ws) deflection limits stated, for internal use only.
4. Table includes self weight plus 2 kg/m^2 insulation weight with an additional 3 kg/m^2 service load. No further allowance for additional point loads or live loads.
5. Designed in accordance with *AS/NZS 4600:2018 Cold Formed Steel Structures*.
6. Wind pressures determined in accordance with *AS/NZS 1170.2 Wind Actions*.
7. Ultimate Load Case1: 1.2G + Wu (suction) + $Q_{0.03kPa\ Service\ Load}$
   Ultimate Load Case 2: 0.9G + Wu (uplift).
8. Serviceability Load Case 1: G with deflection limited to span/500
   Serviceability Load Case 2: G + Ws with deflection limited to span/360 or 12mm.
9. The nominated lateral wind pressures and deflection limits must be checked for suitability for a specific project.
10. Contact Siniat or a structural engineer to check ceiling for earthquake actions. Specific project information is required.

Table 13 Single Span Internal Steel Stud Ceiling Span Table (mm) - REGION A

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

Steel stud ceiling lined on the above side only		Up to BCA Building Importance Level 3	Ultimate pressure W_U (kPa)	0.54
			Serviceability pressure W_S (kPa)	0.35

Ceiling Stud Depth and BMT (mm)	Maximum Ceiling Stud Centres (mm)	System Number		
		SSC6	SSC7	SSC8
64 x 0.5	450	1870	1800	1750
	400	1940	1870	1820
	300	2130	2060	1990
64 x 0.75	450	2120	2050	1990
	400	2200	2130	2060
	300	2420	2340	2260
64 x 1.15	450	2430	2350	2280
	400	2520	2440	2370
	300	2760	2670	2590
76 x 0.55	450	2200	2120	2060
	400	2280	2210	2140
	300	2510	2430	2350
76 x 0.75	450	2450	2370	2300
	400	2550	2470	2390
	300	2800	2710	2620
76 x 1.15	450	2780	2690	2610
	400	2890	2800	2710
	300	3170	3060	2970
92 x 0.55	450	2560	2470	2400
	400	2660	2570	2490
	300	2920	2820	2730
92 x 0.75	450	2820	2720	2640
	400	2930	2830	2740
	300	3210	3110	3010
92 x 1.15	450	3230	3120	3030
	400	3350	3240	3150
	300	3670	3550	3450
150 x 0.75	450	4150	4010	3730
	400	4310	4170	4040
	300	4610	4500	4400
150 x 1.15	450	4630	4520	4420
	400	4760	4650	4540
	300	5090	4970	4860

*Greater span possible using **Sliding** type EC4 end connection. Contact Siniat if required.

Nogging Table

Ceiling Span (m)	Number of Noggings evenly spaced along ceiling joist
0 - 2.0	0
2.0 - 4.0	1
above 4.0	2

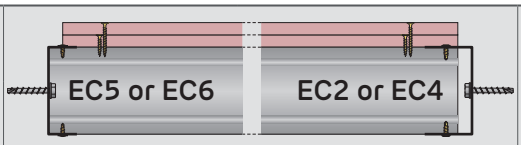
End Track Anchor Demand

1. Maximum anchor shear and tension demand = 1.33 kN
2. Anchors at maximum 1.5 x stud spacing up to 600mm maximum, and 100mm maximum from ends.
3. 150mm tracks require 2 anchors across width unless using an 80mm wide Universal Bracket (UB80).

1. Table refers to Siniat steel studs of grade G300 steel with Zincalume™ AM150 corrosion protection. Maximum production lengths available are 7.2m
2. End Connection 1 is **Sliding** type EC2 or EC4. End Connection 2 is **Fixed** type EC5 or EC6. Refer to *Stud Ceiling End Connections* for end connection details including track BMT.
3. Table based upon downward (suction) and upward (uplift) ultimate (Wu) lateral wind pressure and serviceability (Ws) deflection limits stated, for internal use only.
4. Table includes self weight plus 2 kg/m^2 insulation weight with an additional 3 kg/m^2 service load. No further allowance for additional point loads or live loads.
5. Designed in accordance with *AS/NZS 4600:2018 Cold Formed Steel Structures*.
6. Wind pressures determined in accordance with *AS/NZS 1170.2 Wind Actions*.
7. Ultimate Load Case1: 1.2G + Wu (suction) + $Q_{0.03kPa\ Service\ Load}$
   Ultimate Load Case 2: 0.9G + Wu (uplift).
8. Serviceability Load Case 1: G with deflection limited to span/500
   Serviceability Load Case 2: G + Ws with deflection limited to span/360 or 12mm.
9. The nominated lateral wind pressures and deflection limits must be checked for suitability for a specific project.
10. Contact Siniat or a structural engineer to check ceiling for earthquake actions. Specific project information is required.

Table 14 Single Span Internal Steel Stud Ceiling Span Table (mm) - REGION B

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

Steel stud ceiling lined on the above side only		Up to BCA Building Importance Level 3	Ultimate pressure W_U (kPa)	0.83
			Serviceability pressure W_S (kPa)	0.35

Ceiling Stud Depth and BMT (mm)	Maximum Ceiling Stud Centres (mm)	System Number		
		SSC6	SSC7	SSC8
64 x 0.5	450	1770	1730	1690
	400	1830	1790	1760
	300	2130	2060	1920
64 x 0.75	450	2120	2050	1970
	400	2200	2130	2060
	300	2420	2340	2260
64 x 1.15	450	2430	2350	2280
	400	2520	2440	2370
	300	2760	2670	2590
76 x 0.55	450	2200	2120	2060
	400	2280	2210	2140
	300	2510	2430	2350
76 x 0.75	450	2450	2370	2300
	400	2550	2470	2390
	300	2800	2710	2620
76 x 1.15	450	2780	2690	2610
	400	2890	2800	2710
	300	3170	3060	2970
92 x 0.55	450	2560	2470	2400
	400	2660	2570	2490
	300	2920	2820	2730
92 x 0.75	450	2820	2720	2640
	400	2930	2830	2740
	300	3210	3110	3010
92 x 1.15	450	3230	3120	3030
	400	3350	3240	3150
	300	3670	3550	3450
150 x 0.75	450	3400	3180	2980
	400	3810	3570	3350
	300	4610	4500	4260
150 x 1.15	450	4630	4520	4420
	400	4760	4650	4540
	300	5090	4970	4860

*Greater span possible using Sliding type EC4 end connection. Contact Siniat if required.

Nogging Table

Ceiling Span (m)	Number of Noggings evenly spaced along ceiling joist
0 - 2.0	0
2.0 - 4.0	1
above 4.0	2

End Track Anchor Demand

1. Maximum anchor shear and tension demand = 1.33 kN
2. Anchors at maximum 1.5 x stud spacing up to 600mm maximum, and 100mm maximum from ends.
3. 150mm tracks require 2 anchors across width unless using an 80mm wide Universal Bracket (UB80).

1. Table refers to Siniat steel studs of grade G300 steel with Zincalume™ AM150 corrosion protection. Maximum production lengths available are 7.2m
2. End Connection 1 is Sliding type EC2 or EC4. End Connection 2 is Fixed type EC5 or EC6. Refer to *Stud Ceiling End Connections* for end connection details including track BMT.
3. Table based upon downward (suction) and upward (uplift) ultimate (Wu) lateral wind pressure and serviceability (Ws) deflection limits stated, for internal use only.
4. Table includes self weight plus 2 kg/m^2 insulation weight with an additional 3 kg/m^2 service load. No further allowance for additional point loads or live loads.
5. Designed in accordance with *AS/NZS 4600:2018 Cold Formed Steel Structures*.
6. Wind pressures determined in accordance with *AS/NZS 1170.2 Wind Actions*.
7. Ultimate Load Case1: 1.2G + Wu (suction) + $Q_{0.03kPa\ Service\ Load}$
   Ultimate Load Case 2: 0.9G + Wu (uplift).
8. Serviceability Load Case 1: G with deflection limited to span/500
   Serviceability Load Case 2: G + Ws with deflection limited to span/360 or 12mm.
9. The nominated lateral wind pressures and deflection limits must be checked for suitability for a specific project.
10. Contact Siniat or a structural engineer to check ceiling for earthquake actions. Specific project information is required.

Plasterboard Layout

	Non-Fire Rated	Fire Rated
Sheet ceilings perpendicular to framing members.	✓	✓
Stagger face layer butt joints by 600mm minimum on adjoining sheets and between layers.	✓	✓
Stagger recessed edges by 300mm minimum between layers.	✓	✓
Follow the back-blocking requirements and butt joint placement for the level of finish selected. [Refer To Section 7]	✓	

> Sheet ceilings parallel to the light source to reduce the effect of glancing light.
> Minimise butt joints by using the longest sheet possible.
> Butt joints on underlying layers (not face layer) may be made on the same framing member.
> For 2 layer systems at 450mm centres, face layer butt joints may be fixed to framing members.

Plasterboard Fixing

	Non-Fire Rated	Fire Rated
For the installation of plasterboard to ceiling framing, refer to Section 5.1.	✓	✓
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.	✓	✓
Use laminating screws to fix floating butt joints in the second, third and fourth layers.	✓	✓
Screw and Adhesive Method		
Apply masta**grip** Stud Adhesive after the frame is clean, dry, and free from grease, dust and other contaminants.	✓	
Apply masta**grip** daubs 200mm minimum from screws and plasterboard edges.	✓	
Screw Only Method		
Use the 'Screw Only Method' for fire rated ceilings.	✓	✓

The 'Screw and Adhesive Method' is recommended for non-fire rated applications. masta**grip** will:
> Minimise screw popping
> Reduce the number of screw heads that may show in glancing light
> Assist in compensating for frame irregularities.

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

Plasterboard Thickness	1st Layer	2nd Layer	3rd Layer	4th Layer
6.5mm	6g x 25mm screw	6g x 25mm screw	-	-
10mm	6g x 25mm screw	6g x 41mm screw *	-	-
13mm	6g x 25mm screw	6g x 41mm screw *	7g x 57mm screw *	-
16mm	6g x 32mm screw	6g x 45mm screw *	8g x 65mm screw *	8g x 75mm screw *

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

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

*10g x 38mm Laminating screws may be used as detailed in installation diagrams.

Non-Fire Rated
Steel Stud Ceilings

Refer to seismic construction details for earthquake resistant ceilings

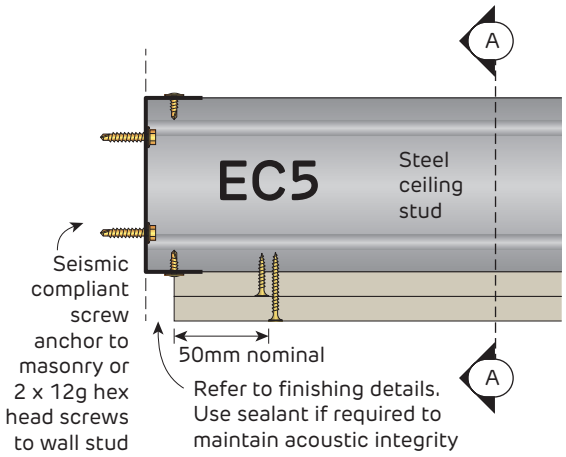


FIGURE 5 Fixed Connection EC5
Fixed Track
Section

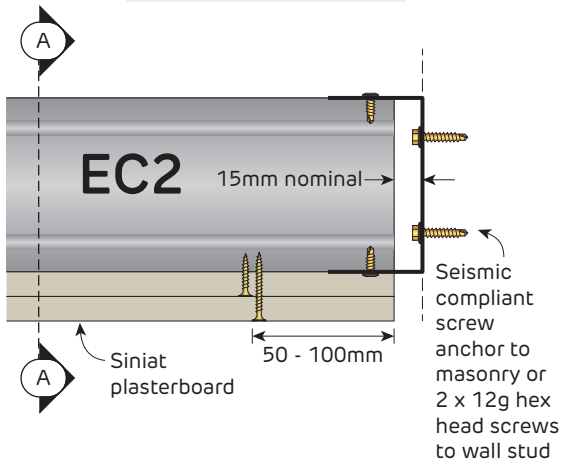


FIGURE 6 Sliding Connection EC2
Slotted Deflection Head Track
Section

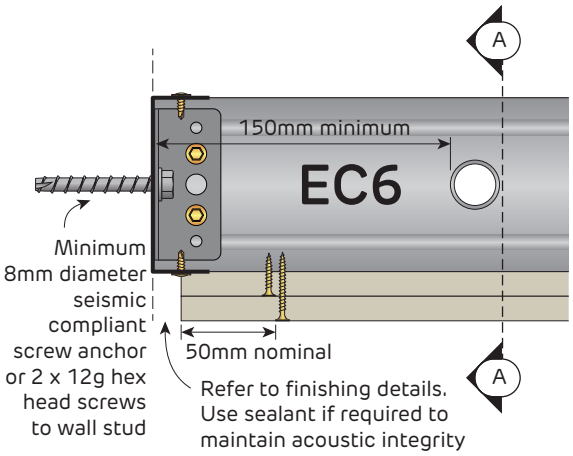


FIGURE 7 Fixed Connection EC6
Universal Bracket (UB60 or UB80)
Section

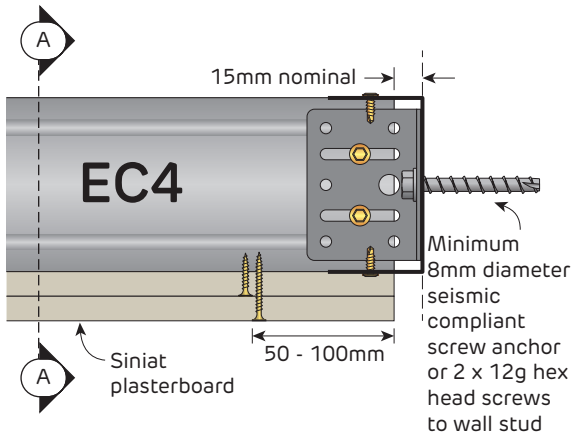
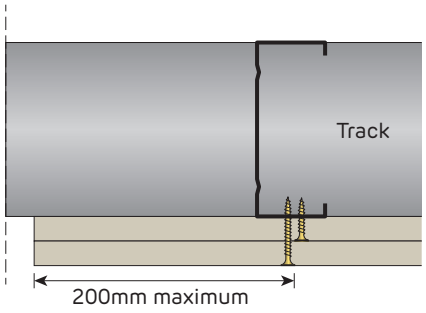
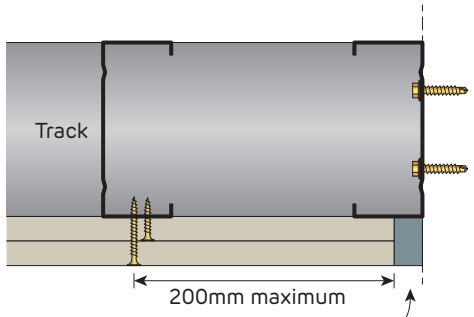


FIGURE 8 Sliding Connection EC4
Universal Bracket (UB60 or UB80)
Section



SECTION A-A Ceiling Edge
Section



Refer to finishing details. Use perimeter steel stud or 35x35mm x 0.7mm BMT steel backing angle (BA35-070) with sealant if required to maintain acoustic integrity

SECTION A-A Alternative Ceiling Edge
Section

Fire Rated
Steel Stud Ceilings

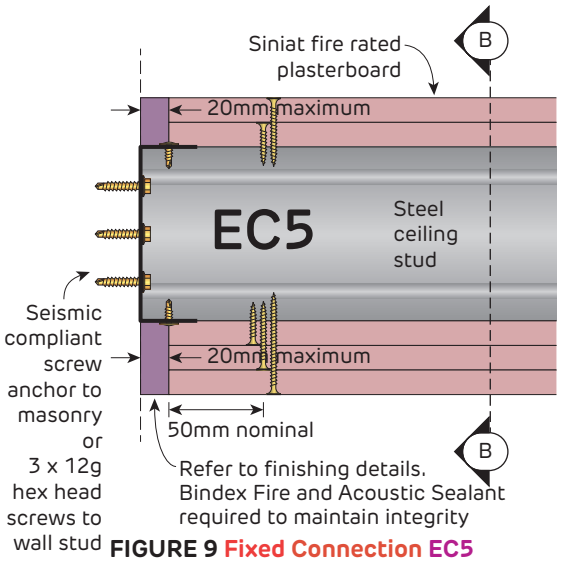


FIGURE 9 Fixed Connection EC5
Fixed Track
Section

Refer to seismic construction details for earthquake resistant ceilings

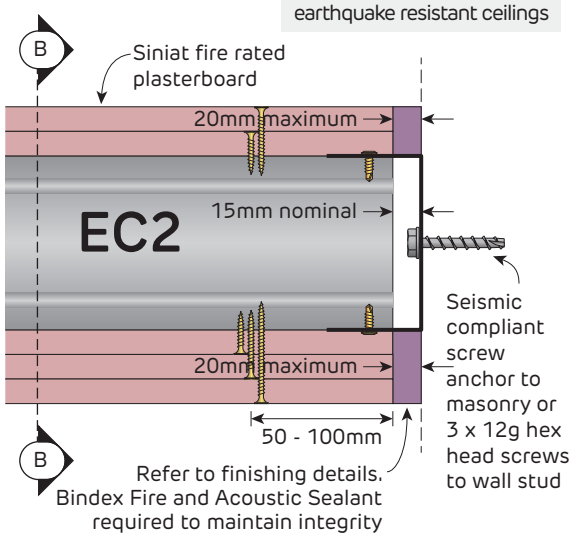


FIGURE 10 Sliding Connection EC2
Slotted Deflection Head Track
Section

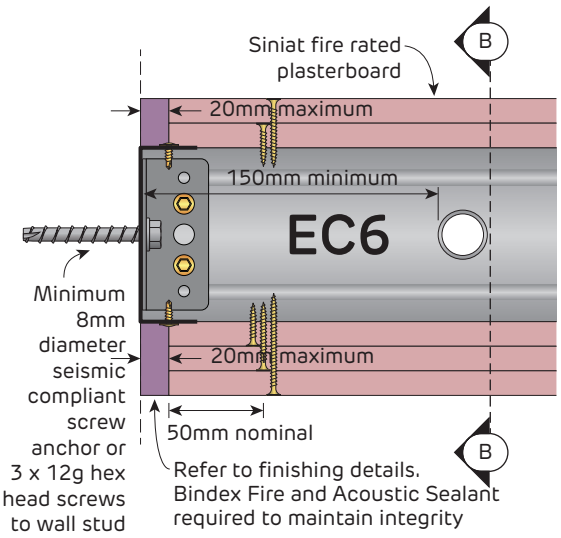


FIGURE 11 Fixed Connection EC6
Universal Bracket (UB60 or UB80)
Section

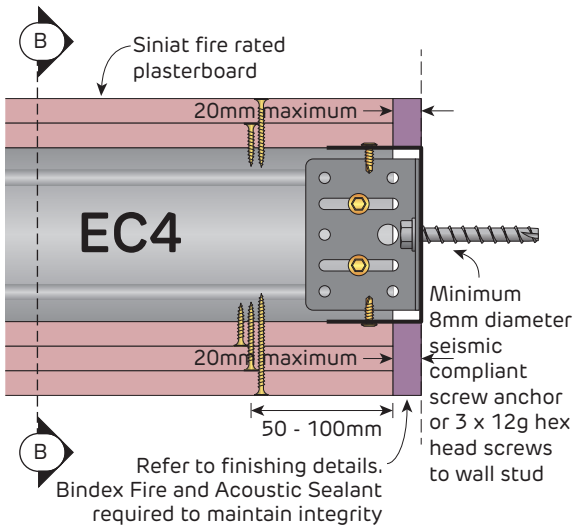
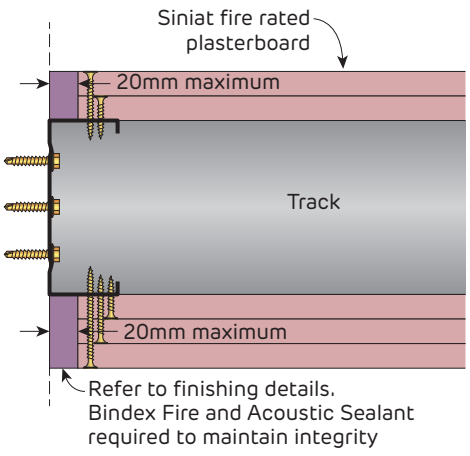
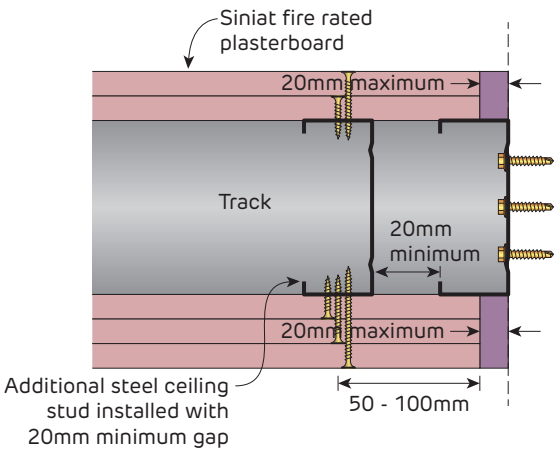


FIGURE 12 Sliding Connection EC4
Universal Bracket (UB60 or UB80)
Section



SECTION B-B Ceiling Edge
Section



SECTION B-B Alternative Ceiling Edge
Section

Fire Rated and Non-Fire Rated
Stud Dropper Connections to Concrete

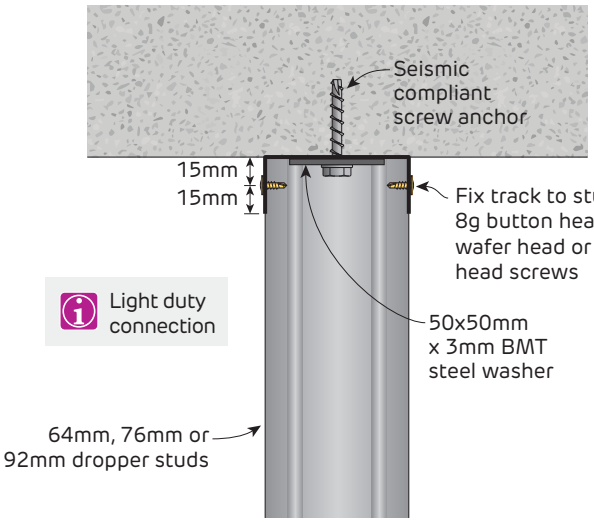


FIGURE 13 Concrete Soffit Connection SC1
Light duty connection
Section

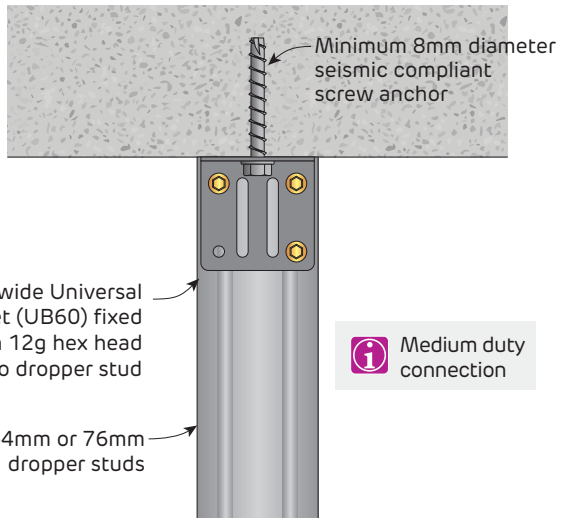


FIGURE 14 Concrete Soffit Connection SC2
64mm or 76mm studs only - Medium duty
Section

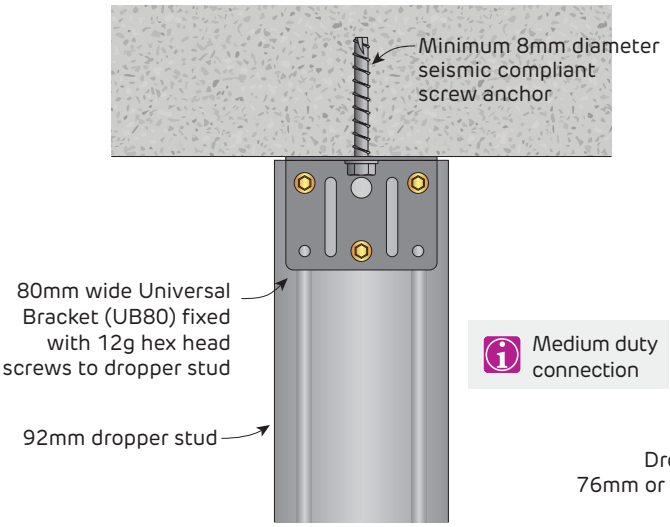


FIGURE 15 Concrete Soffit Connection SC3
92mm studs only - Medium duty
Section

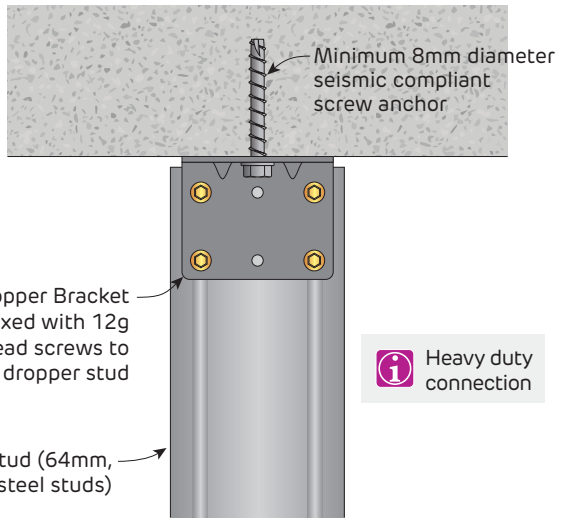


FIGURE 16 Concrete Soffit Connection SC4
Heavy duty
Section

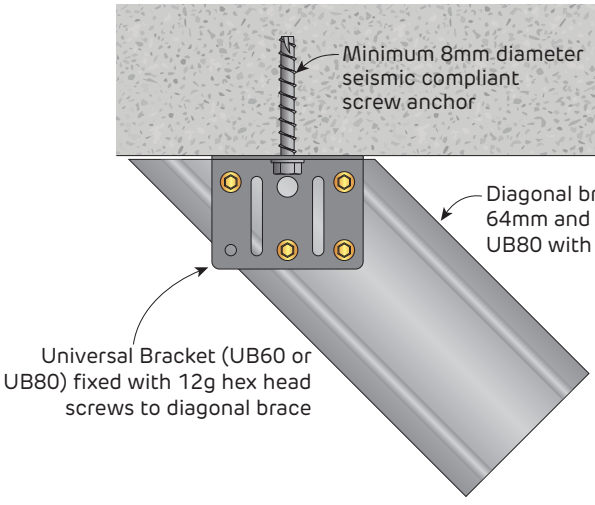


FIGURE 17 Diagonal Brace to Concrete
64mm, 76mm or 92mm studs only - Medium duty
Section

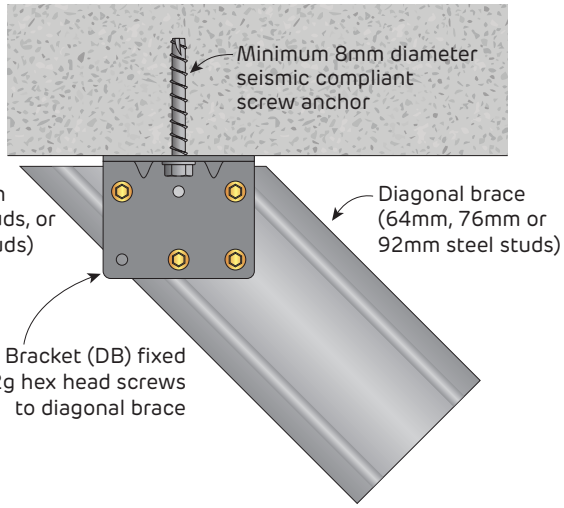


FIGURE 18 Diagonal Brace to Concrete
64mm, 76mm or 92mm studs only - Heavy duty
Section

Fire Rated and Non-Fire Rated
Stud Dropper Connections to Purlins

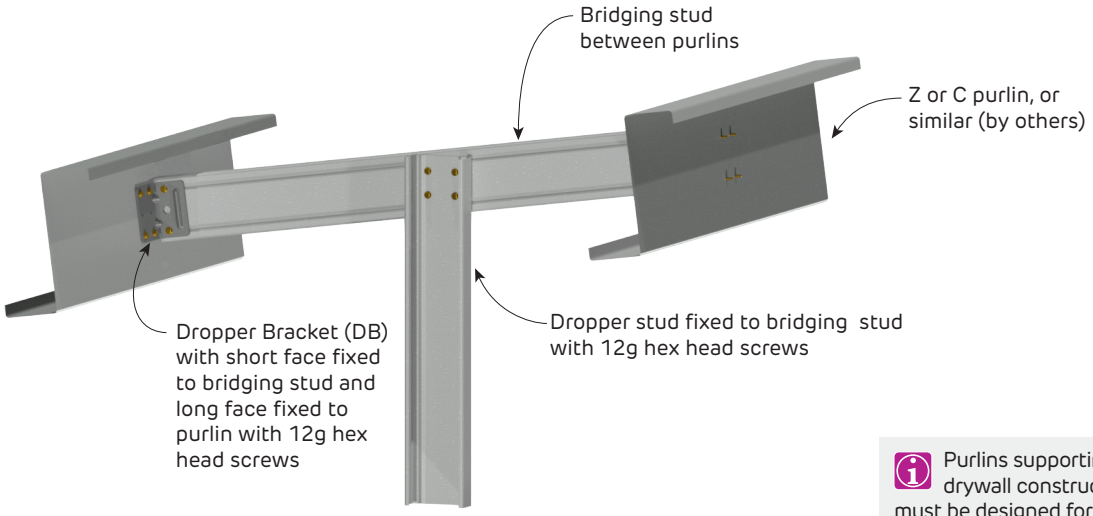


FIGURE 19 Dropper Stud to Bridging between Purlins
Perspective and Section

Purlins supporting drywall construction must be designed for the additional intended loads

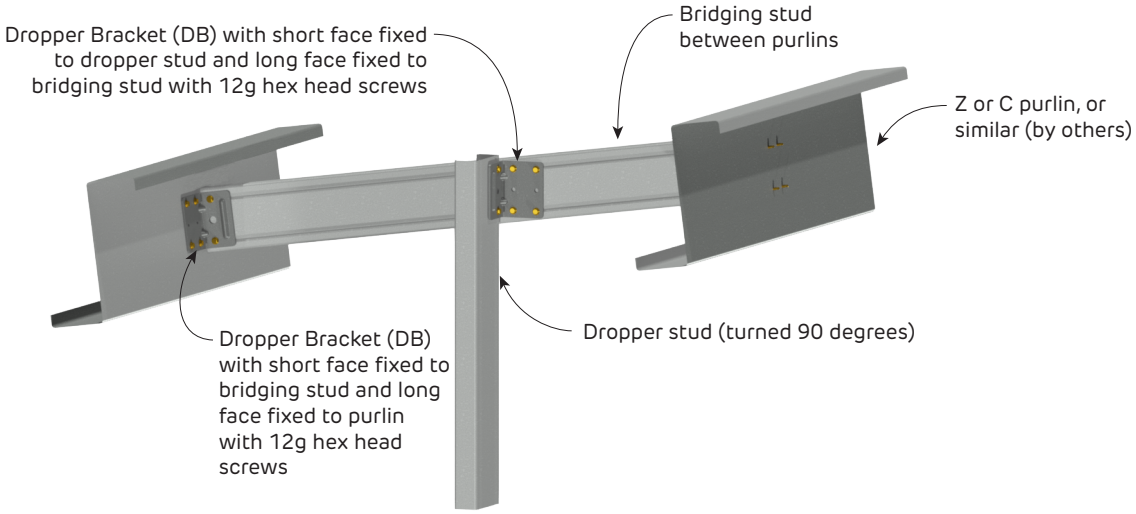


FIGURE 20 Alternative Dropper Stud to Bridging between Purlins
Perspective and Section

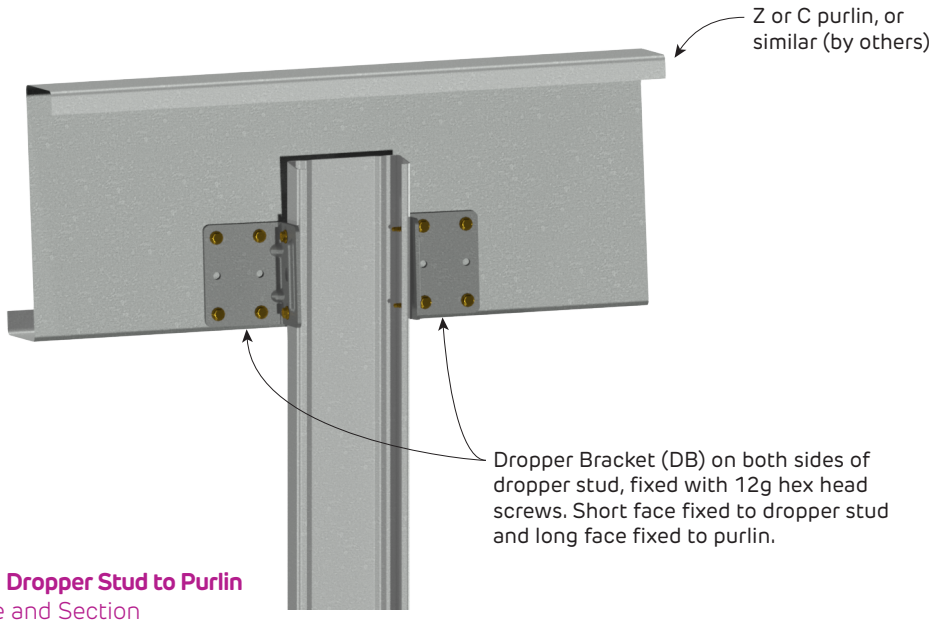


FIGURE 21 Dropper Stud to Purlin
Perspective and Section

Fire Rated and Non-Fire Rated
Diagonal Bracing Connections to Purlins

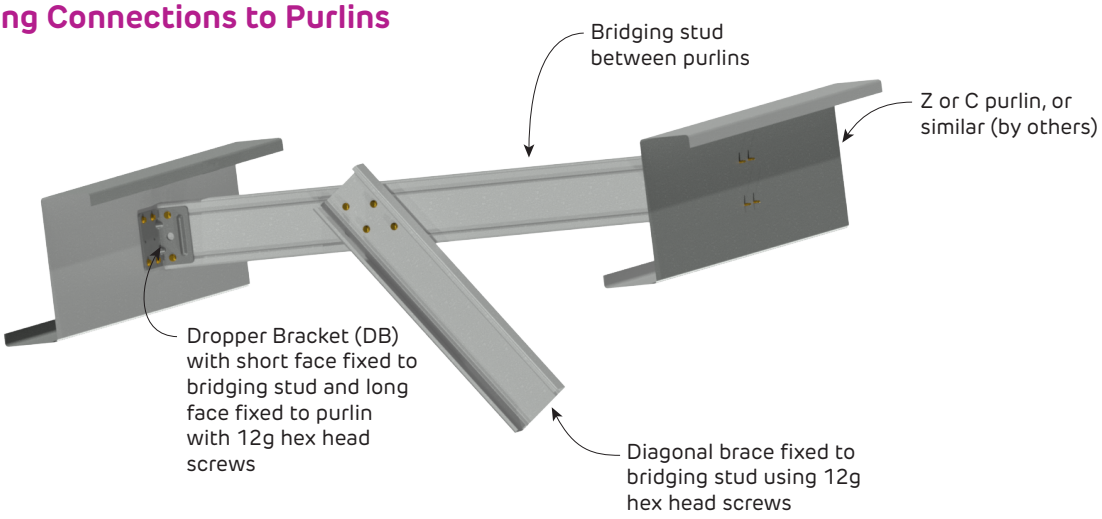


FIGURE 22 Diagonal Brace to Bridging between Purlins
Brace Perpendicular to Purlins
Perspective and Section

Purlins supporting drywall construction must be designed for the additional intended loads

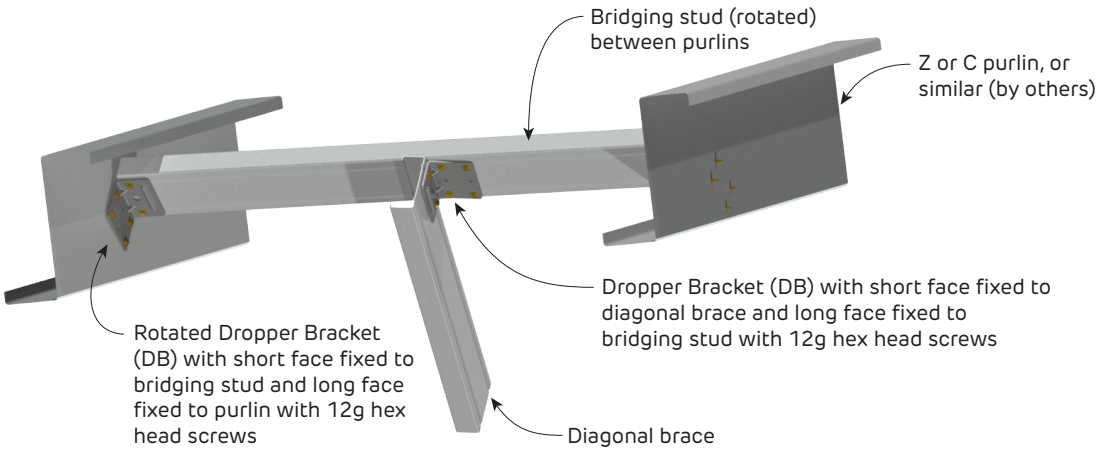


FIGURE 23 Alternative Diagonal Brace to Bridging between Purlins
Brace Parallel to Purlins
Perspective and Section

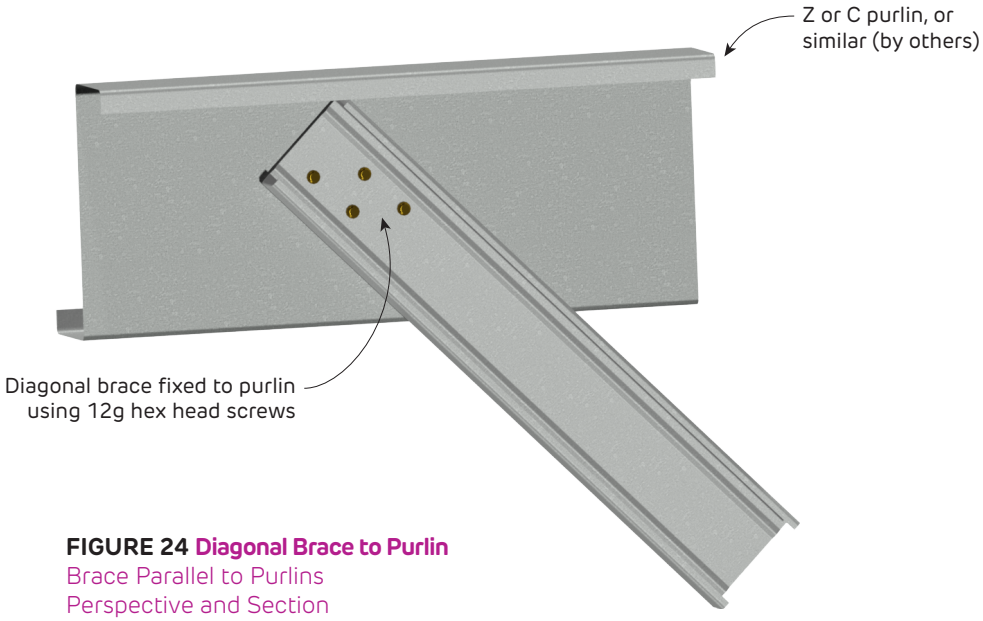
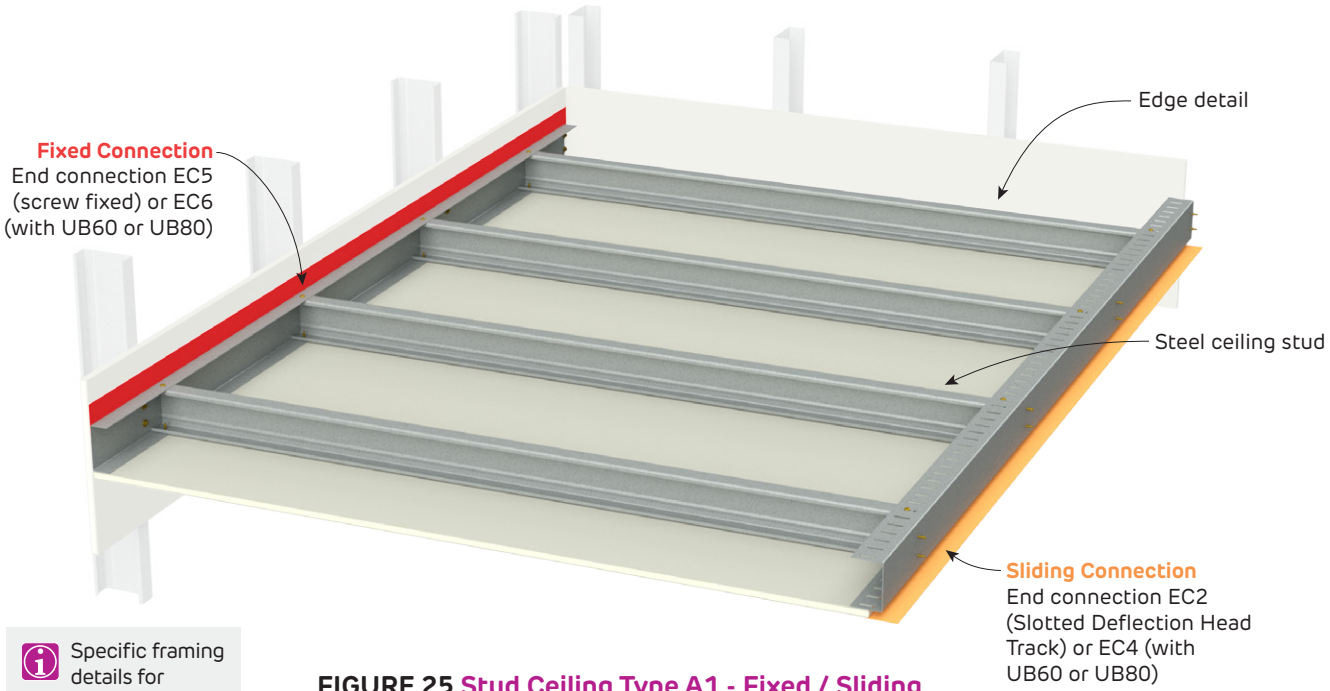


FIGURE 24 Diagonal Brace to Purlin
Brace Parallel to Purlins
Perspective and Section

Non-Fire Rated
Seismic Details for Stud Ceiling - Type A1 Fixed / Sliding



Specific framing details for earthquake actions must be determined by structural design

FIGURE 25 Stud Ceiling Type A1 - Fixed / Sliding
One side **Fixed** and the opposite side **Sliding**
Perspective

Some damage to ceiling linings for finishing details with low tolerance to movement can be expected in a Serviceability Earthquake event.

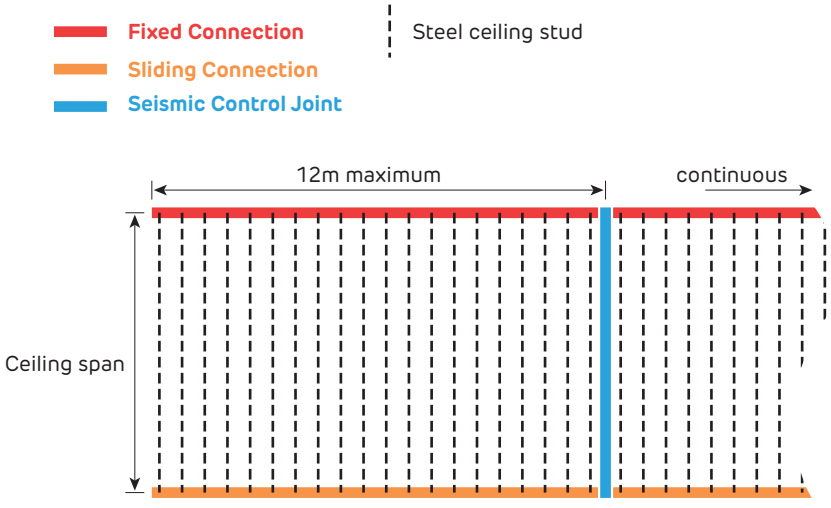


FIGURE 26 Stud Ceiling Type A1 - Fixed / Sliding
One side **Fixed** and the opposite side **Sliding**
Plan

Non-Fire Rated

Seismic Details for Stud Ceiling - Type A1 Fixed / Sliding

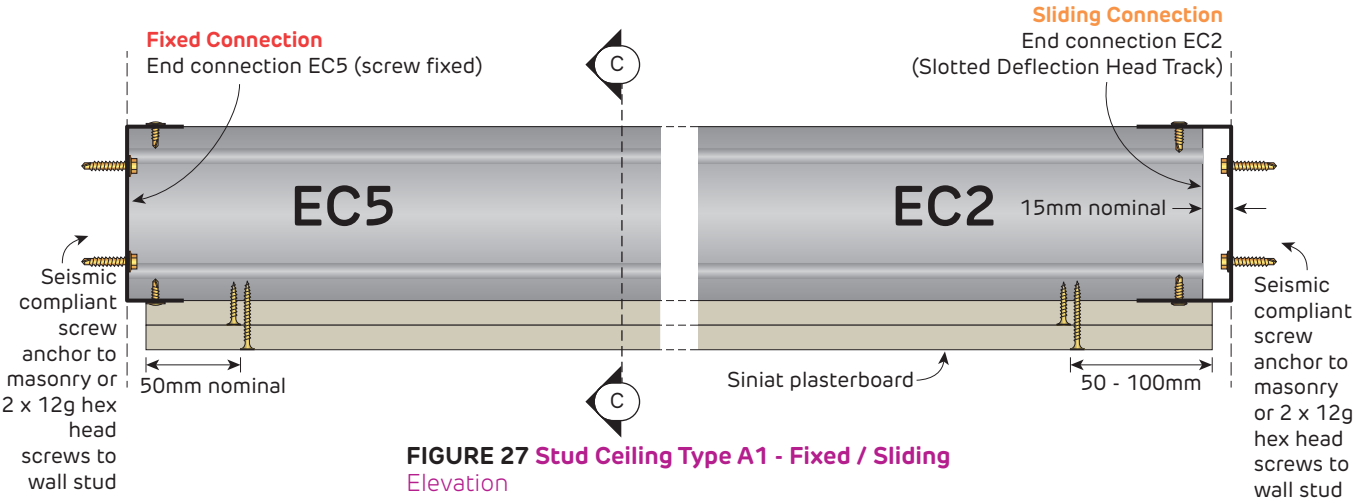


FIGURE 27 Stud Ceiling Type A1 - Fixed / Sliding
Elevation

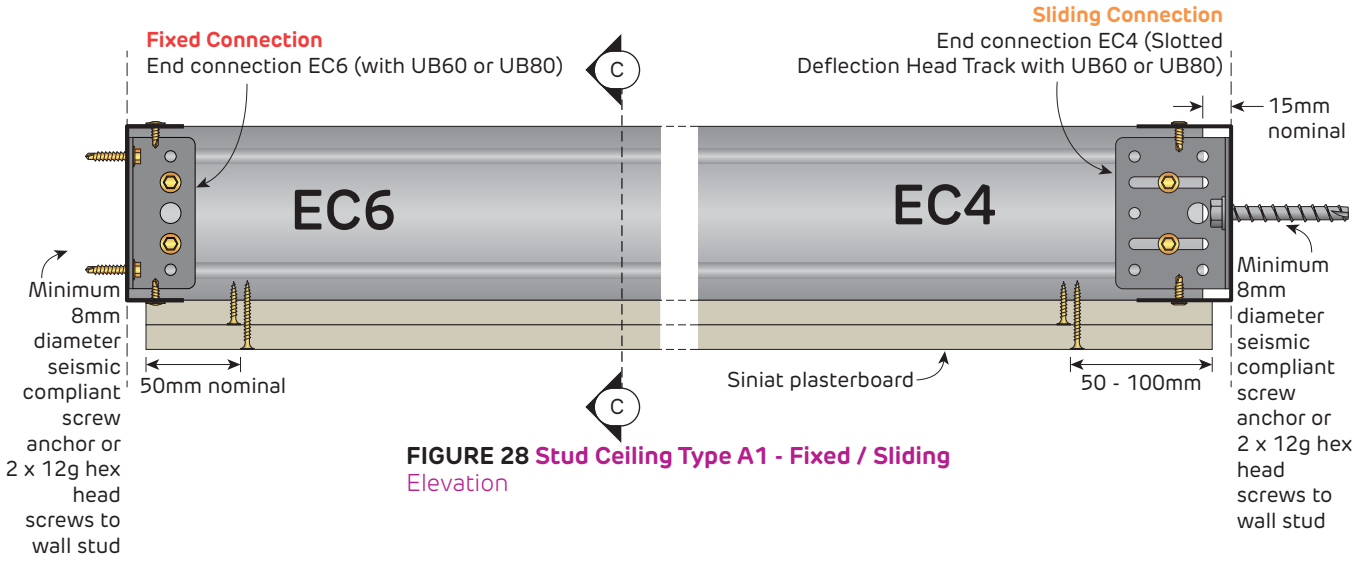
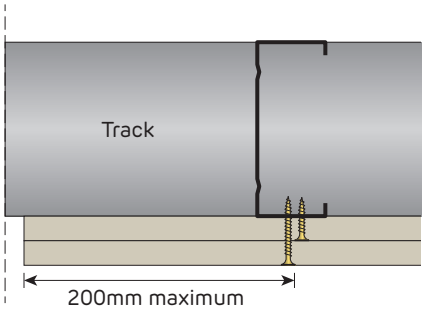
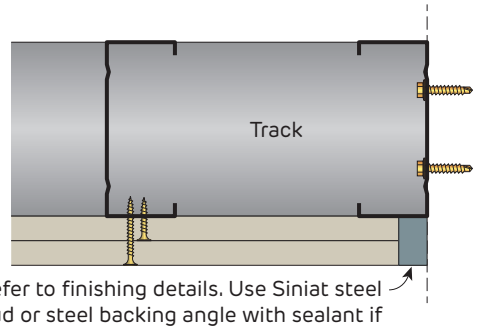


FIGURE 28 Stud Ceiling Type A1 - Fixed / Sliding
Elevation

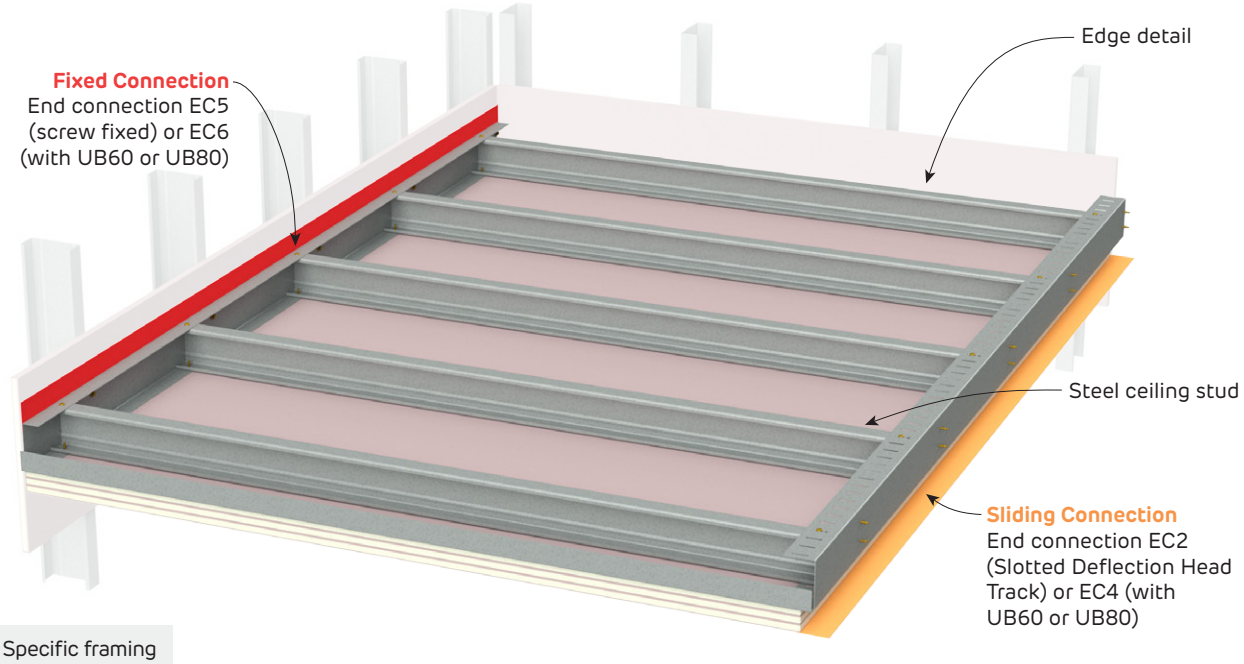


SECTION C-C Ceiling Edge
Section



SECTION C-C Alternative Ceiling Edge
Section

Fire Rated
Seismic Details for Stud Ceiling - Type A1 Fixed / Sliding



Specific framing details for earthquake actions must be determined by structural design

FIGURE 29 Stud Ceiling Type A1 - Fixed / Sliding
One side **Fixed** and the opposite side **Sliding**
Perspective

Some damage to ceiling linings for finishing details with low tolerance to movement can be expected in a Serviceability Earthquake event.

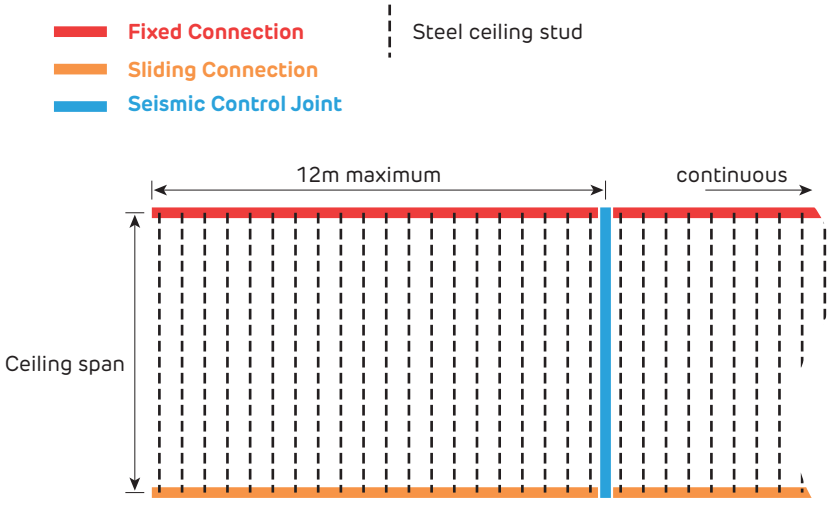


FIGURE 30 Stud Ceiling Type A1 - Fixed / Sliding
One side **Fixed** and the opposite side **Sliding**
Plan

Fire Rated
Seismic Details for Stud Ceiling - Type A1 Fixed / Sliding

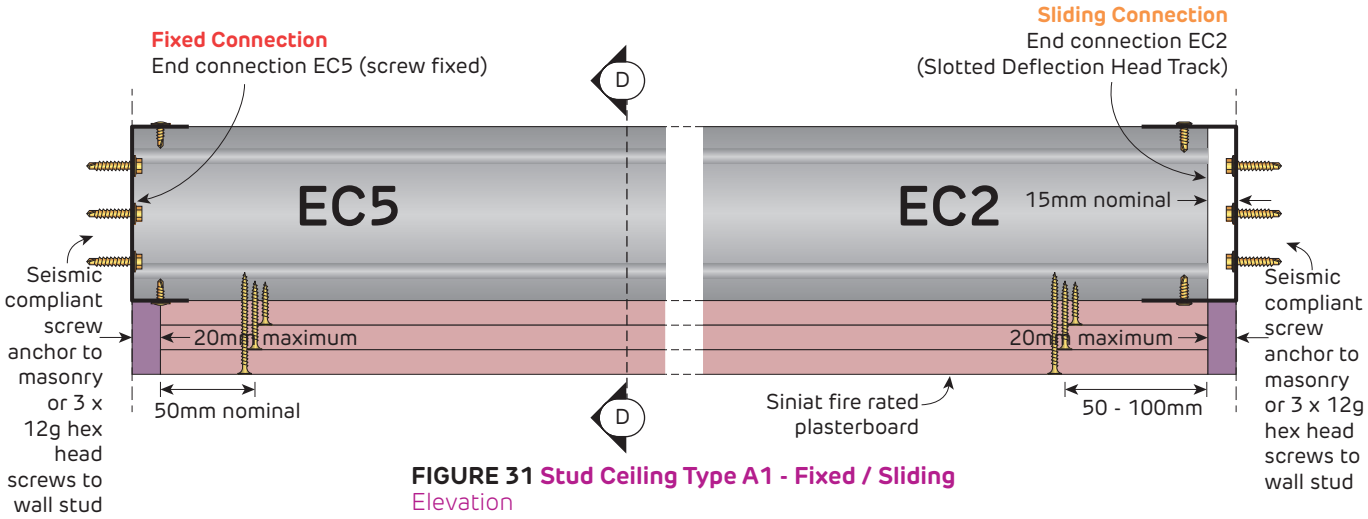


FIGURE 31 Stud Ceiling Type A1 - Fixed / Sliding
Elevation

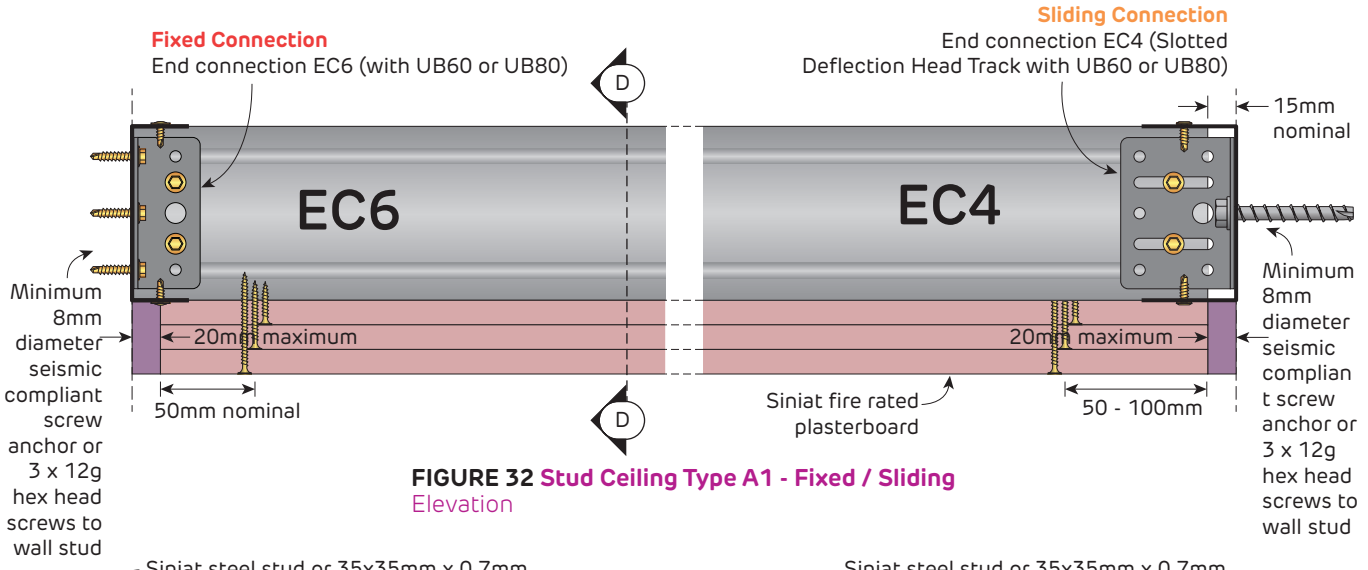
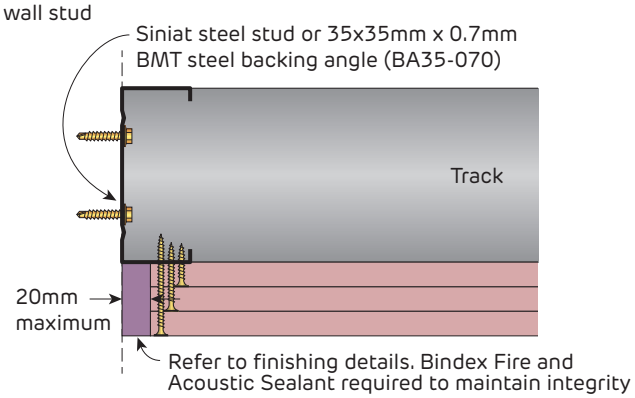
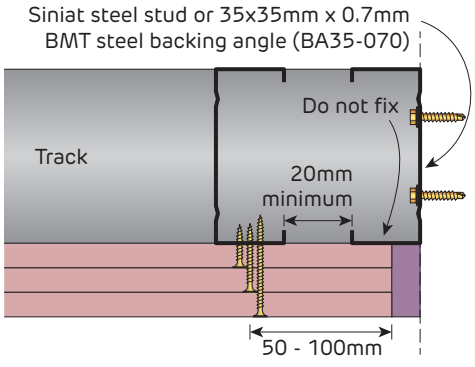


FIGURE 32 Stud Ceiling Type A1 - Fixed / Sliding
Elevation

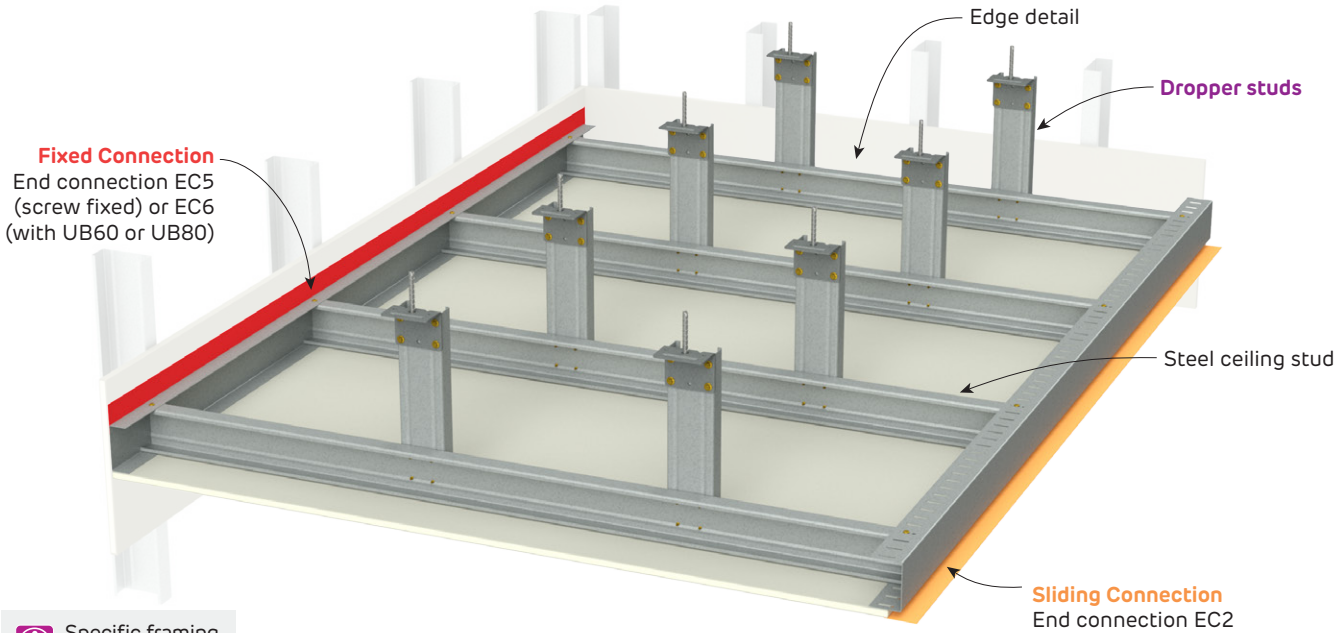


SECTION D-D Ceiling Edge
Section



SECTION D-D Alternative Ceiling Edge
Section

Fire Rated and Non-Fire Rated
Seismic Details for Stud Ceiling - Type A2 Fixed / Sliding



Specific framing details for earthquake actions must be determined by structural design

FIGURE 33 Stud Ceiling Type A2 - Fixed / Sliding
One side **Fixed** and the opposite side **Sliding**
Perspective

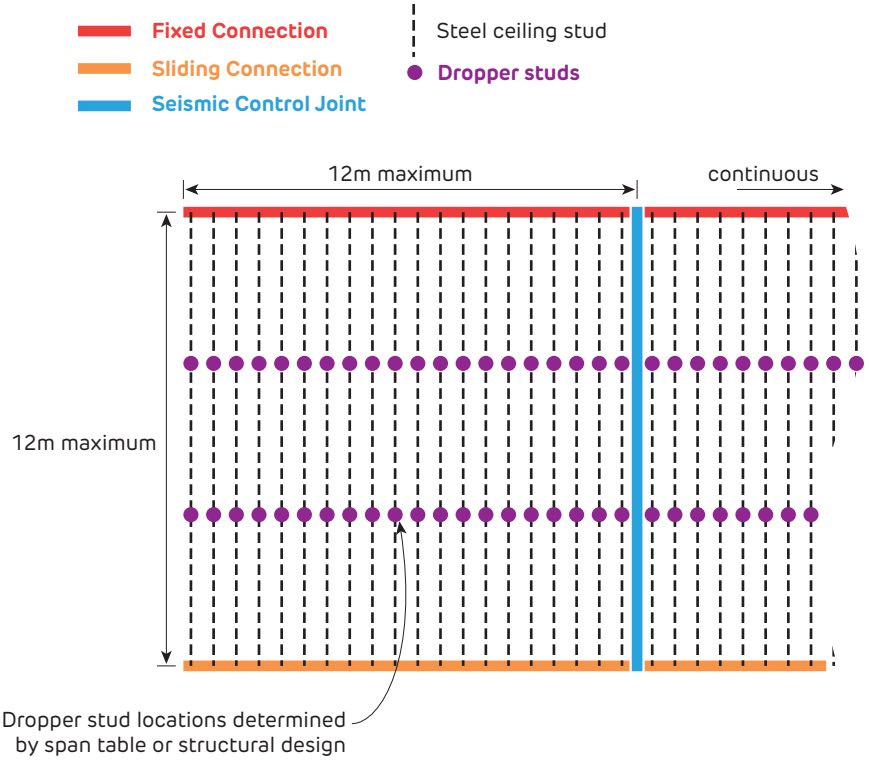


FIGURE 34 Stud Ceiling Type A2 - Fixed / Sliding
One side **Fixed** and the opposite side **Sliding**
Plan

Non-Fire Rated

Seismic Details for Stud Ceiling - Type A2 Fixed / Sliding

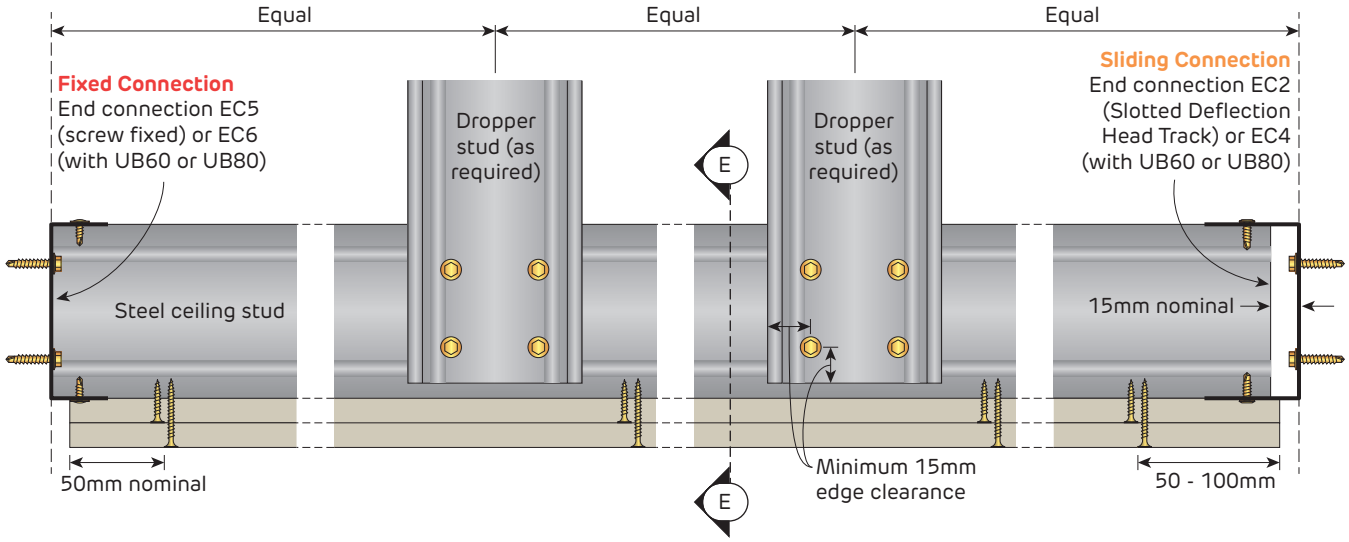
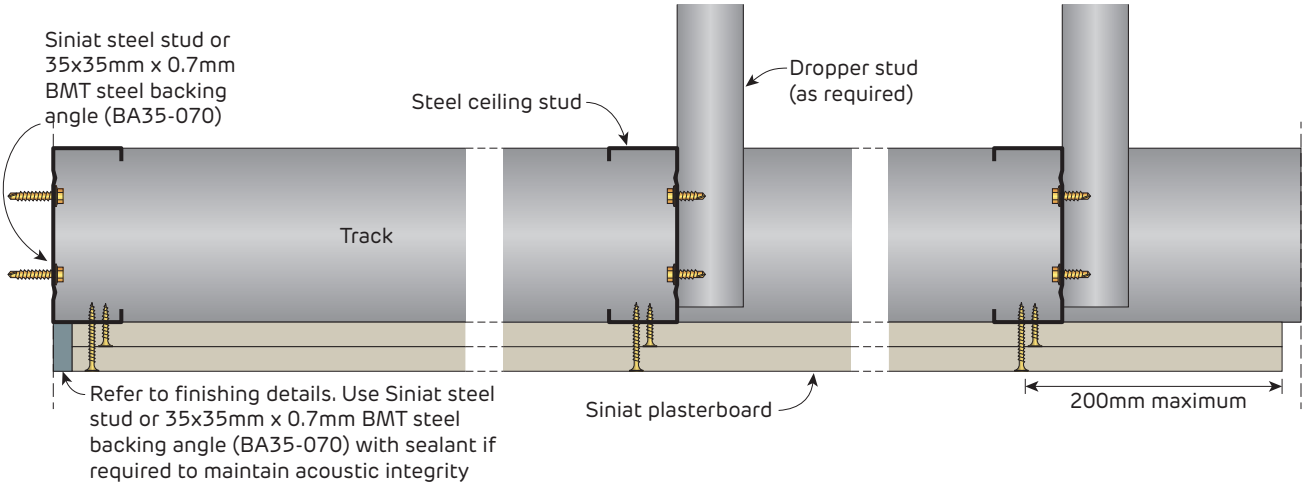


FIGURE 35 Stud Ceiling Type A2 - Fixed / Sliding
Elevation



SECTION E-E Ceiling Edge
Section

SECTION E-E Ceiling Stud Detail
Section

SECTION E-E Alternative Ceiling Edge
Section

Fire Rated
Seismic Details for Stud Ceiling - Type A2 Fixed / Sliding

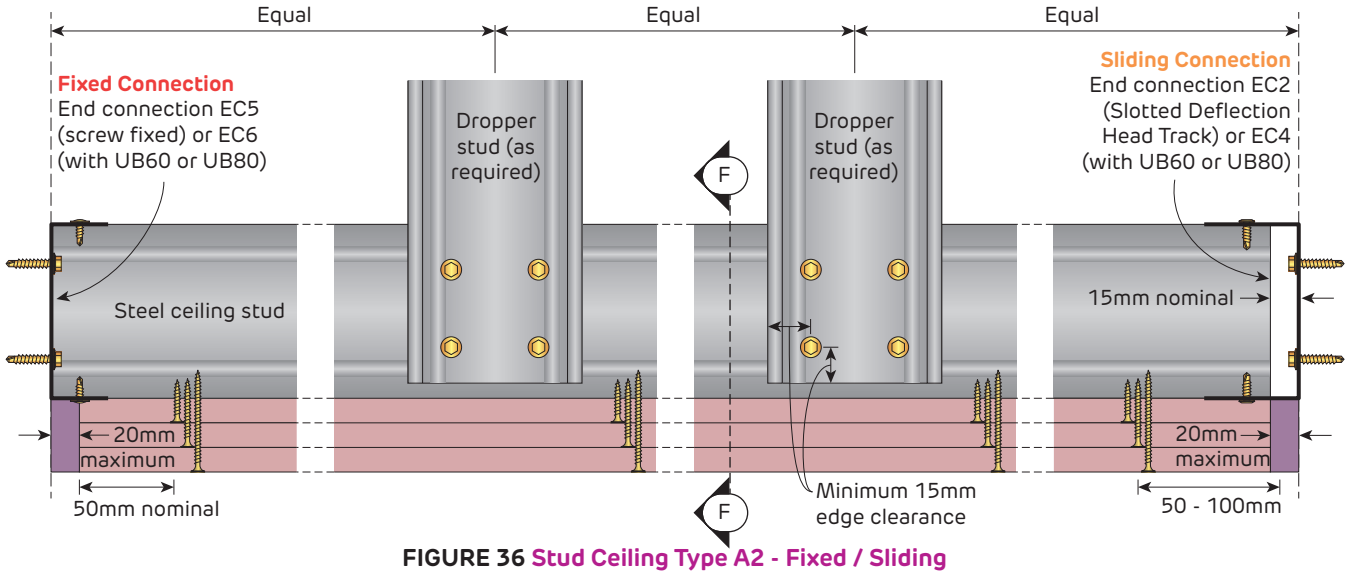
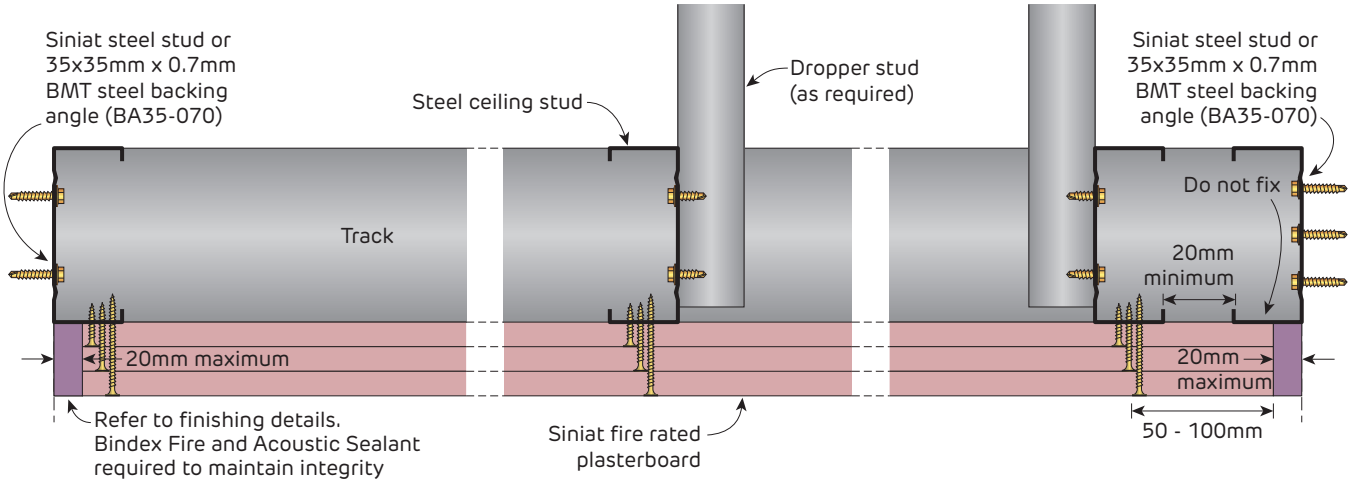


FIGURE 36 Stud Ceiling Type A2 - Fixed / Sliding
Elevation



SECTION F-F Ceiling Edge
Section

SECTION F-F Ceiling Stud Detail
Section

SECTION F-F Alternative Ceiling Edge
Section

Fire Rated and Non-Fire Rated
Seismic Details for Stud and Batten Ceiling - Type A3 Fixed / Sliding

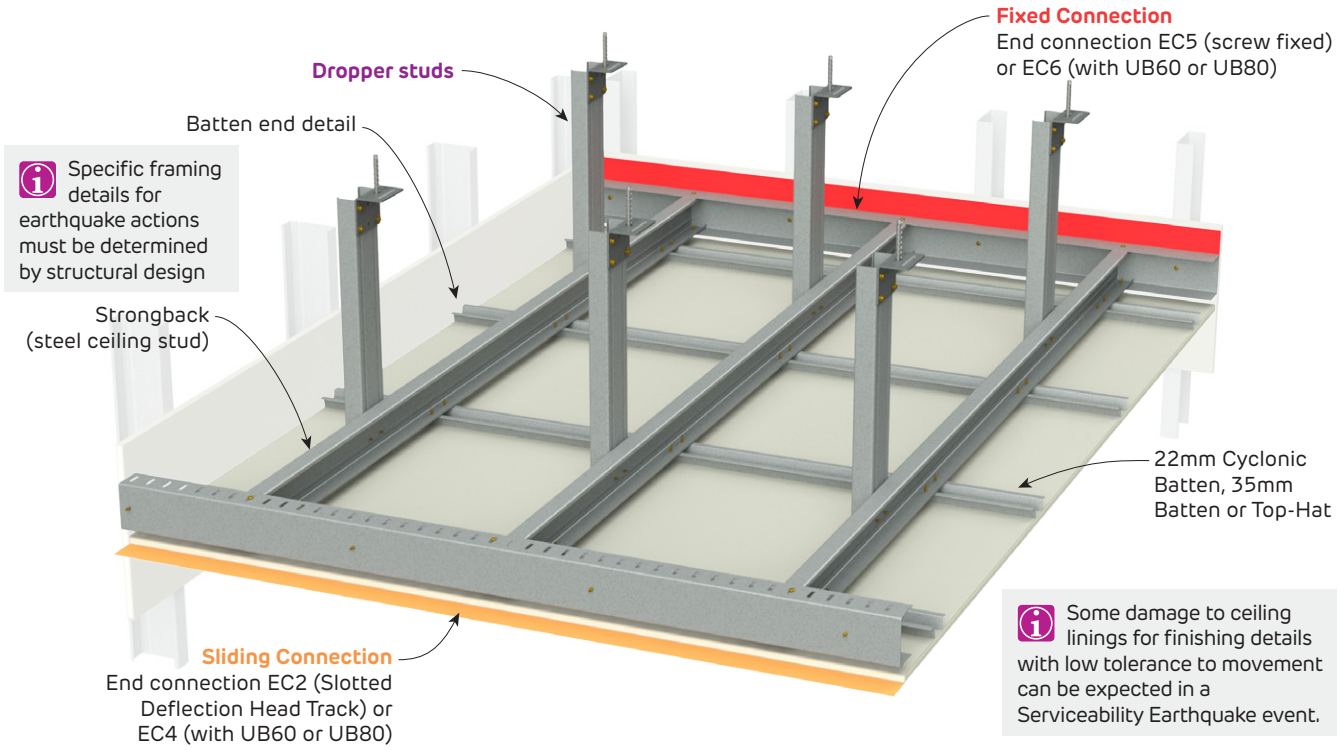


FIGURE 37 Stud Ceiling Type A3 - Fixed / Sliding
One side **Fixed** and the opposite side **Sliding**
Perspective

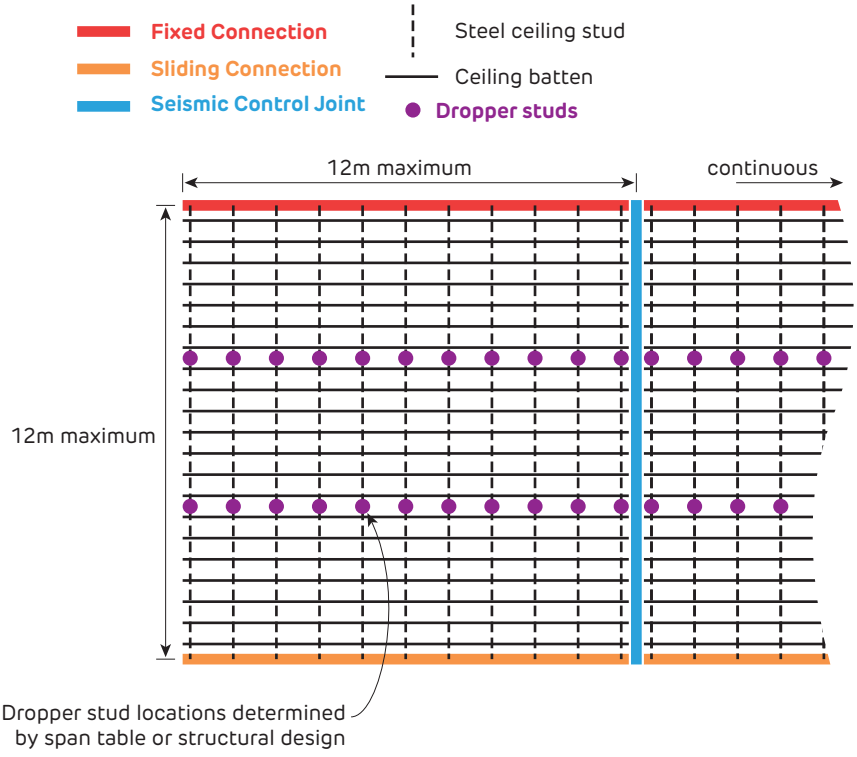


FIGURE 38 Stud Ceiling Type A3 - Fixed / Sliding
One Side **Fixed** and the other Side **Sliding**
Plan

Non-Fire Rated

Seismic Details for Stud and Batten Ceiling - Type A3 Fixed / Sliding

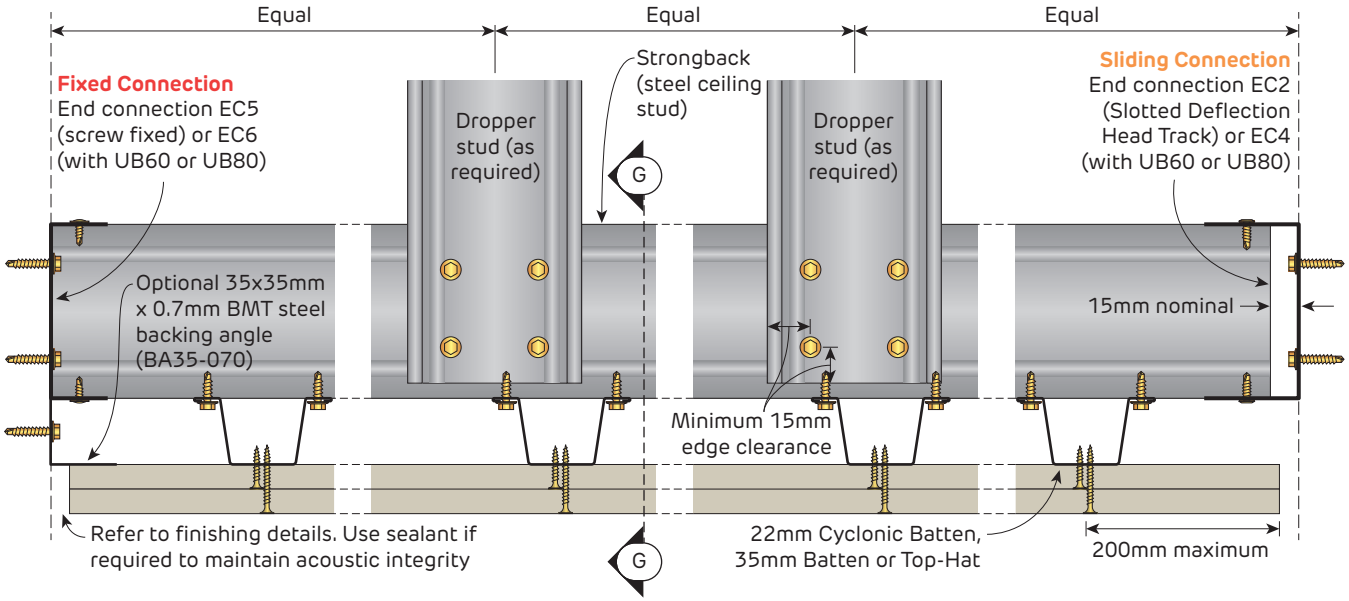
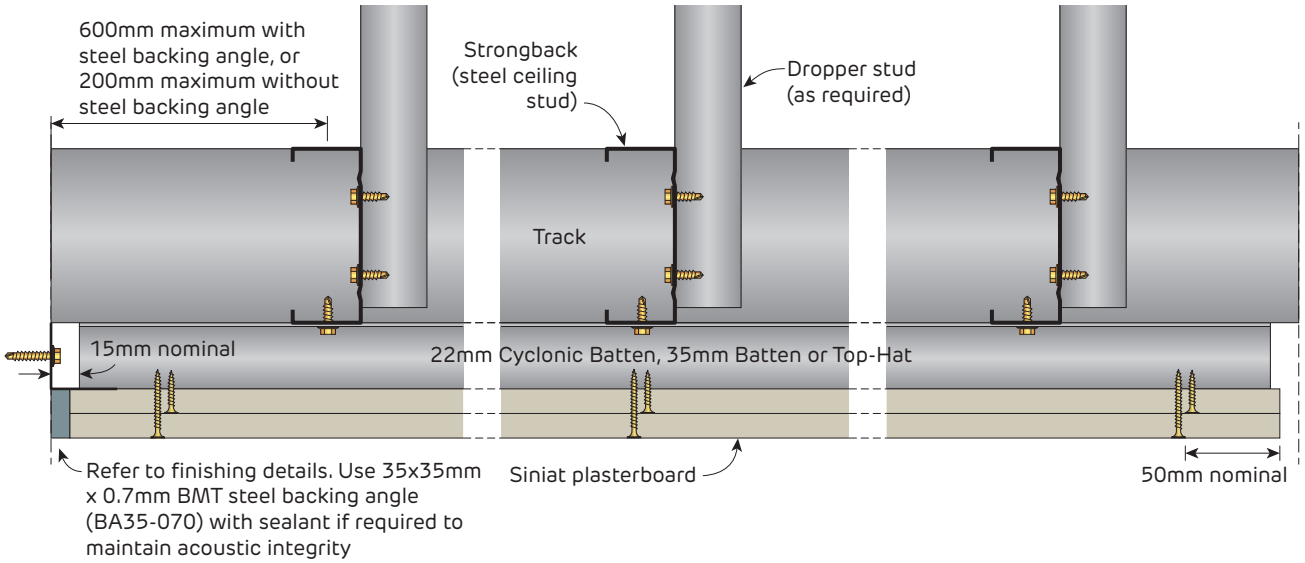


FIGURE 39 Stud Ceiling Type A3 - Fixed / Sliding
Elevation



SECTION G-G Ceiling Edge
Section

SECTION G-G Ceiling Stud Detail
Section

SECTION G-G Alternative Ceiling Edge
Section

Fire Rated
Seismic Details for Stud and Batten Ceiling - Type A3 Fixed / Sliding

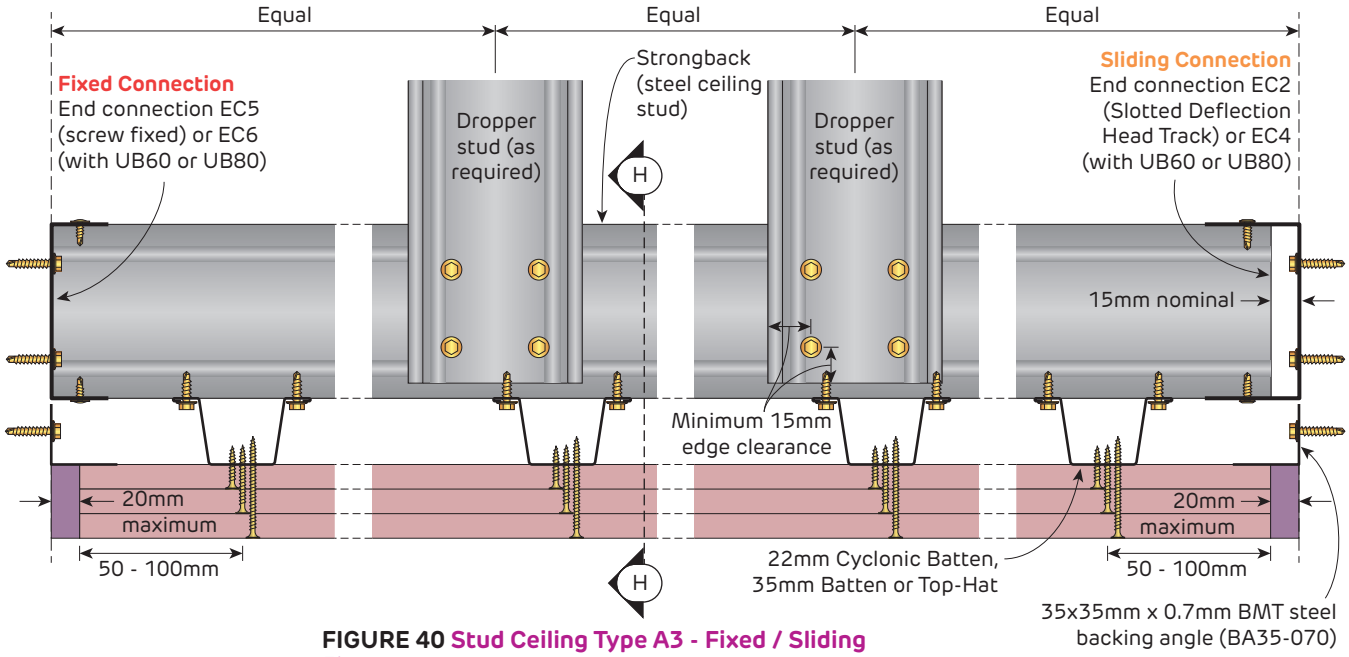
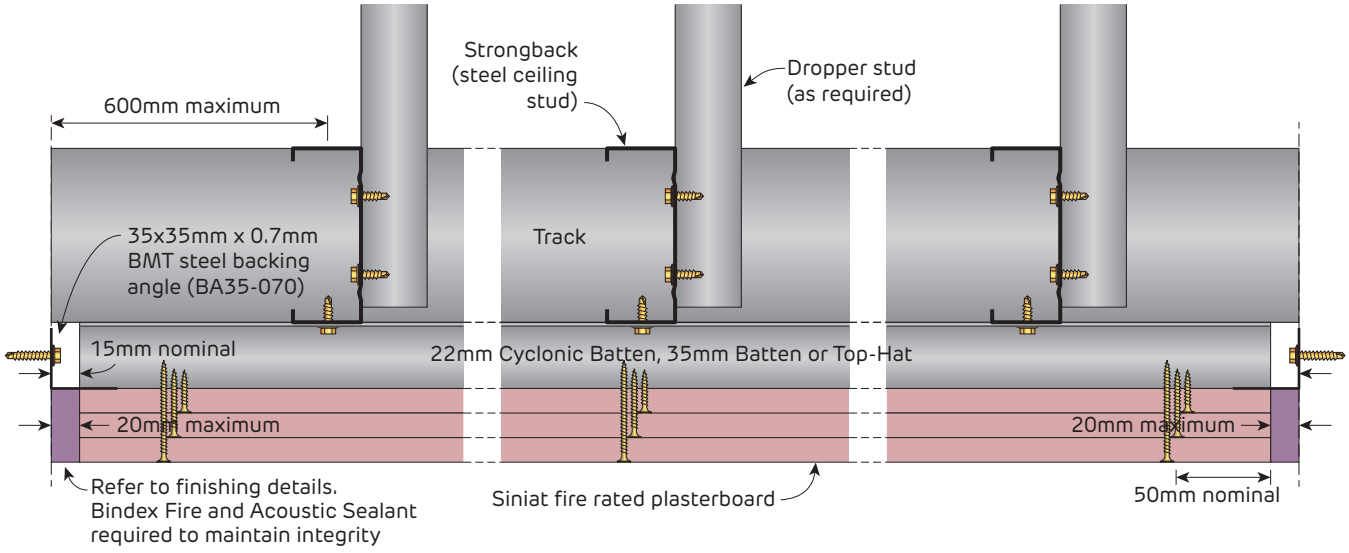


FIGURE 40 Stud Ceiling Type A3 - Fixed / Sliding
Elevation

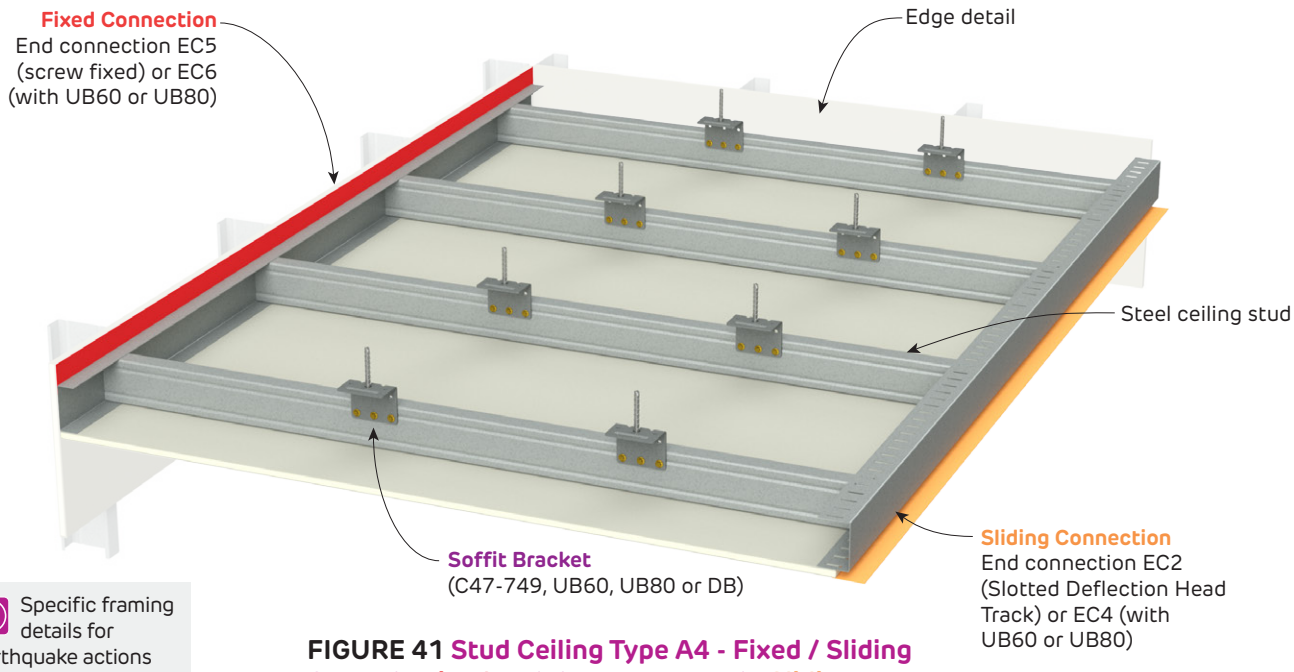


SECTION H-H Ceiling Edge
Section

SECTION H-H Ceiling Stud Detail
Section

SECTION H-H Ceiling Edge
Section

Fire Rated and Non-Fire Rated
Seismic Details for Stud Ceiling - Type A4 Fixed / Sliding



Specific framing details for earthquake actions must be determined by structural design

FIGURE 41 Stud Ceiling Type A4 - Fixed / Sliding
One side **Fixed** and the opposite side **Sliding**
Perspective

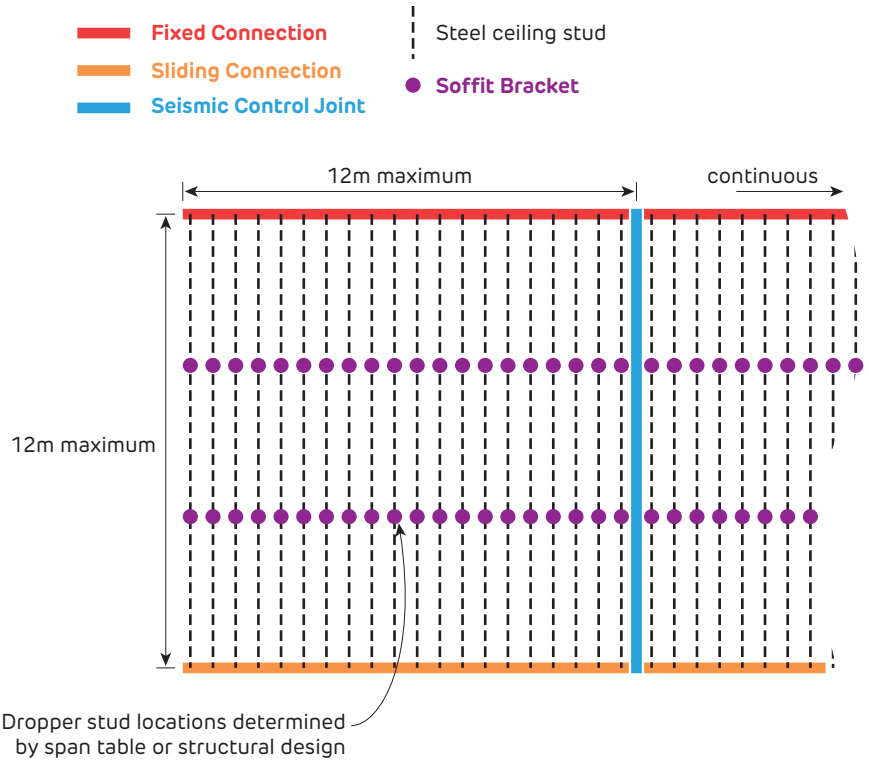


FIGURE 42 Stud Ceiling Type A4 - Fixed / Sliding
One Side **Fixed** and the other Side **Sliding**
Plan

Non-Fire Rated

Seismic Details for Stud Ceiling - Type A4 Fixed / Sliding

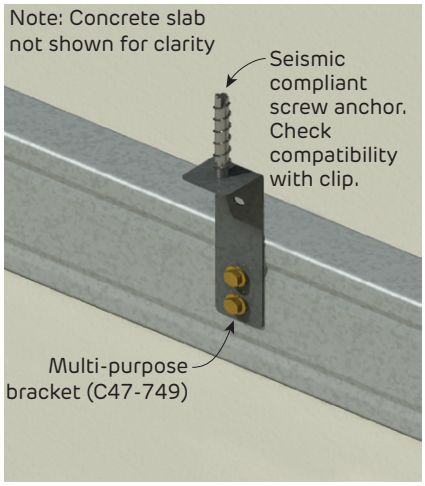


FIGURE 43 Multi-purpose Bracket
Option 1 Light Duty Connection
Perspective

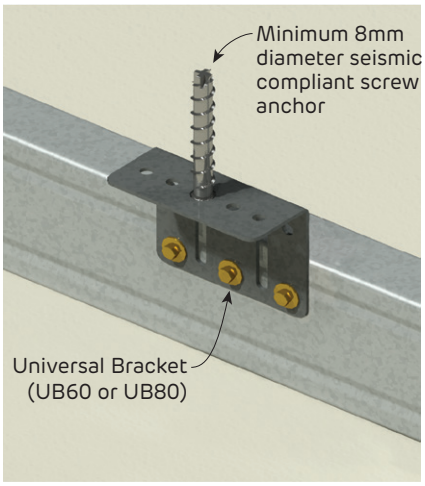


FIGURE 44 Universal Bracket
Option 2 Medium Duty Connection
Perspective

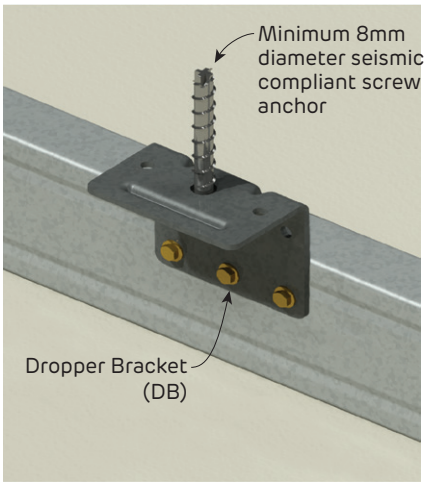


FIGURE 45 Dropper Bracket
Option 3 Heavy Duty Connection
Perspective

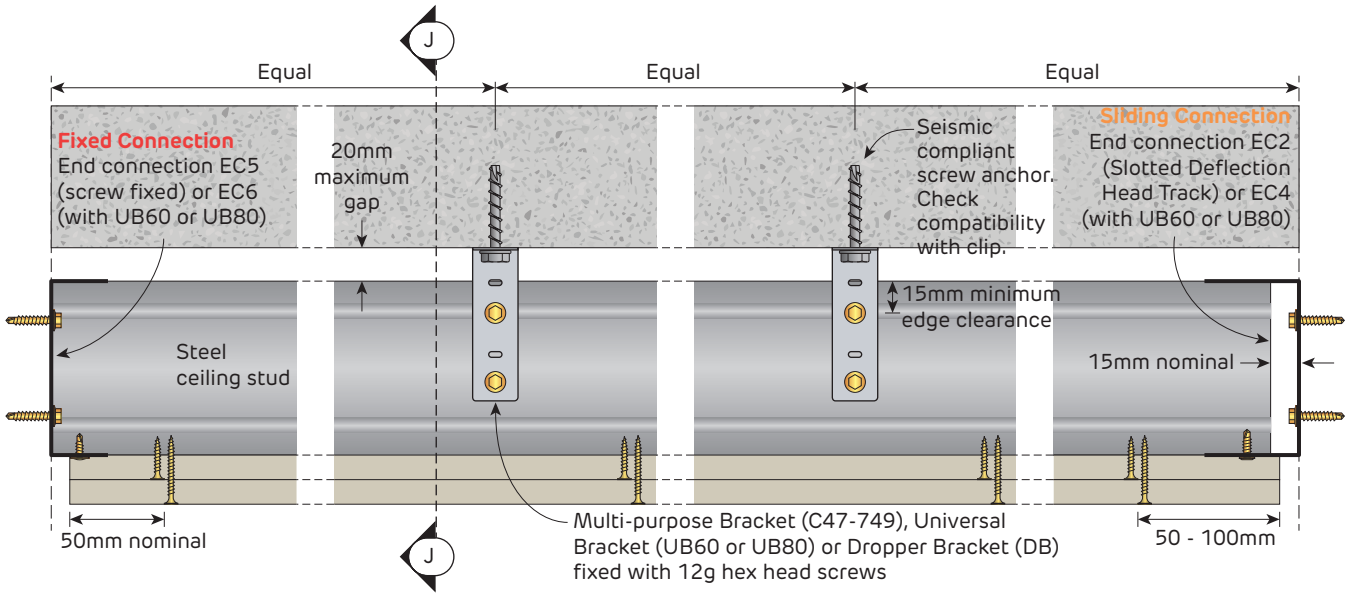
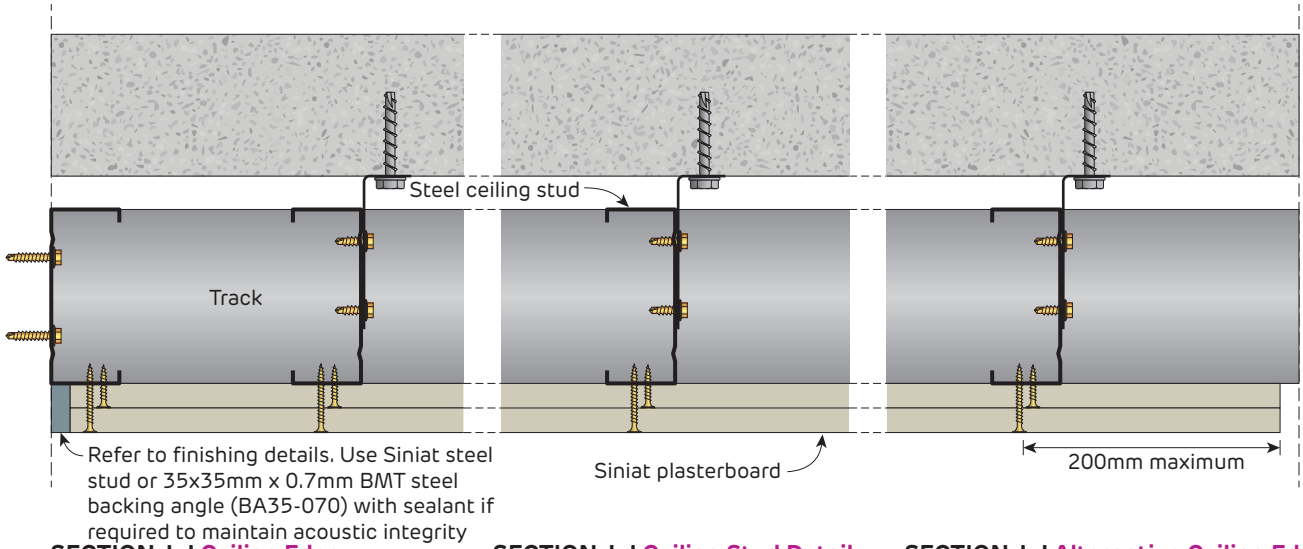


FIGURE 46 Stud Ceiling Type A4 - Fixed / Sliding
Elevation



SECTION J-J Ceiling Edge
Section

SECTION J-J Ceiling Stud Detail
Section

SECTION J-J Alternative Ceiling Edge
Section

Fire Rated
Seismic Details for Stud Ceiling - Type A4 Fixed / Sliding

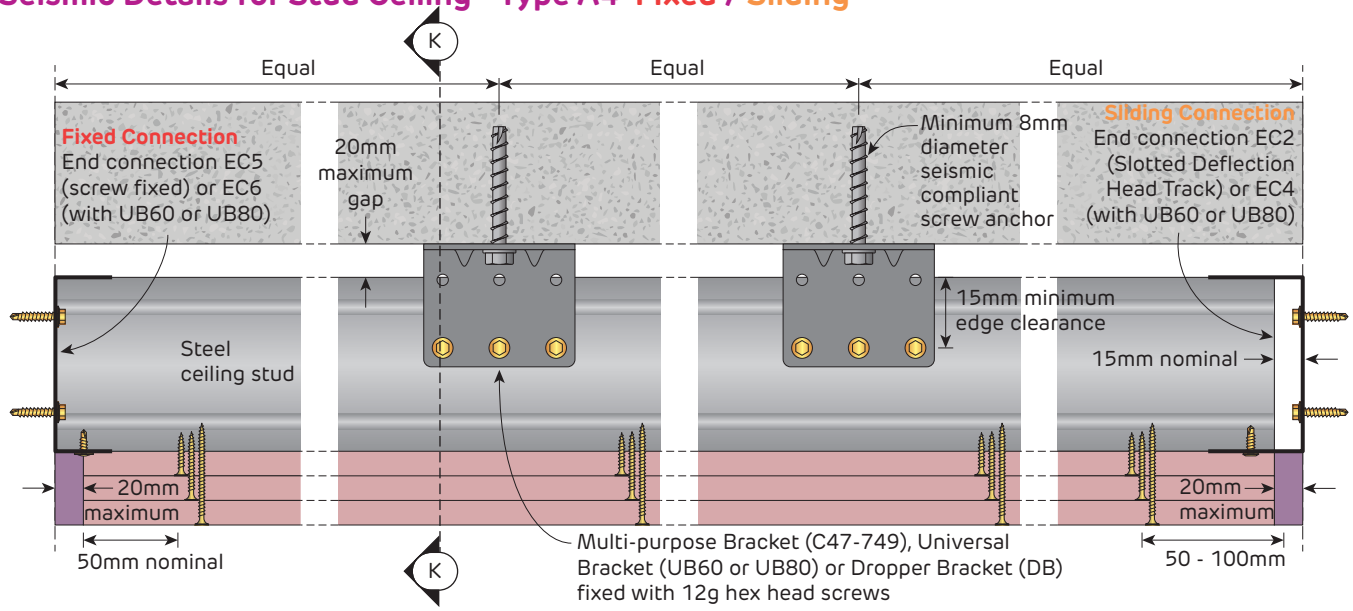
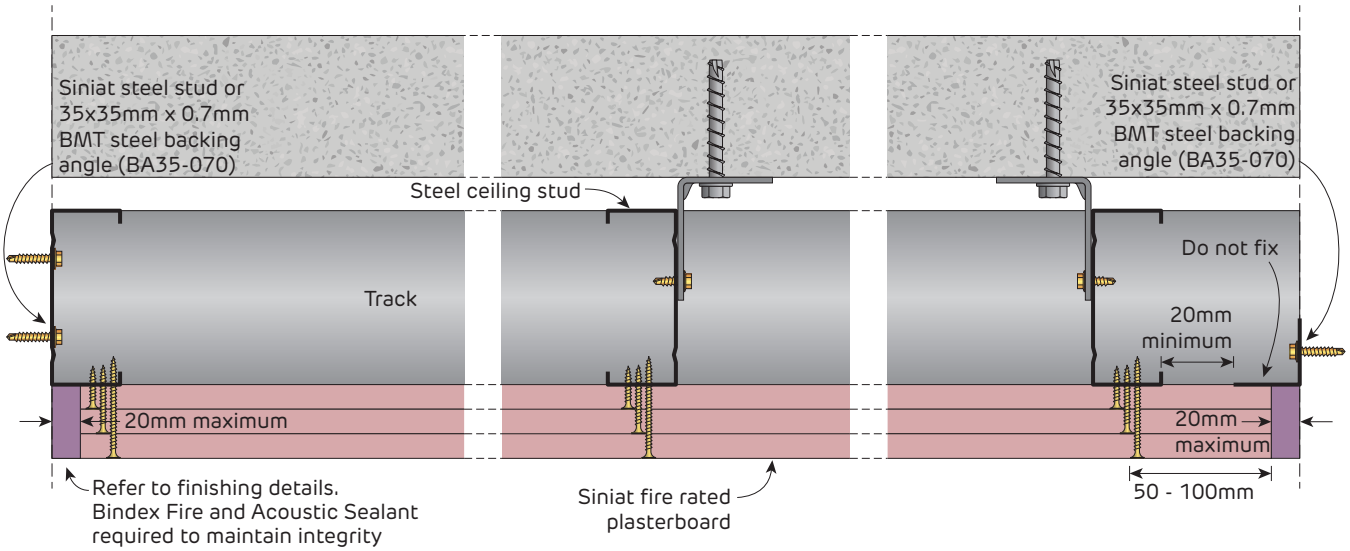


FIGURE 47 Stud Ceiling Type A4 - Fixed / Sliding
Elevation



SECTION K-K Ceiling Edge
Section

SECTION K-K Ceiling Stud Detail
Section

SECTION K-K Alternative Ceiling Edge
Section

Fire Rated and Non-Fire Rated
Seismic Details for Stud Ceiling - Type C1 - 2-way Plenum Braced

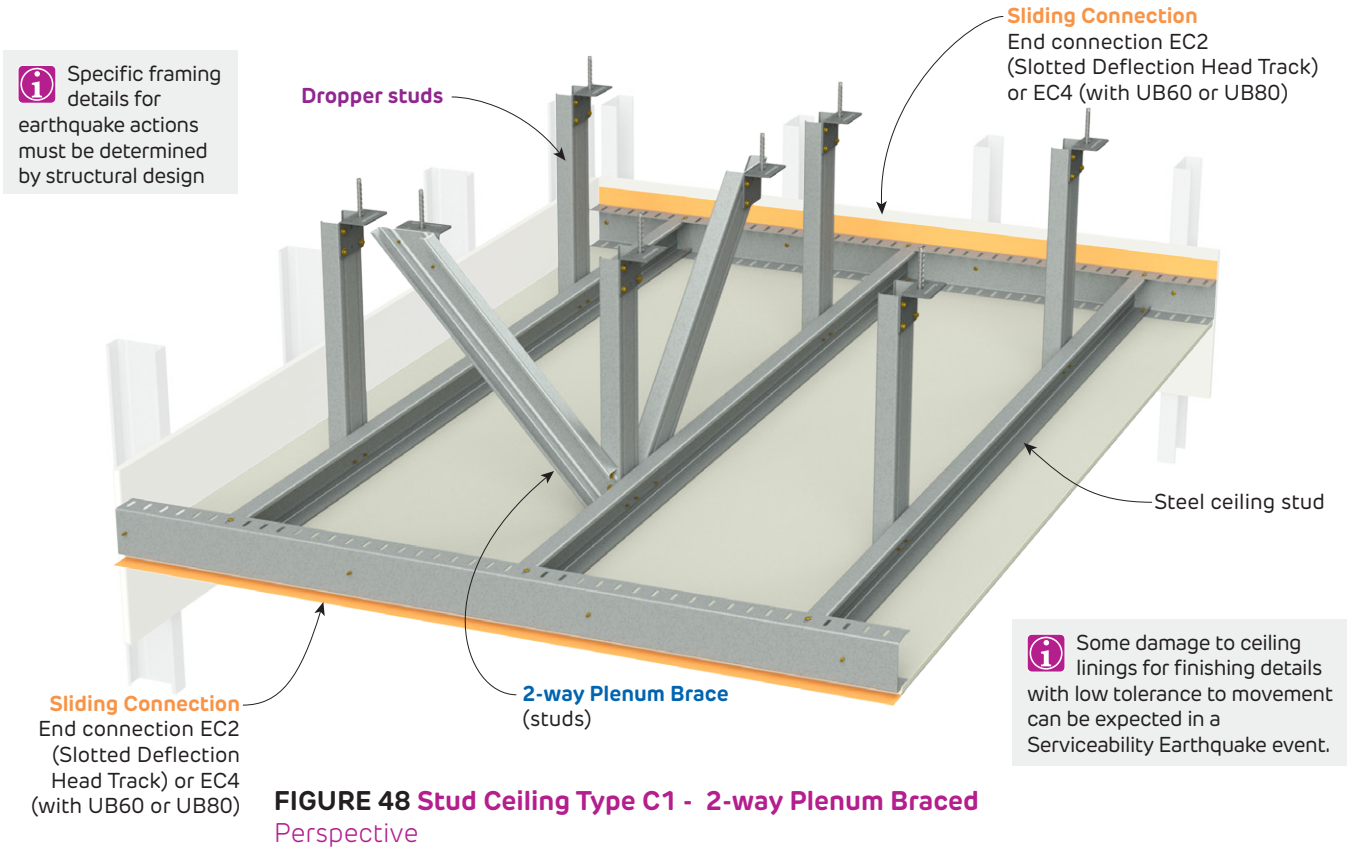


FIGURE 48 Stud Ceiling Type C1 - 2-way Plenum Braced
Perspective

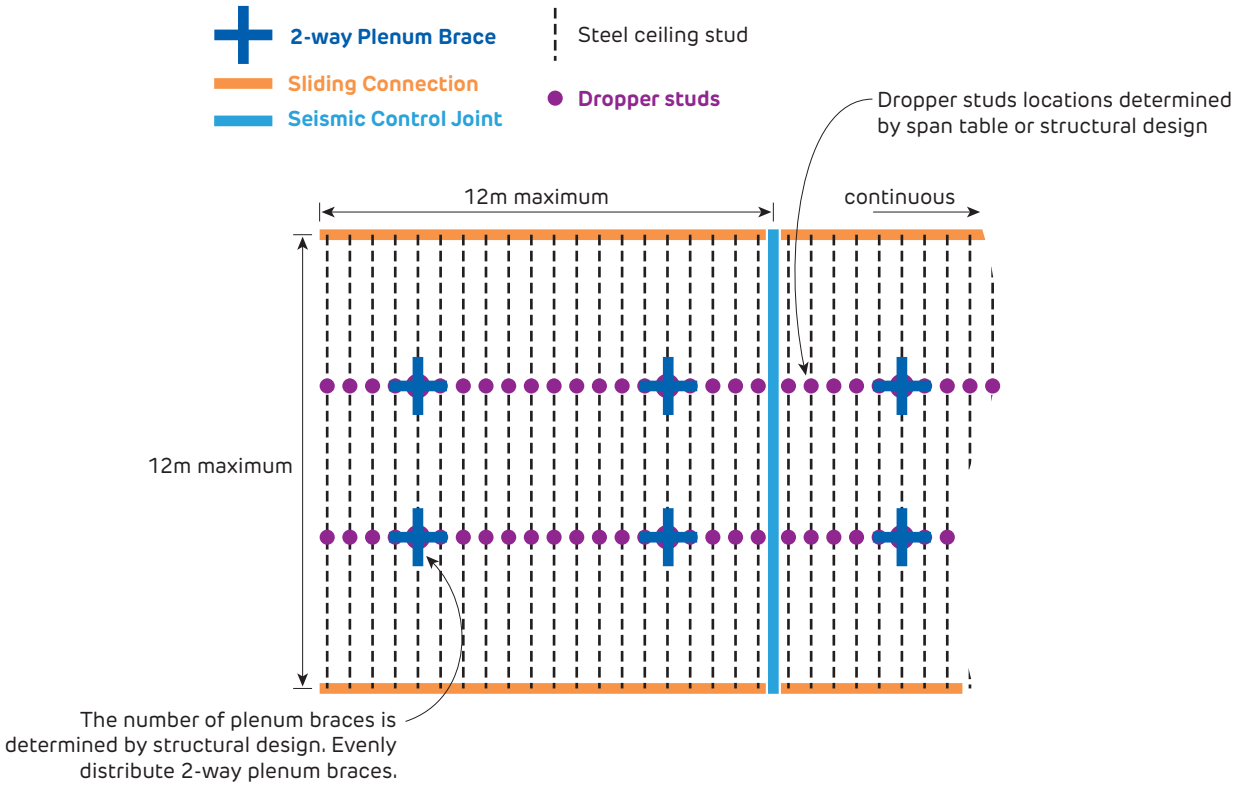


FIGURE 49 Stud Ceiling Type C1 - 2-way Plenum Braced
Plan

Non-Fire Rated

Seismic Details for Stud Ceiling - Type C1 - 2-way Plenum Braced

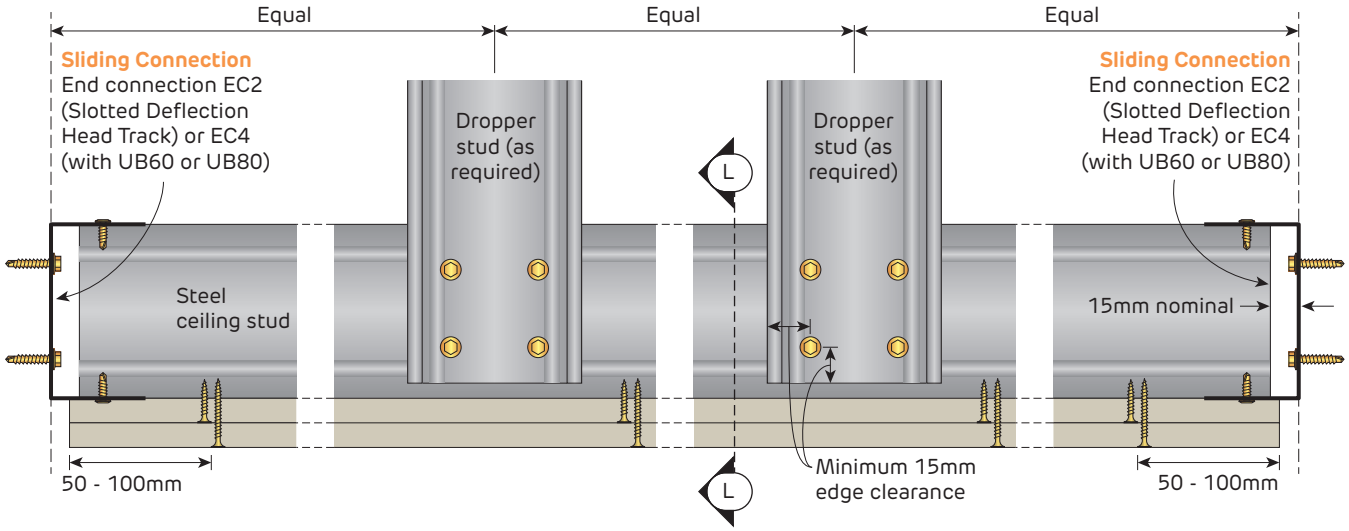
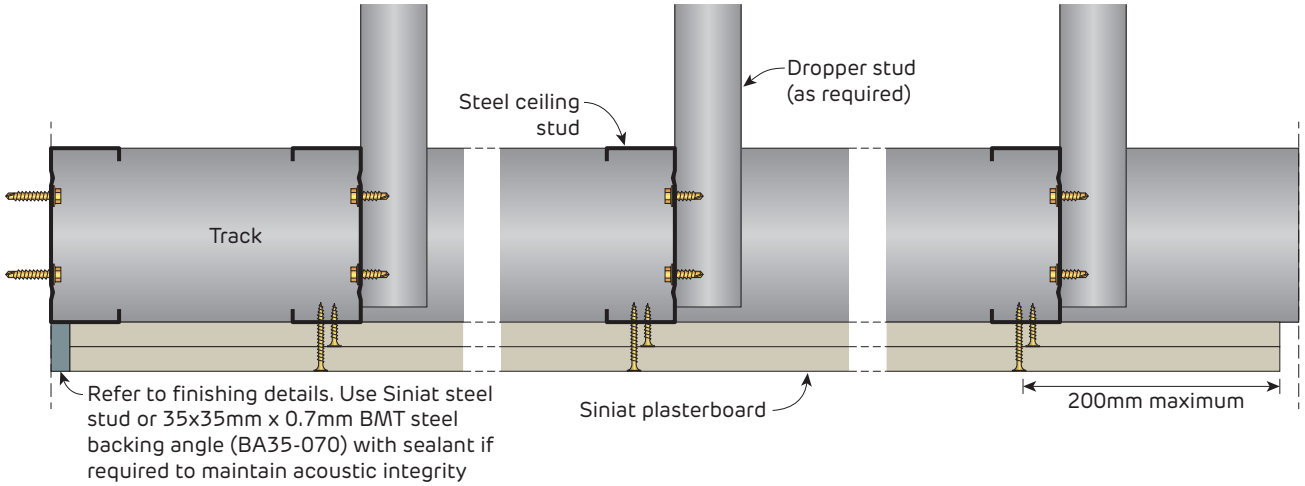


FIGURE 50 Stud Ceiling Type C1 - 2-way Plenum Braced
Elevation



SECTION L-L Ceiling Edge
Section

SECTION L-L Ceiling Stud Detail
Section

SECTION L-L Alternative Ceiling Edge
Section

8g framing screws recommended for 0.3 - 0.75mm BMT Siniat steel profiles.10g screws recommended for 1.15 - 1.5mm BMT Siniat steel profiles

Fire Rated
Seismic Details for Stud Ceiling - Type C1 - 2-way Plenum Braced

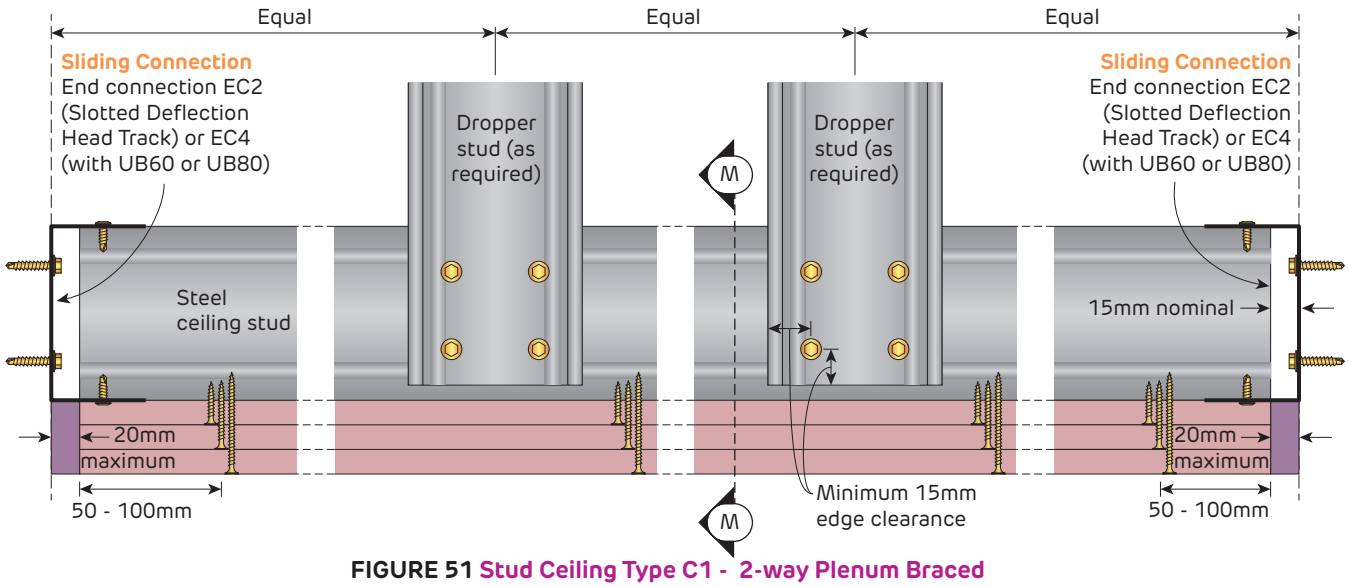
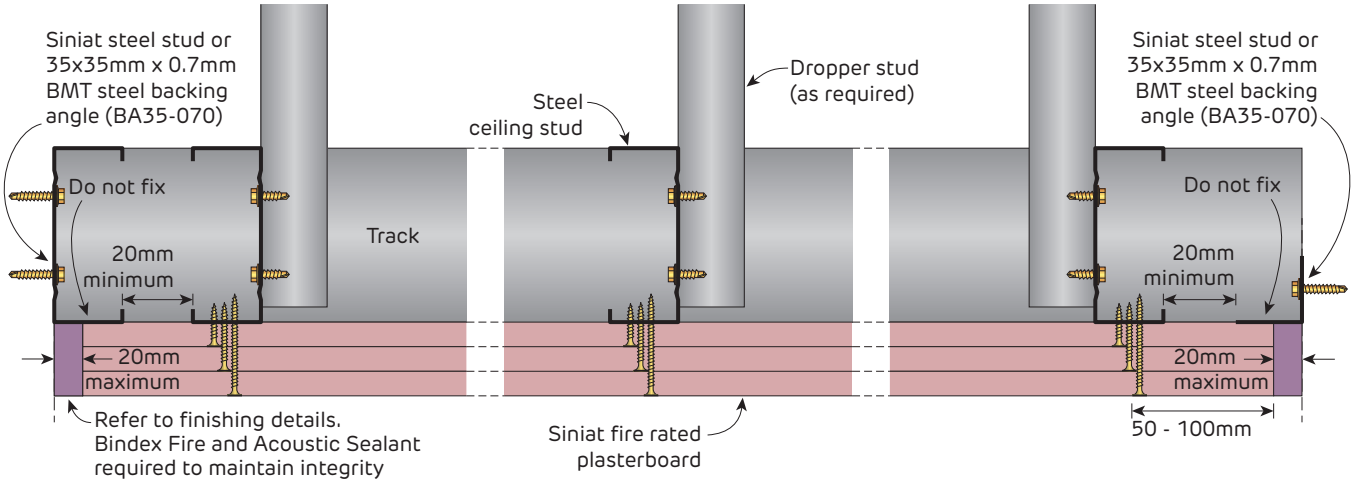


FIGURE 51 Stud Ceiling Type C1 - 2-way Plenum Braced
Elevation



SECTION M-M Ceiling Edge
Section

SECTION M-M Ceiling Stud Detail
Section

SECTION M-M Alternative Ceiling Edge
Section

8g framing screws recommended for 0.3 - 0.75mm BMT Siniat steel profiles.10g screws recommended for 1.15 - 1.5mm BMT Siniat steel profiles

Fire Rated and Non-Fire Rated
Seismic Details for Stud and Batten Ceiling - Type C2 - 2-way Plenum Braced

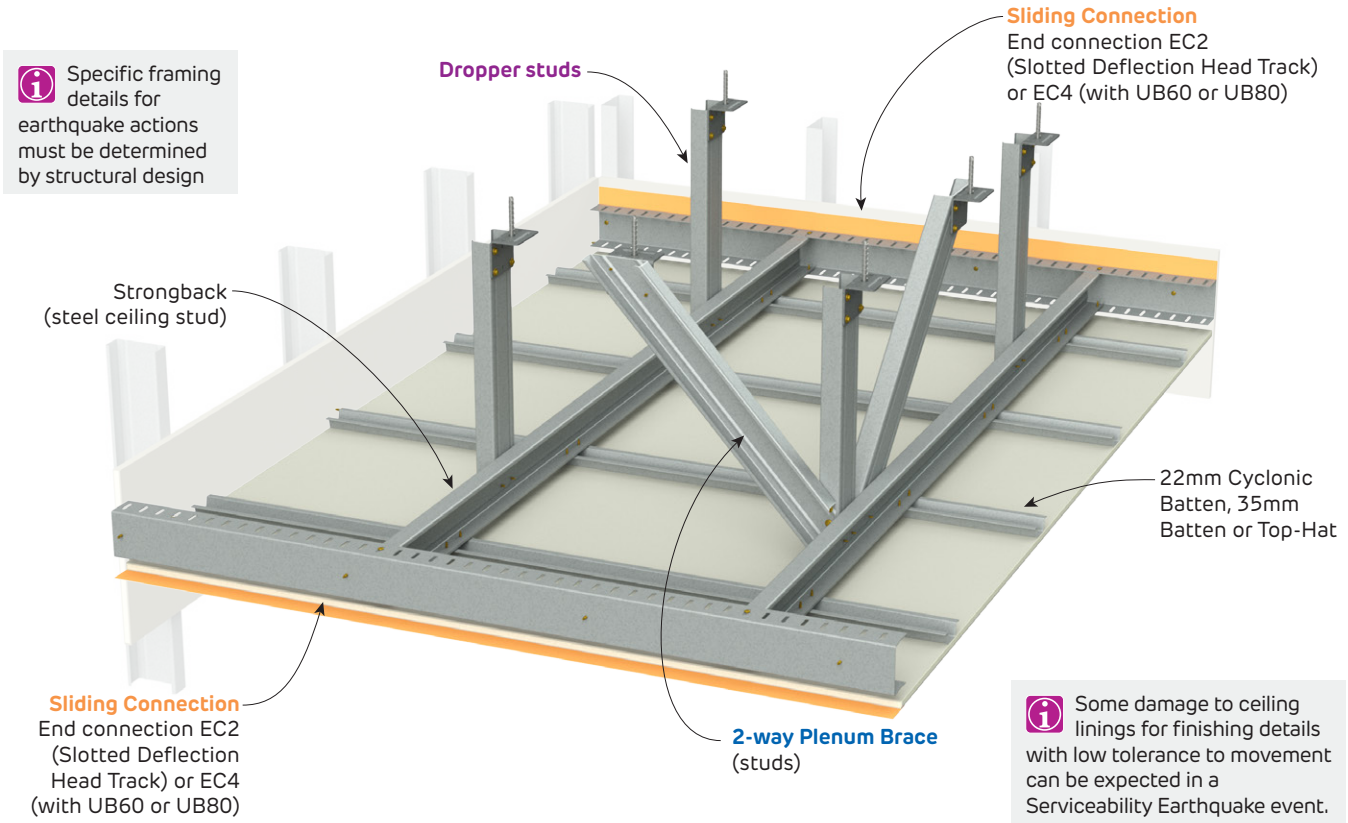


FIGURE 52 Stud Ceiling Type C2 - 2-way Plenum Braced
Perspective

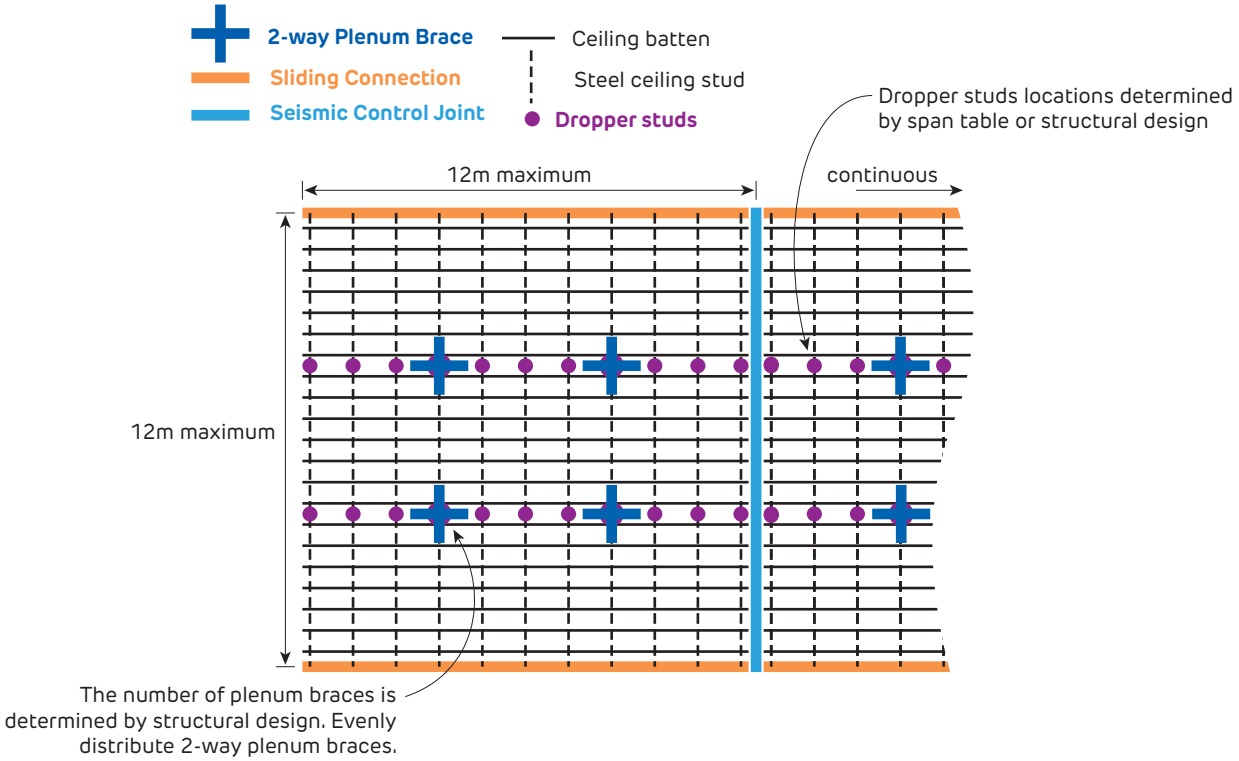


FIGURE 53 Stud Ceiling Type C2 - 2-way Plenum Braced
Plan

Non-Fire Rated

Seismic Details for Stud and Batten Ceiling - Type C2 - 2-way Plenum Braced

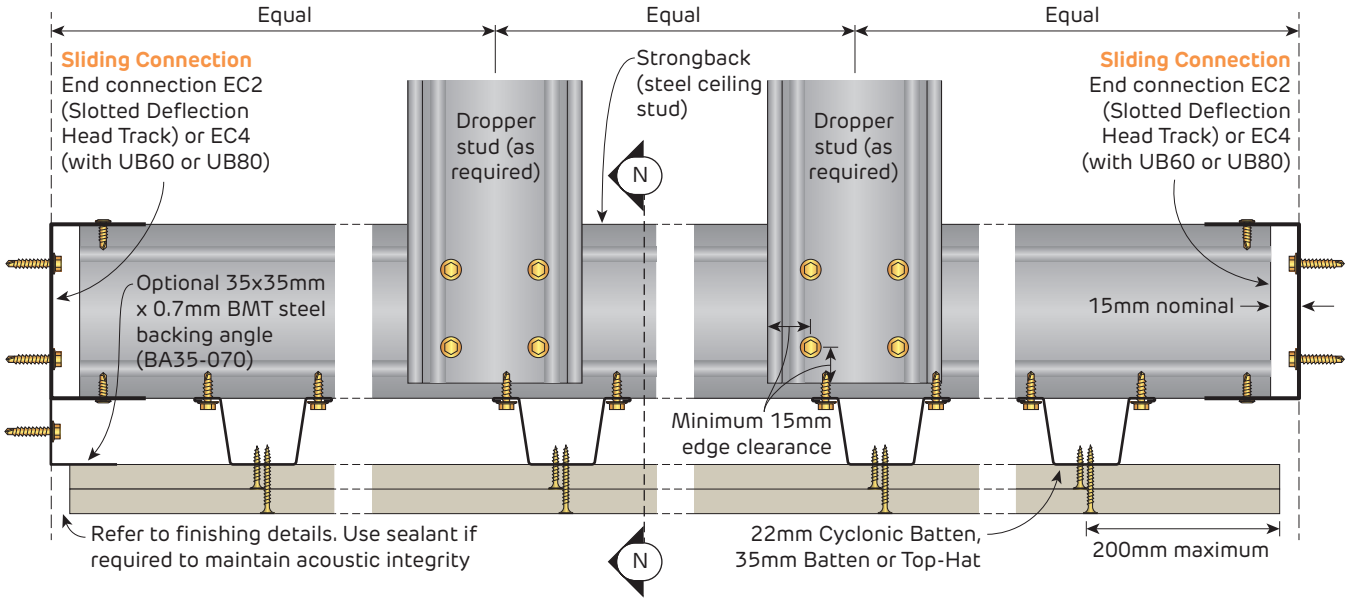
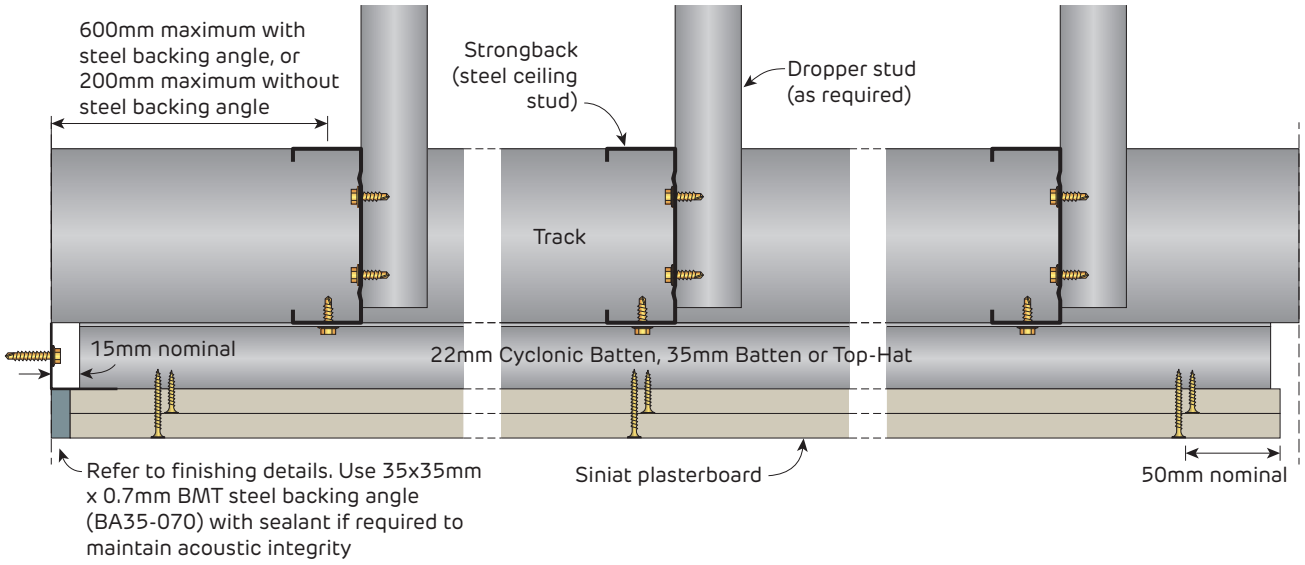


FIGURE 54 Stud Ceiling Type C2 - 2-way Plenum Braced
Elevation



SECTION N-N Ceiling Edge
Section

SECTION N-N Ceiling Stud Detail
Section

SECTION N-N Alternative Ceiling Edge
Section

8g framing screws recommended for 0.3 - 0.75mm BMT Siniat steel profiles.10g screws recommended for 1.15 - 1.5mm BMT Siniat steel profiles

Fire Rated
Seismic Details for Stud and Batten Ceiling - Type C2 - 2-way Plenum Braced

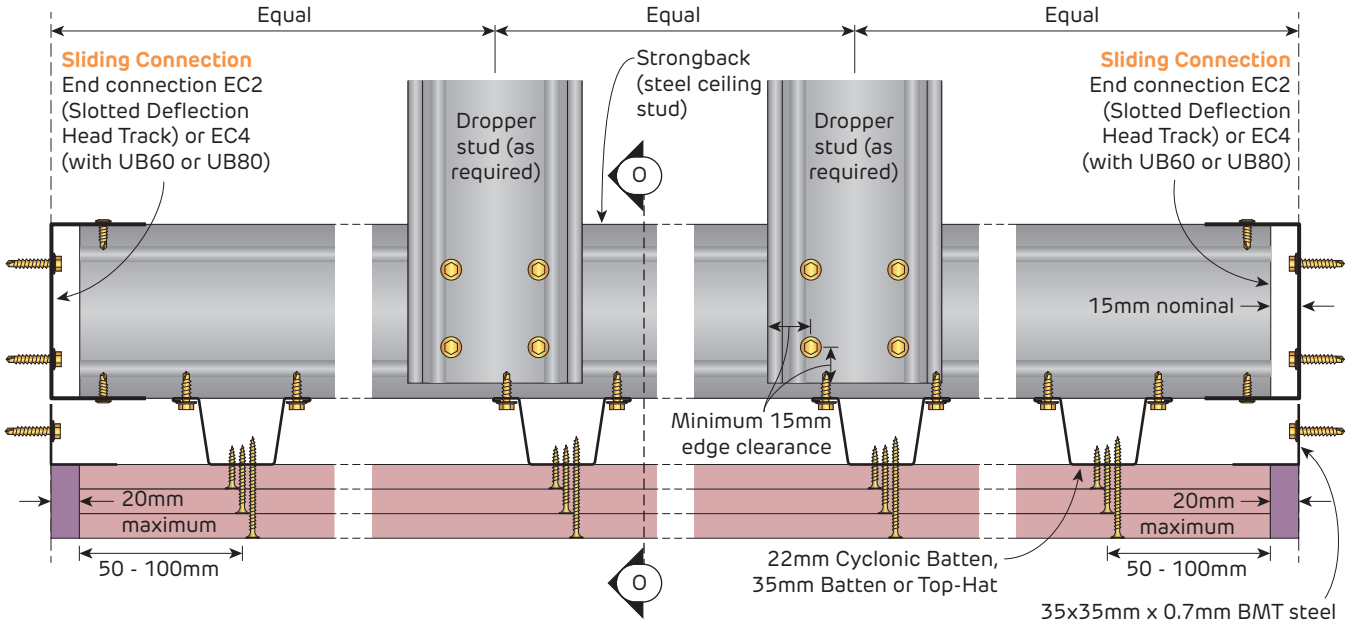
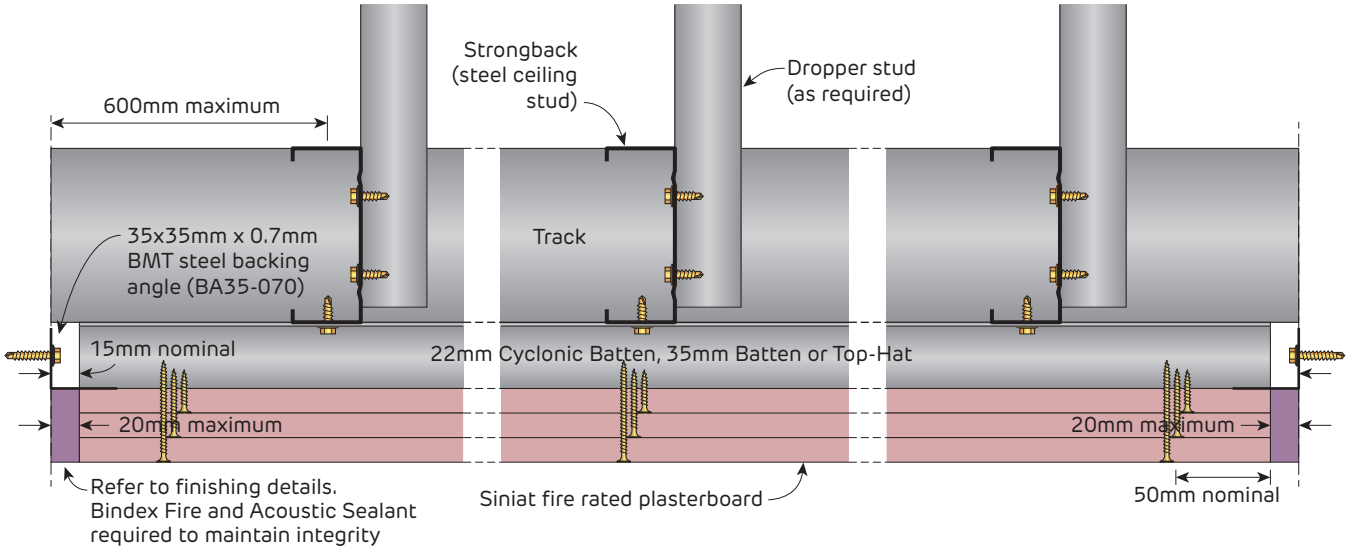


FIGURE 55 Stud Ceiling Type C2 - 2-way Plenum Braced
Elevation



SECTION O-O Ceiling Edge
Section

SECTION O-O Ceiling Stud Detail
Section

SECTION O-O Ceiling Edge
Section

8g framing screws recommended for 0.3 - 0.75mm BMT Siniat steel profiles.10g screws recommended for 1.15 - 1.5mm BMT Siniat steel profiles

Fire Rated and Non-Fire Rated
2-way Plenum Brace

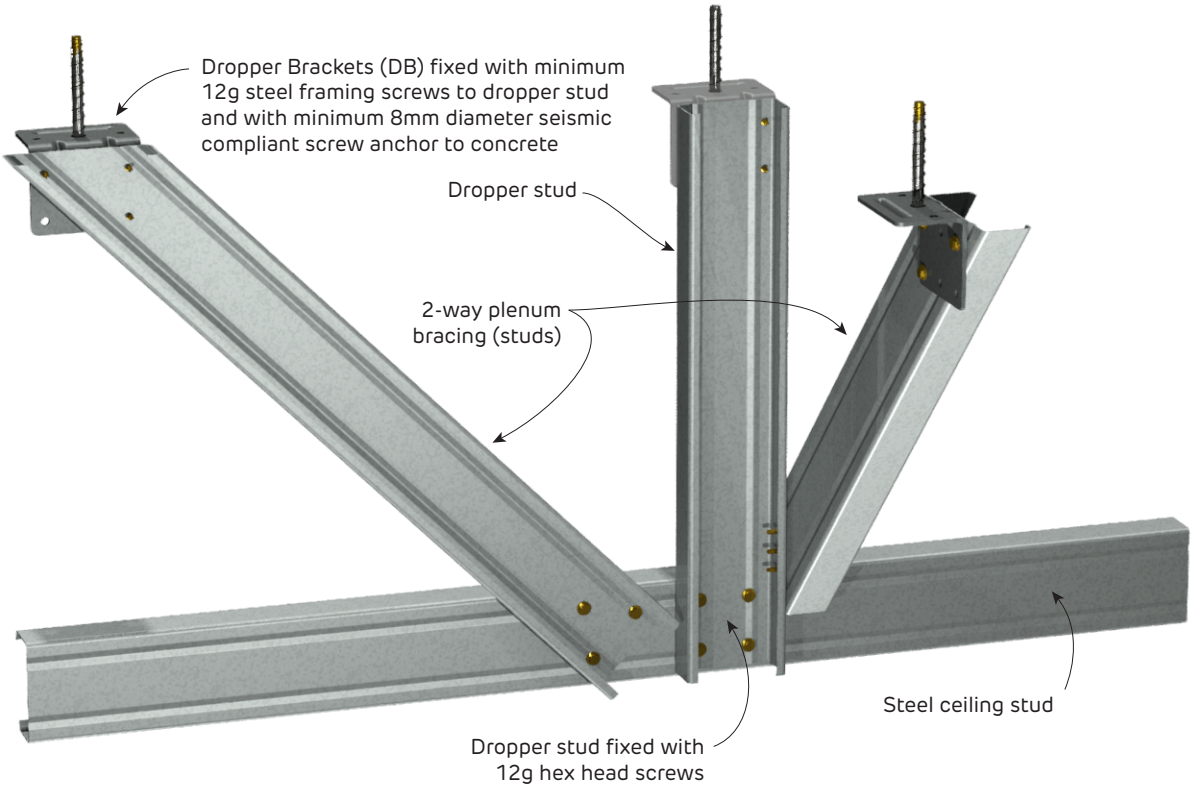


FIGURE 56 2-way Plenum Brace
Perspective

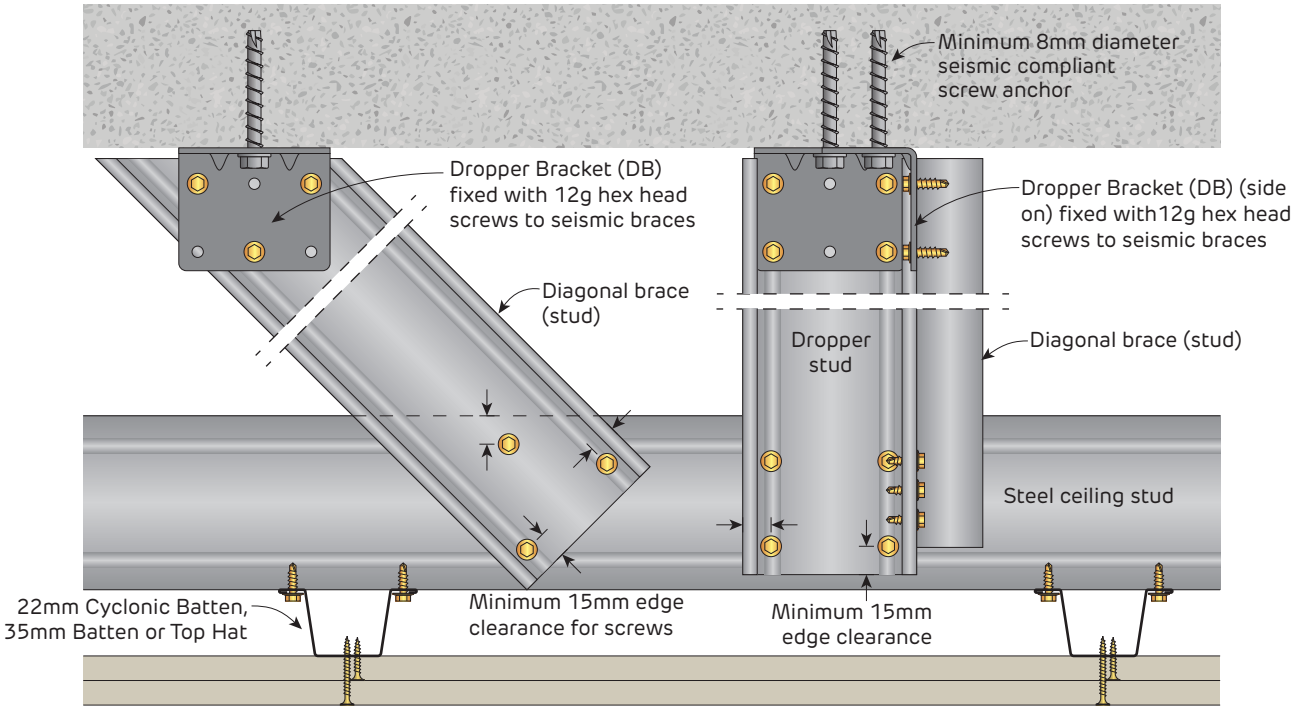


FIGURE 57 2-way Plenum Brace
Elevation

Fire Rated and Non-Fire Rated Steel Ceiling Stud Splicing

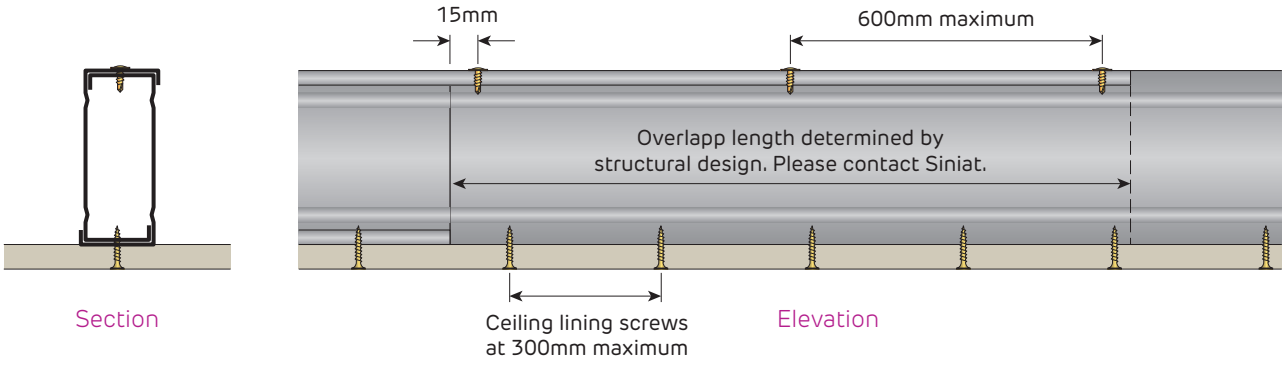


FIGURE 58 Splicing Steel Ceiling Studs via Overlap Method

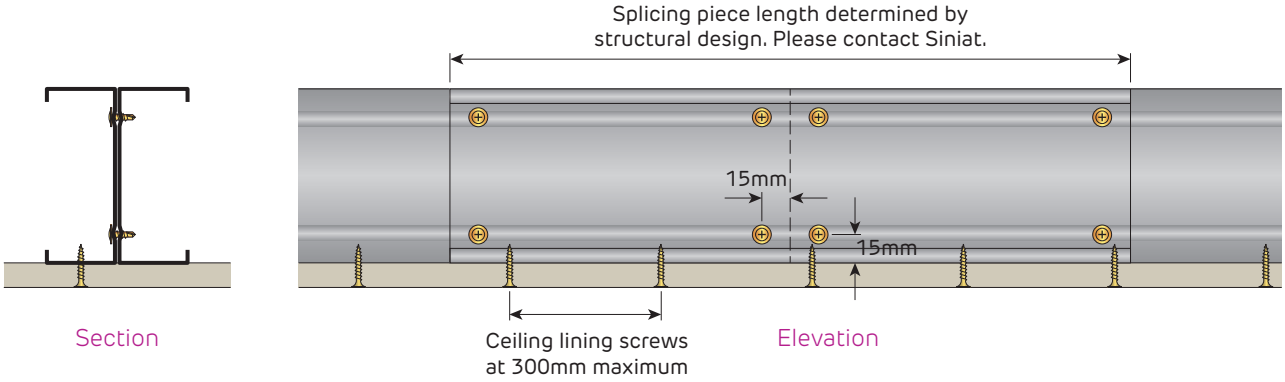


FIGURE 59 Splicing Steel Ceiling Studs via Back-to-back Method

8g framing screws recommended for 0.3 - 0.75mm BMT Siniat steel profiles.10g screws recommended for 1.15 - 1.5mm BMT Siniat steel profiles

Fire Rated Steel Stud Ceilings

This detail contains a load bearing wall. Therefore the wall system must have the 'structural adequacy' part of the Fire Resistance Level e.g. 120/120/120

Bracing may be required when connected to stud walls

For 1 layer, use minimum 35x35mm x 0.7mm BMT steel backing angle (BA35-070).
For 2 layers, use minimum 50x50mm x 0.7mm BMT steel backing angle (BA50-070).
For 3 layers, use minimum 75x75mm x 1.15mm BMT steel backing angle (BA75-115).

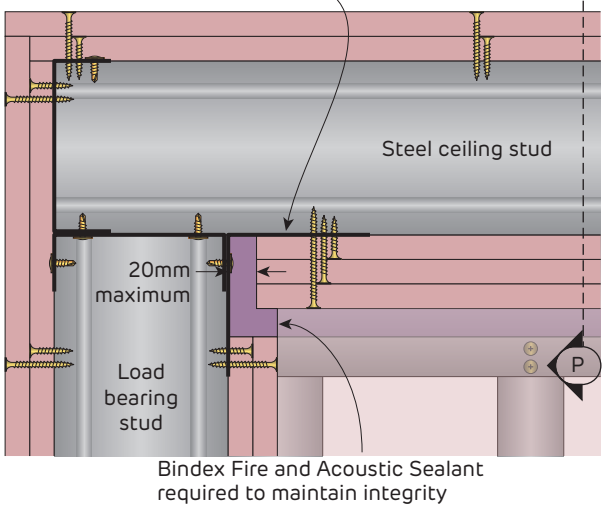
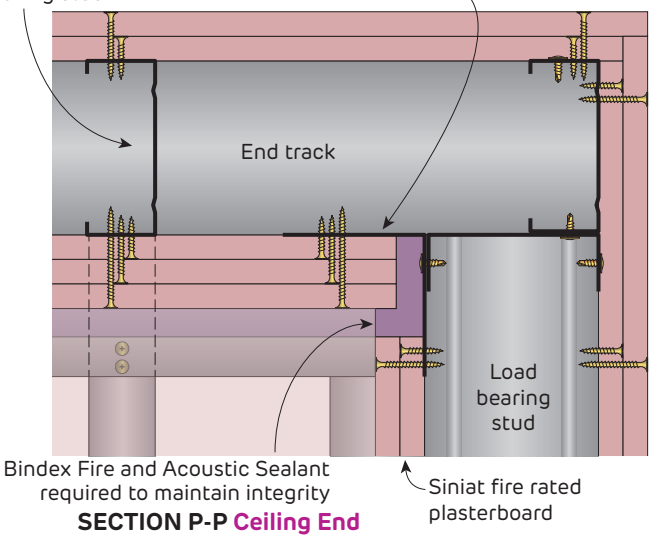


FIGURE 60 Ceiling End
Steel ceiling stud fixed to load bearing stud wall
Section

For 1 layer, use minimum 35x35mm x 0.7mm BMT steel backing angle (BA35-070).
For 2 layers, use minimum 50x50mm x 0.7mm BMT steel backing angle (BA50-070).
For 3 layers, use minimum 75x75mm x 1.15mm BMT steel backing angle (BA75-115).



SECTION P-P Ceiling End
Steel ceiling stud fixed to load bearing stud wall
Section

Fire Rated
Steel Stud Ceilings - Built From the Underside

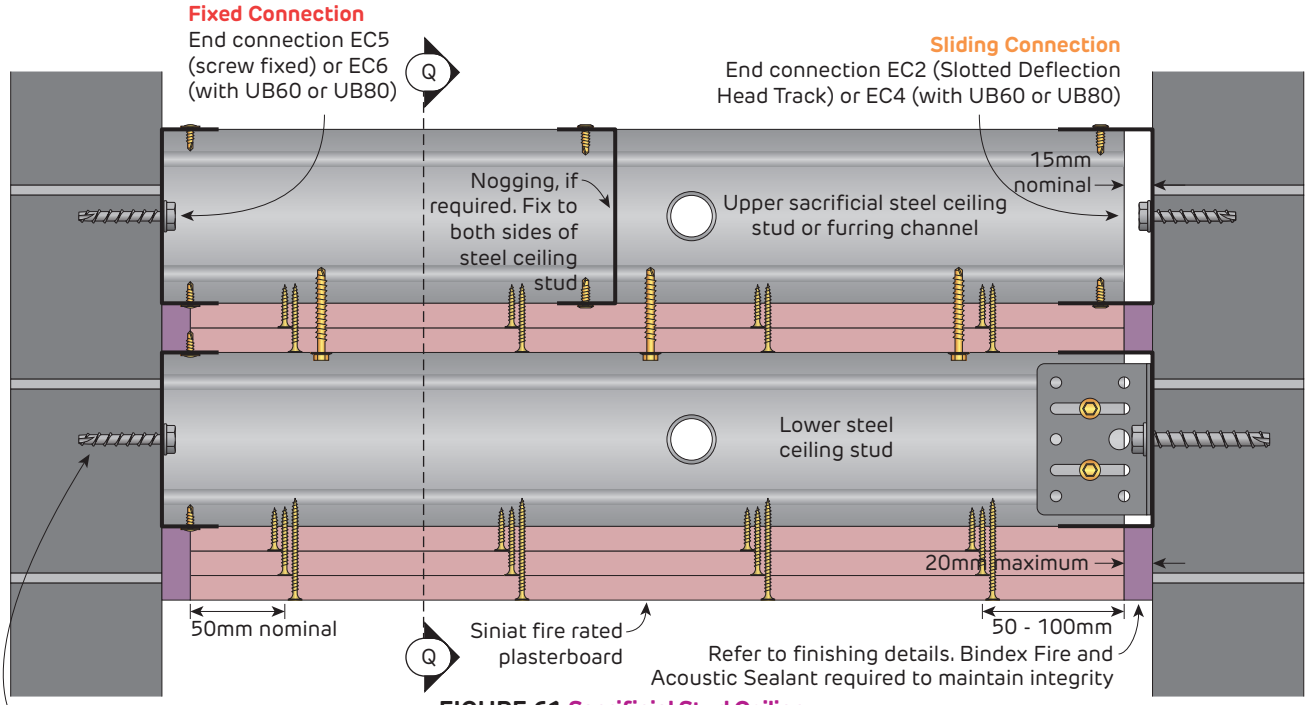
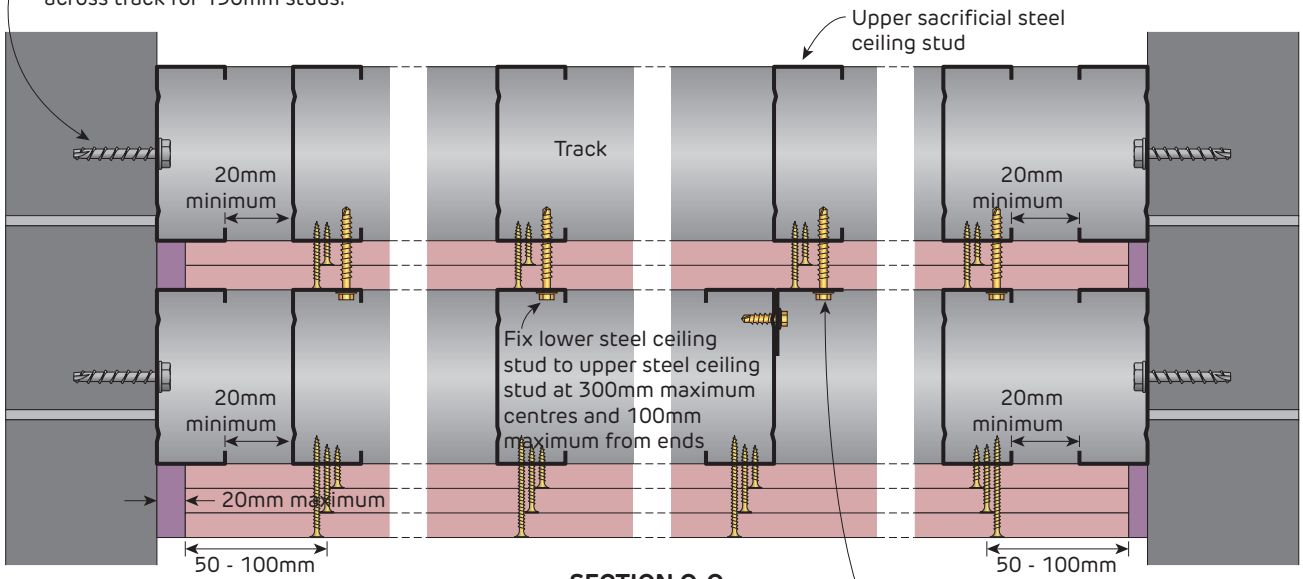
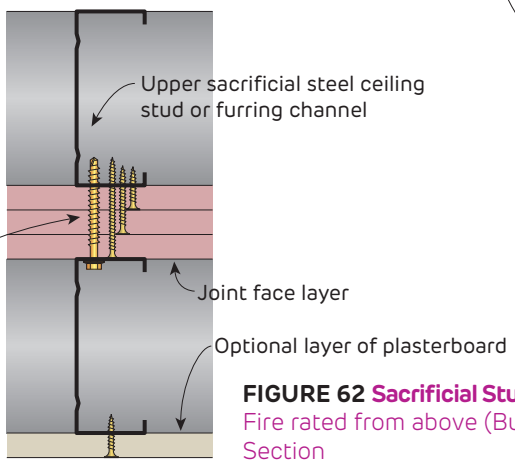


FIGURE 61 Sacrificial Stud Ceiling
Fire rated from above and below (Built from underside)
Section



SECTION Q-Q
Section



8g framing screws recommended for 0.3 - 0.75mm BMT Siniat steel profiles.10g screws recommended for 1.15 - 1.5mm BMT Siniat steel profiles

FIGURE 62 Sacrificial Stud Ceiling
Fire rated from above (Built from underside)
Section

Fire Rated
Steel Stud Ceilings - Built From the Underside

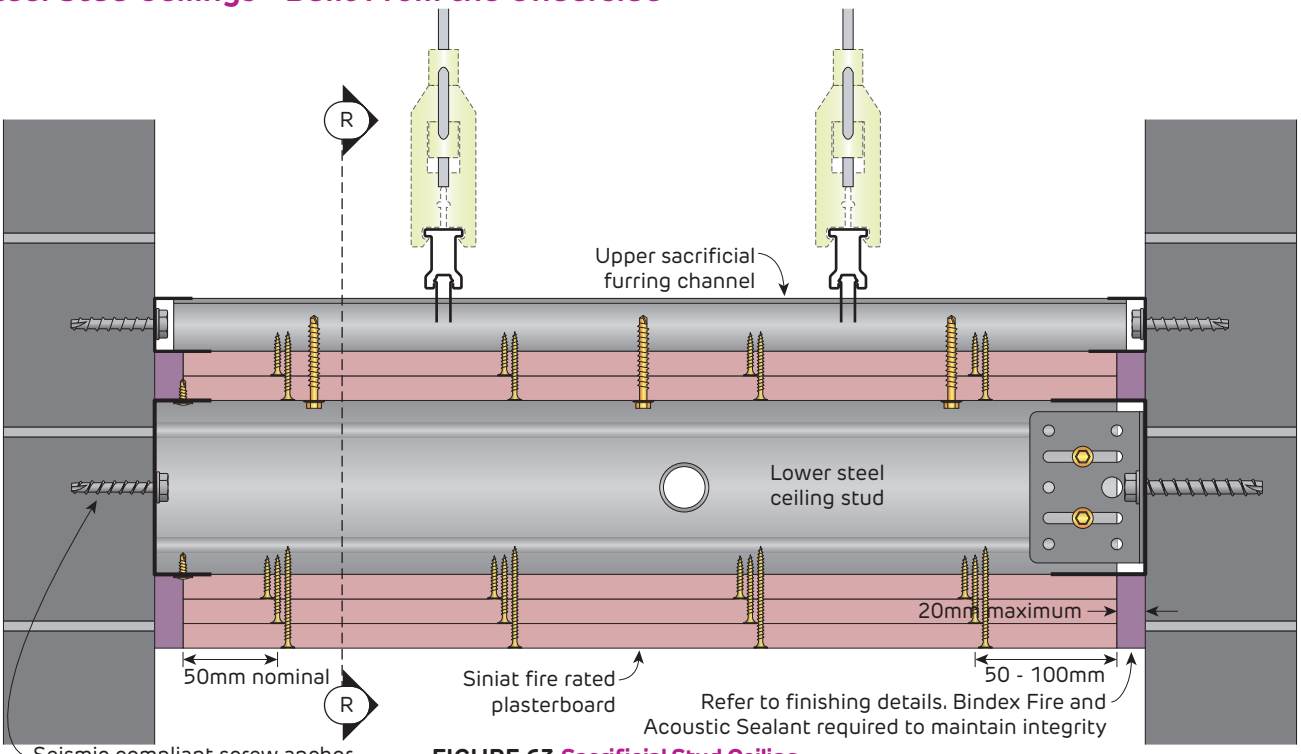
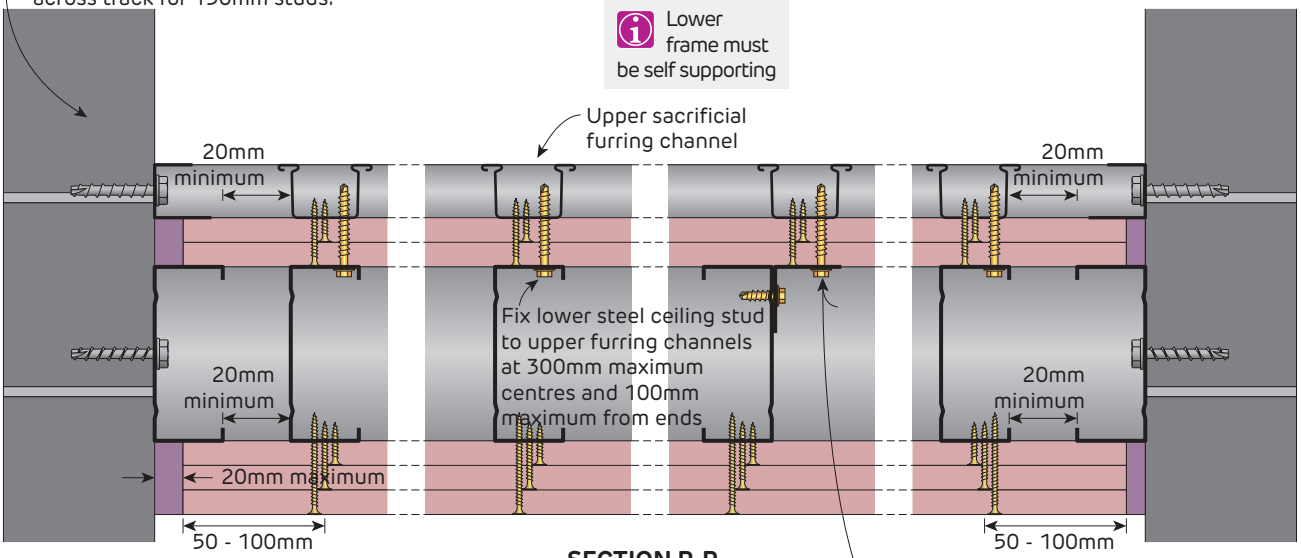


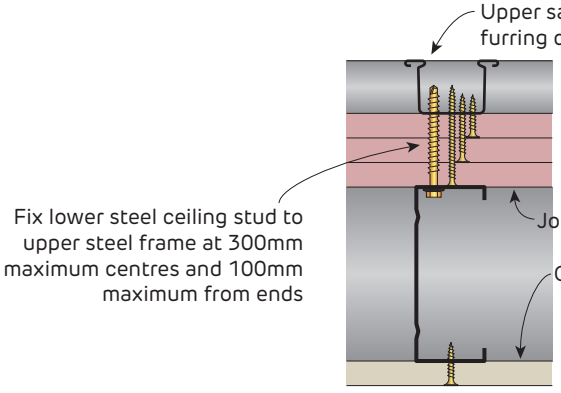
FIGURE 63 Sacrificial Stud Ceiling
Fire rated from above and below (Built from underside)
Section

Lower frame must be self supporting



SECTION R-R
Section

Alternative fixing method. Fix 35x35mm x 0.7mm BMT steel angle to both stud and furring channel at 300mm maximum centres and 100mm maximum from ends



8g framing screws recommended for 0.3 - 0.75mm BMT Siniat steel profiles.10g screws recommended for 1.15 - 1.5mm BMT Siniat steel profiles

FIGURE 64 Sacrificial Stud Ceiling
Fire rated from above (Built from underside)
Section

Non-Fire Rated
L-shaped Horizontal Duct

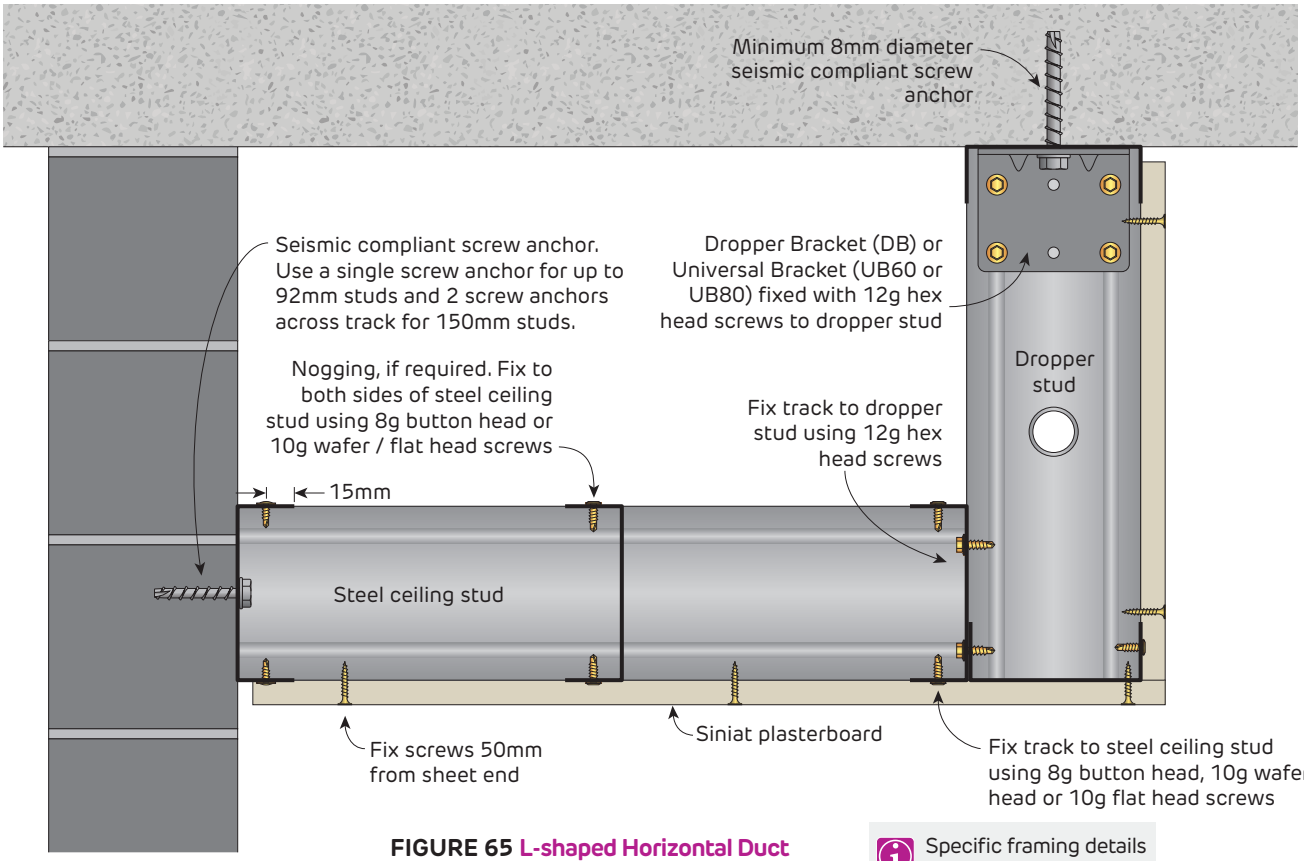


FIGURE 65 L-shaped Horizontal Duct
Section

Specific framing details must be determined by structural design

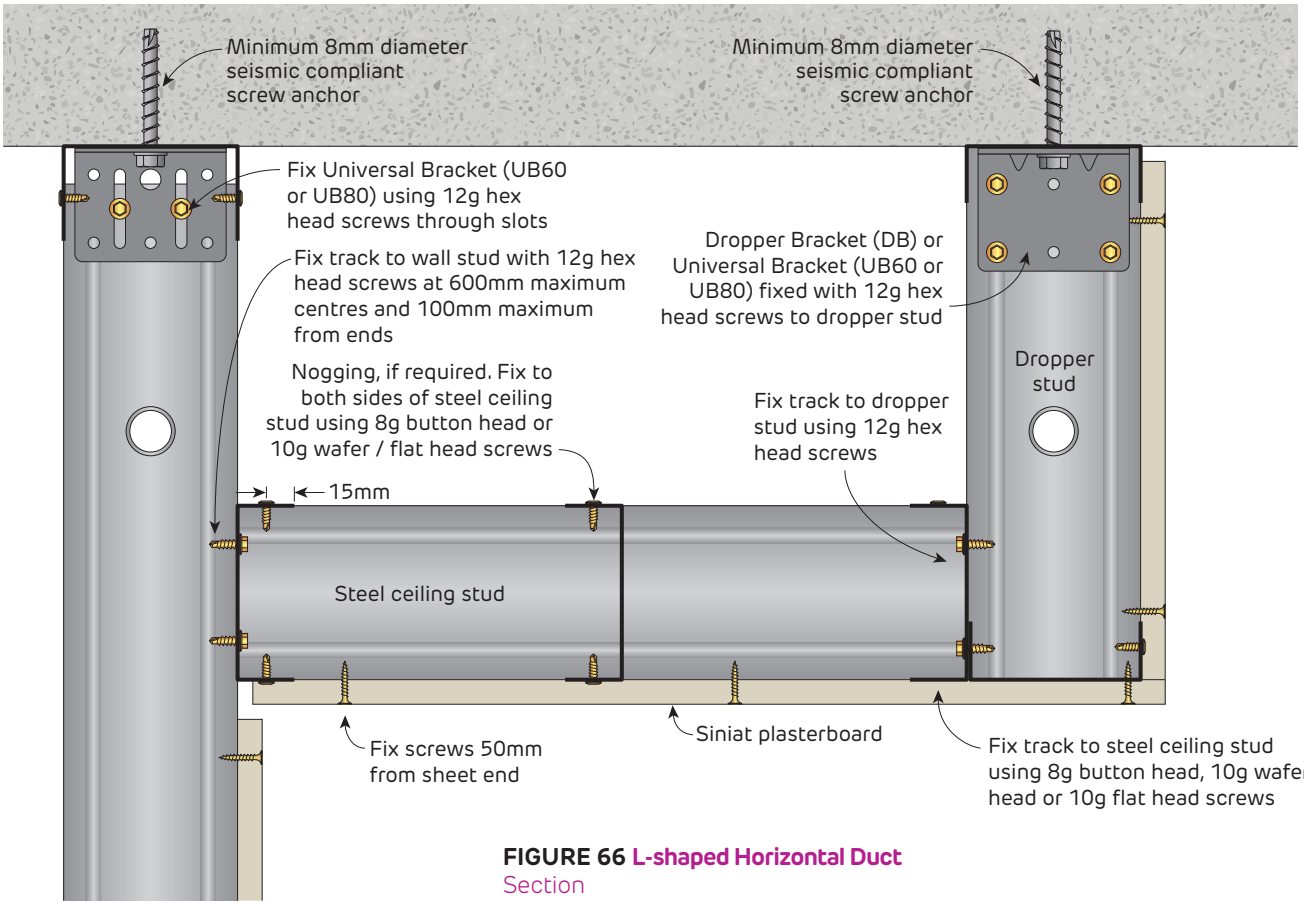


FIGURE 66 L-shaped Horizontal Duct
Section

Fire Rated
L-shaped Horizontal Duct

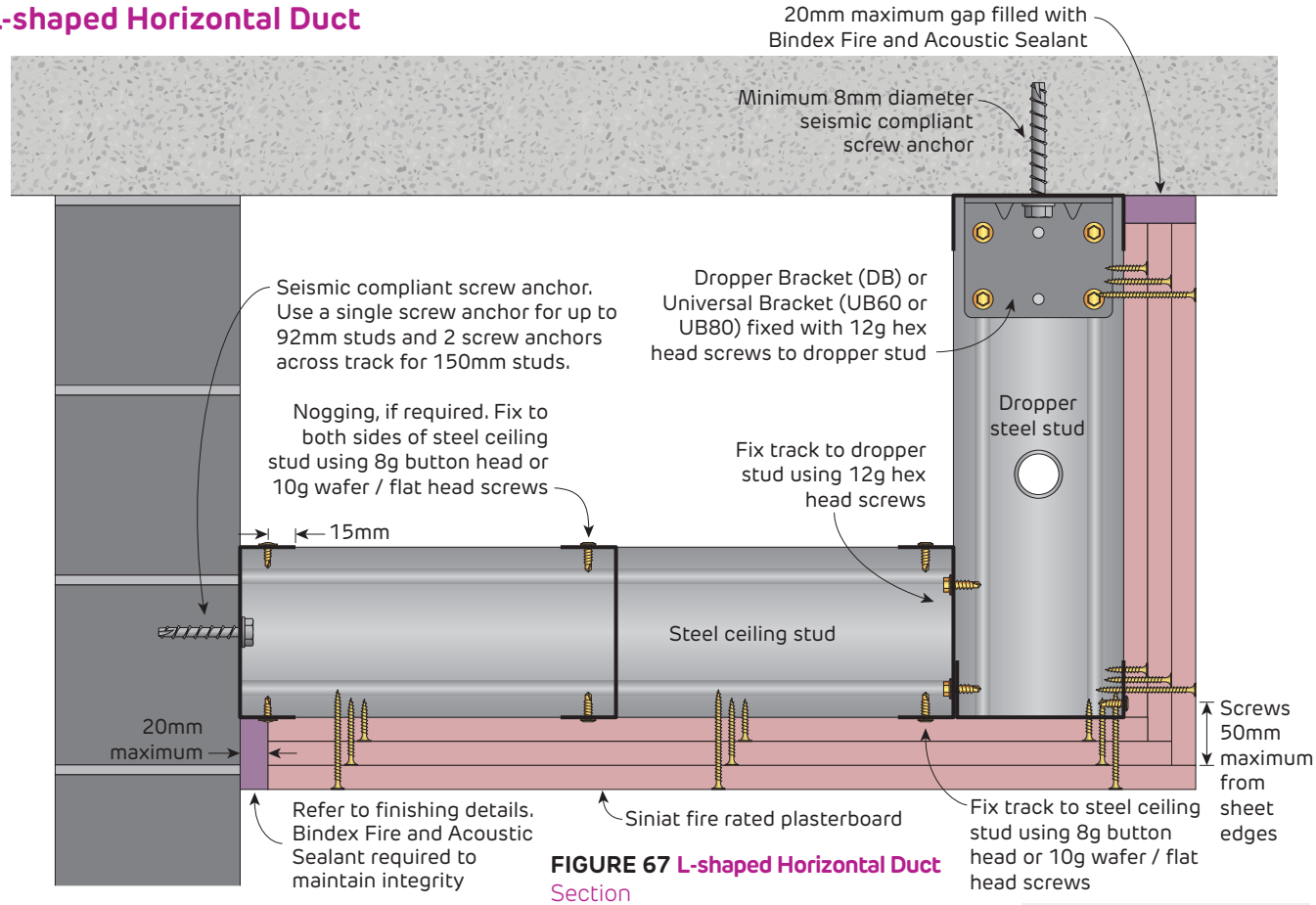


FIGURE 67 L-shaped Horizontal Duct
Section

L-shaped Ducts from fire rated plasterboard are not suitable on their own as an air supply duct while exposed to an external fire or to contain products of combustion, ie: smoke exhaust.

Specific framing details must be determined by structural design

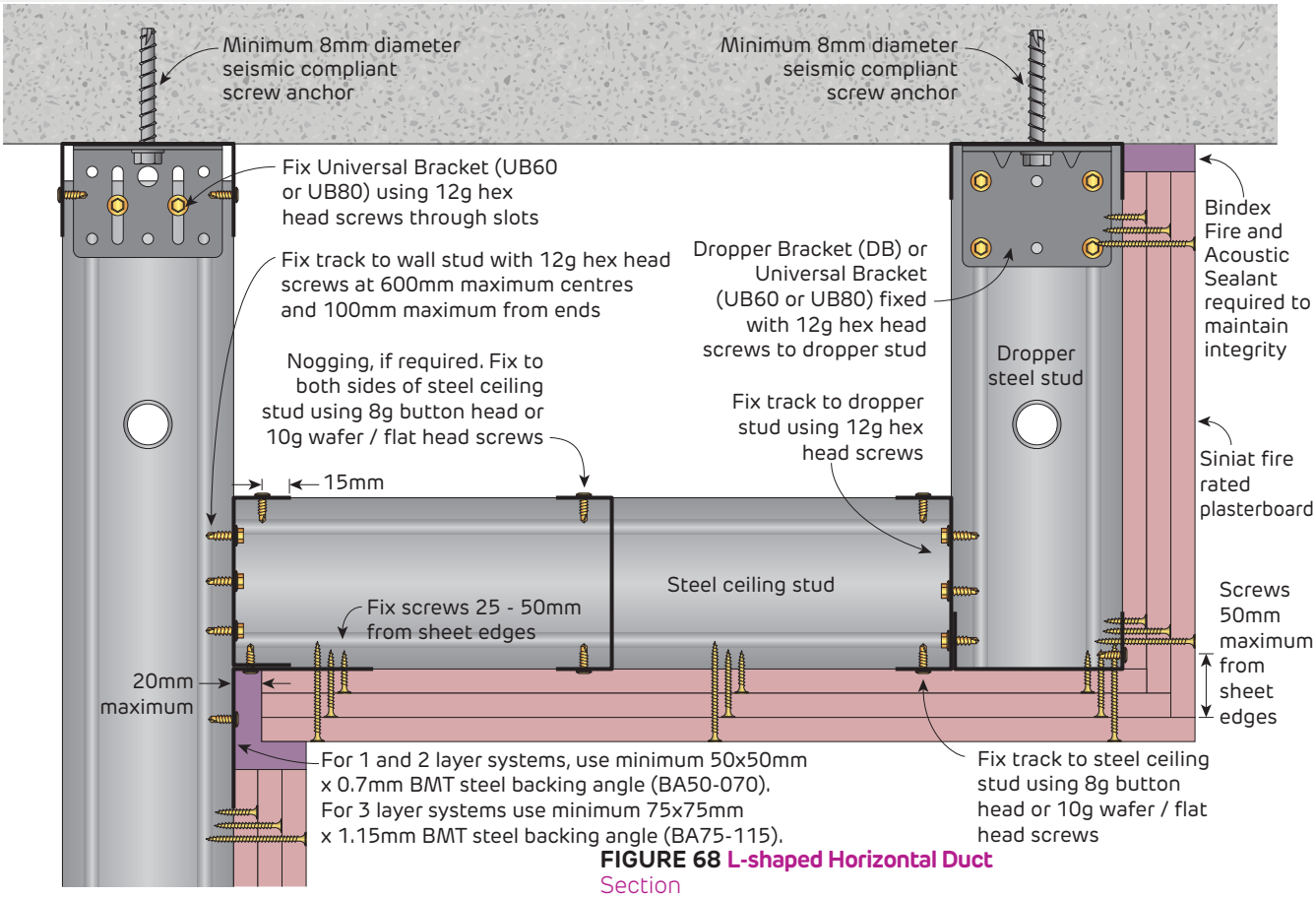


FIGURE 68 L-shaped Horizontal Duct
Section

Fire Rated and Non-Fire Rated
Wall with Integrated Bulkhead

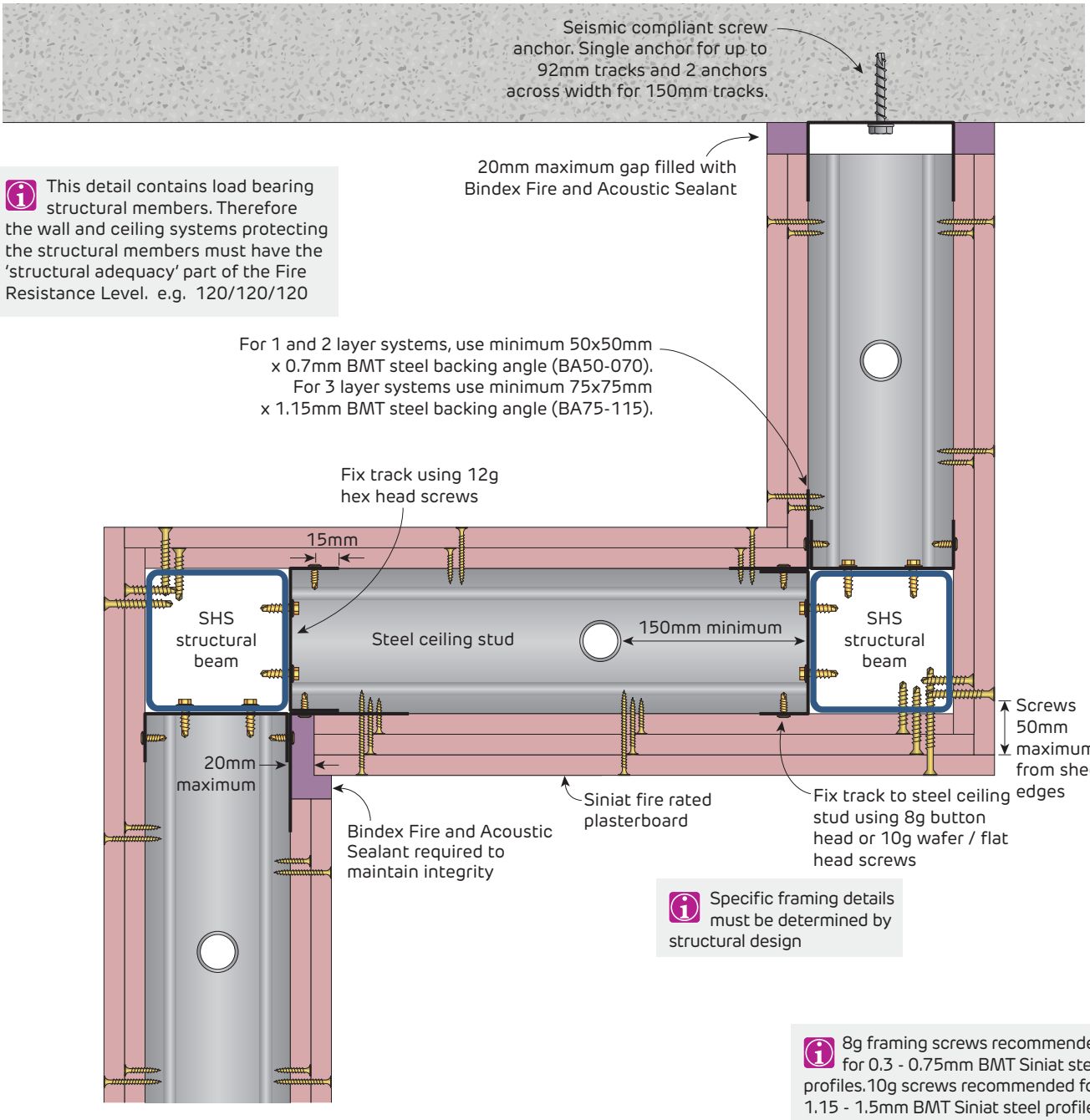


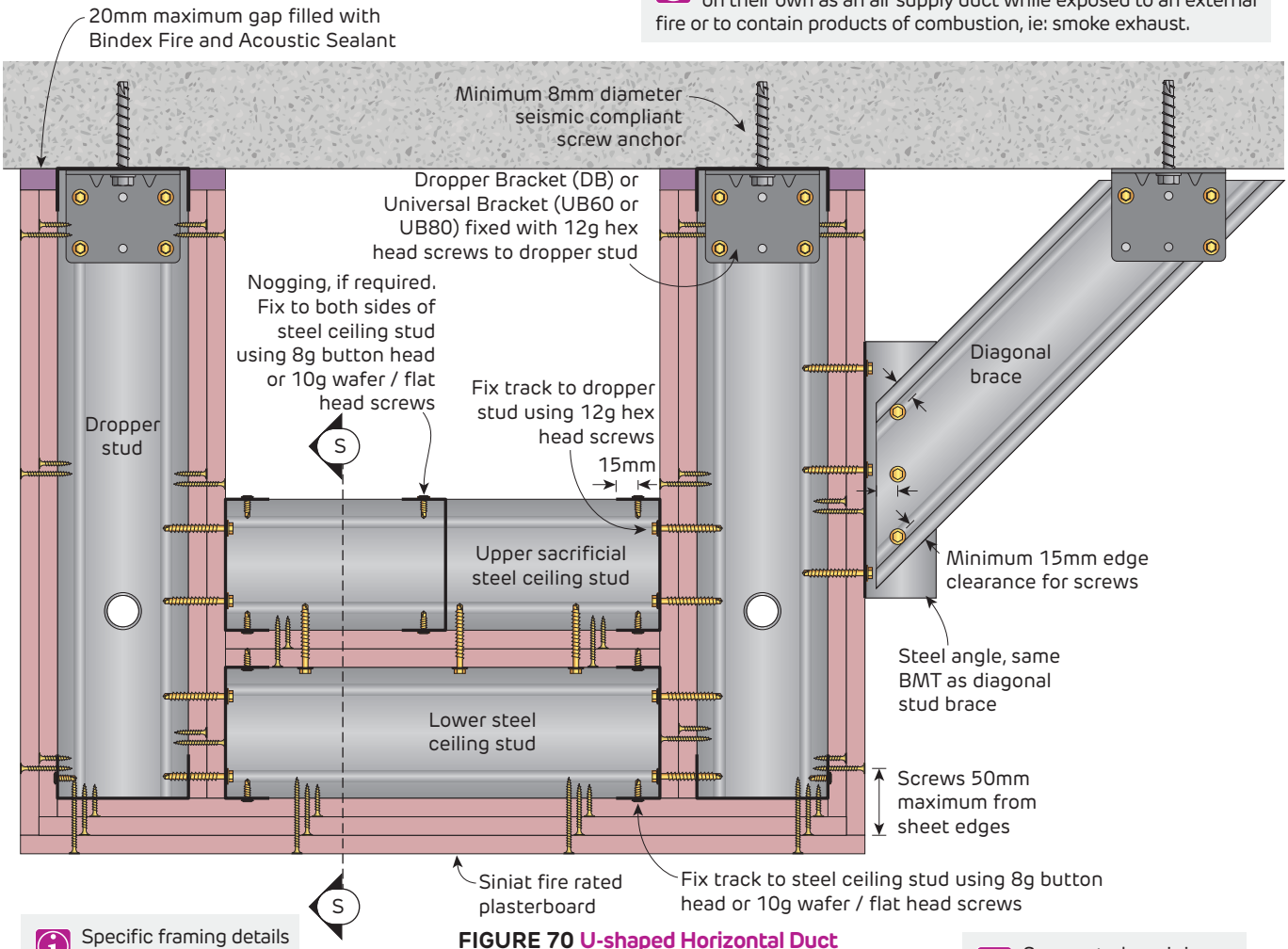
FIGURE 69 Stud Wall with Integrated Bulkhead
Section

Suggested Sizing of Structural Members in Steel Stud Plasterboard Walls and Ceilings

Stud Size (mm)	Structural Members
	SHS
76	75x75 SHS
92	90x90 SHS
150	150x150 SHS

Fire Rated
U-shaped Horizontal Duct - Fire Rated from Both Directions
Using Wall Systems SSW312 or SSW317 with Ceiling Systems SSC2 or SSC3

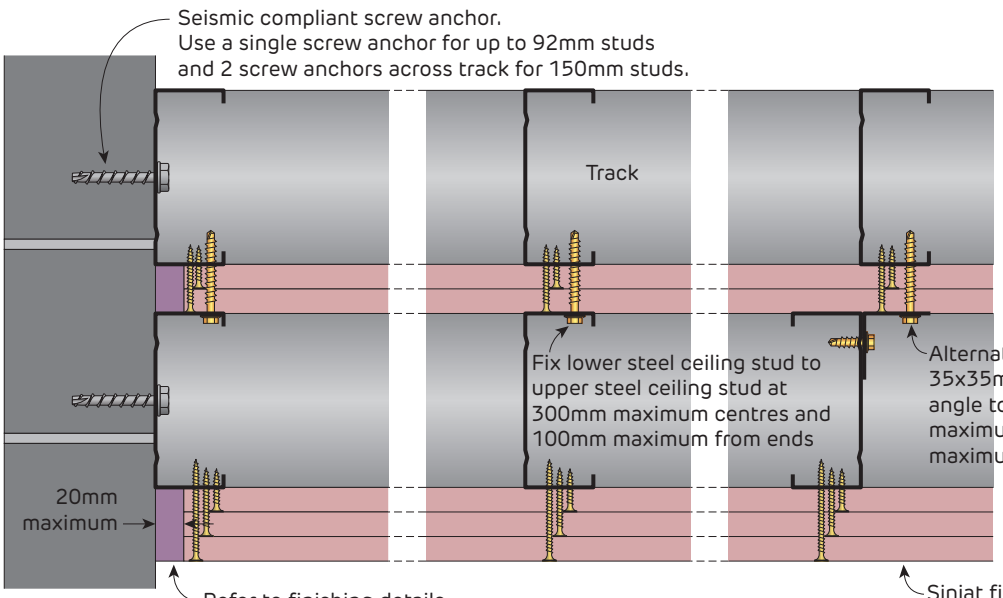
U-shaped Ducts from fire rated plasterboard are not suitable on their own as an air supply duct while exposed to an external fire or to contain products of combustion, ie: smoke exhaust.



Specific framing details must be determined by structural design

FIGURE 70 U-shaped Horizontal Duct
Fire rated from both directions
Section

Screws to be minimum 15mm from steel profile ends and edges



8g framing screws recommended for 0.3 - 0.75mm BMT Siniat steel profiles.10g screws recommended for 1.15 - 1.5mm BMT Siniat steel profiles

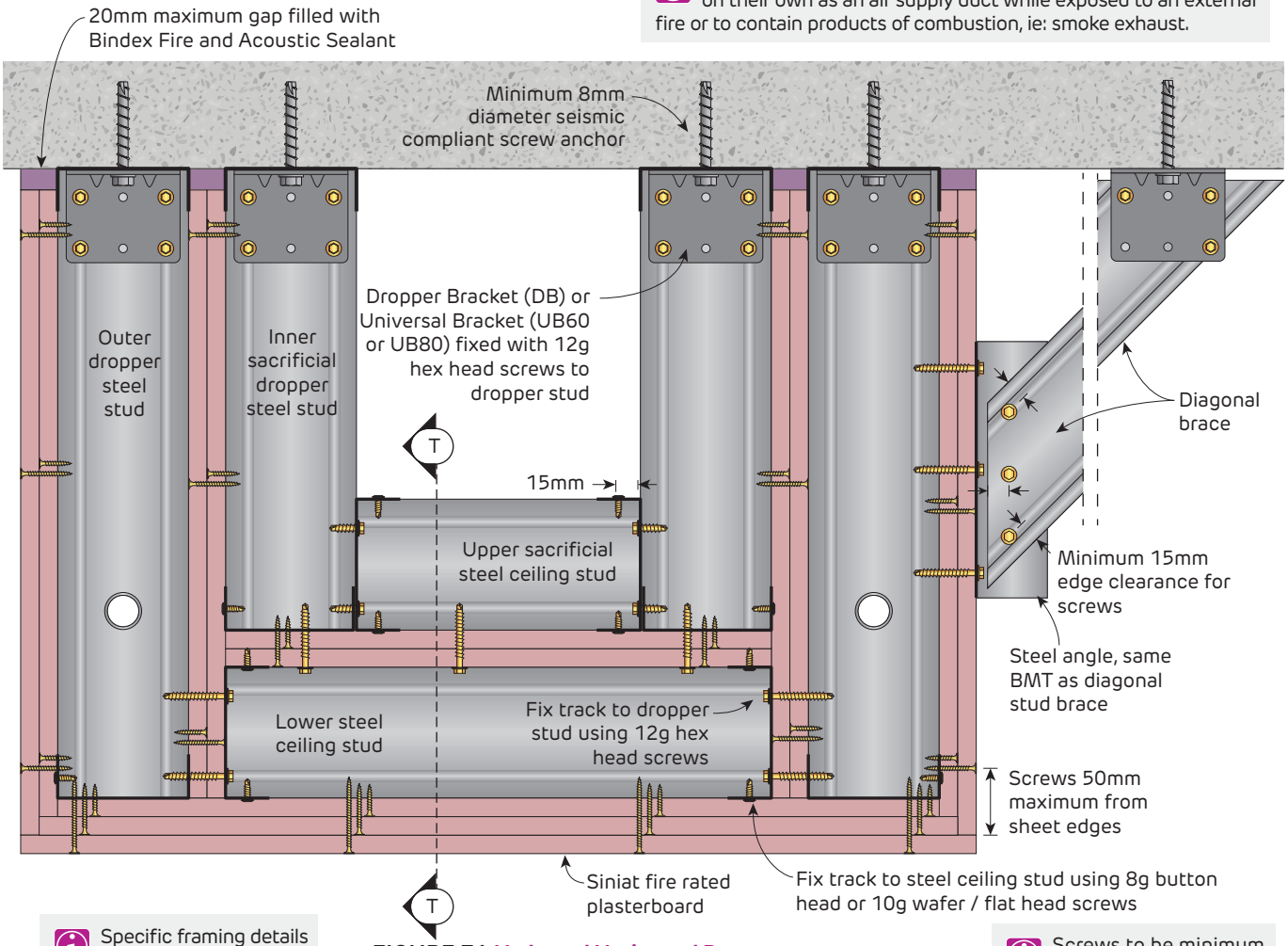
SECTION S-S
Section

Fire Rated

U-shaped Horizontal Duct - Fire Rated from Both Directions

Using Wall Systems SSW312 or SSW317 with Ceiling Systems SSC2 or SSC3

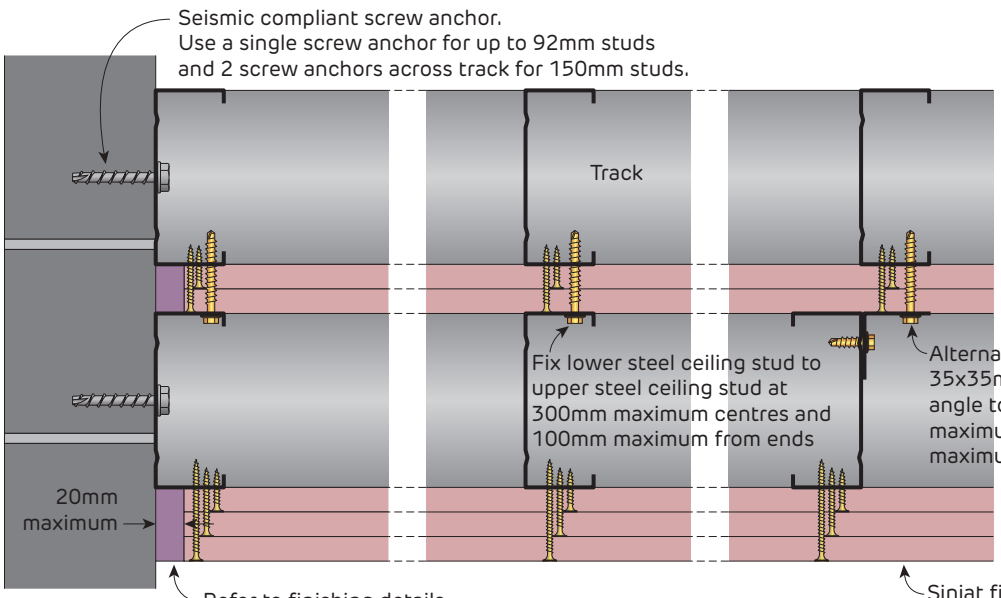
U-shaped Ducts from fire rated plasterboard are not suitable on their own as an air supply duct while exposed to an external fire or to contain products of combustion, ie: smoke exhaust.



Specific framing details must be determined by structural design

FIGURE 71 U-shaped Horizontal Duct
Fire rated from both directions (Built from outside only)
Section

Screws to be minimum 15mm from steel profile ends and edges



8g framing screws recommended for 0.3 - 0.75mm BMT Siniat steel profiles.10g screws recommended for 1.15 - 1.5mm BMT Siniat steel profiles

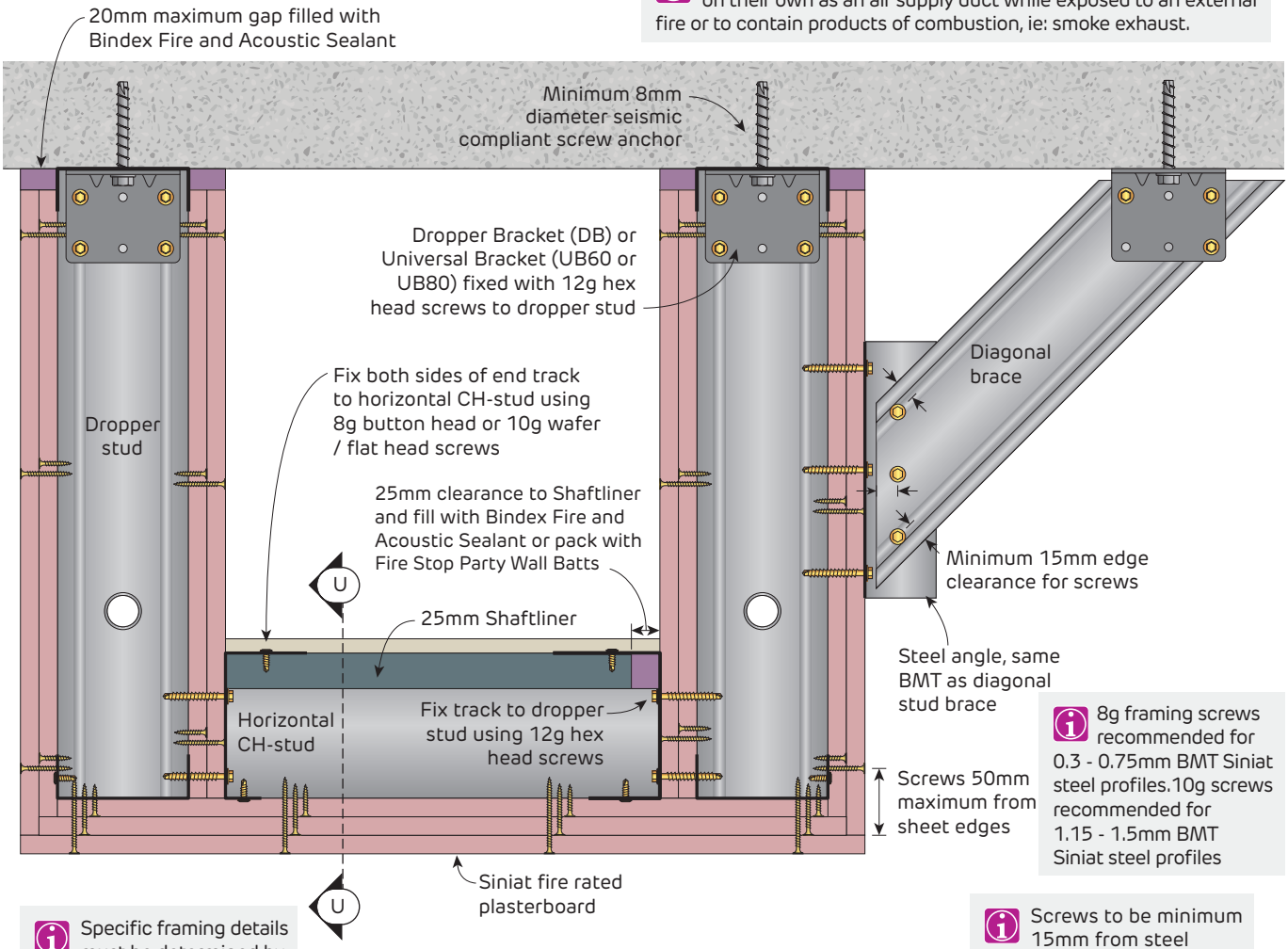
SECTION T-T
Section

Fire Rated

U-shaped Horizontal Duct - Fire Rated from Both Directions

Using Wall Systems SSW312 or SSW317 with Ceiling Systems SHC3 or SHC4

U-shaped Ducts from fire rated plasterboard are not suitable on their own as an air supply duct while exposed to an external fire or to contain products of combustion, ie: smoke exhaust.

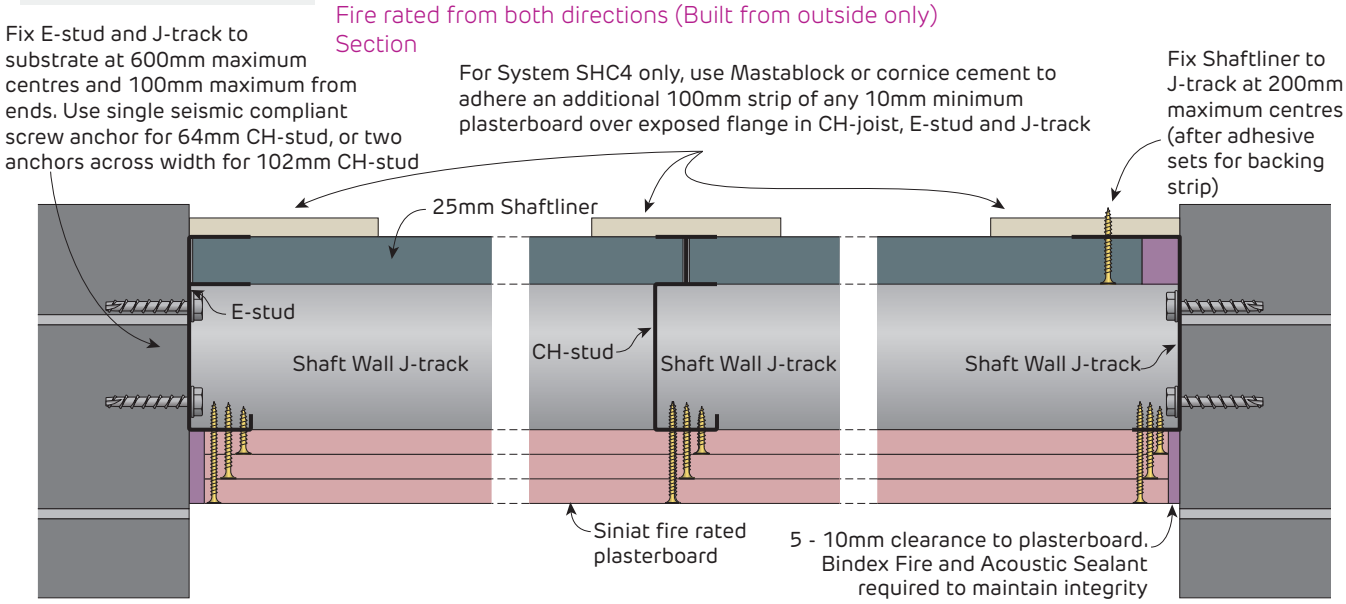


Specific framing details must be determined by structural design

8g framing screws recommended for 0.3 - 0.75mm BMT Siniat steel profiles.10g screws recommended for 1.15 - 1.5mm BMT Siniat steel profiles

Screws to be minimum 15mm from steel profile ends and edges

FIGURE 72 U-shaped Horizontal Duct Using Shaft Wall Ceiling
Fire rated from both directions (Built from outside only)
Section



SECTION U-U
Section

Fire Rated
Steel Stud Raked Ceiling

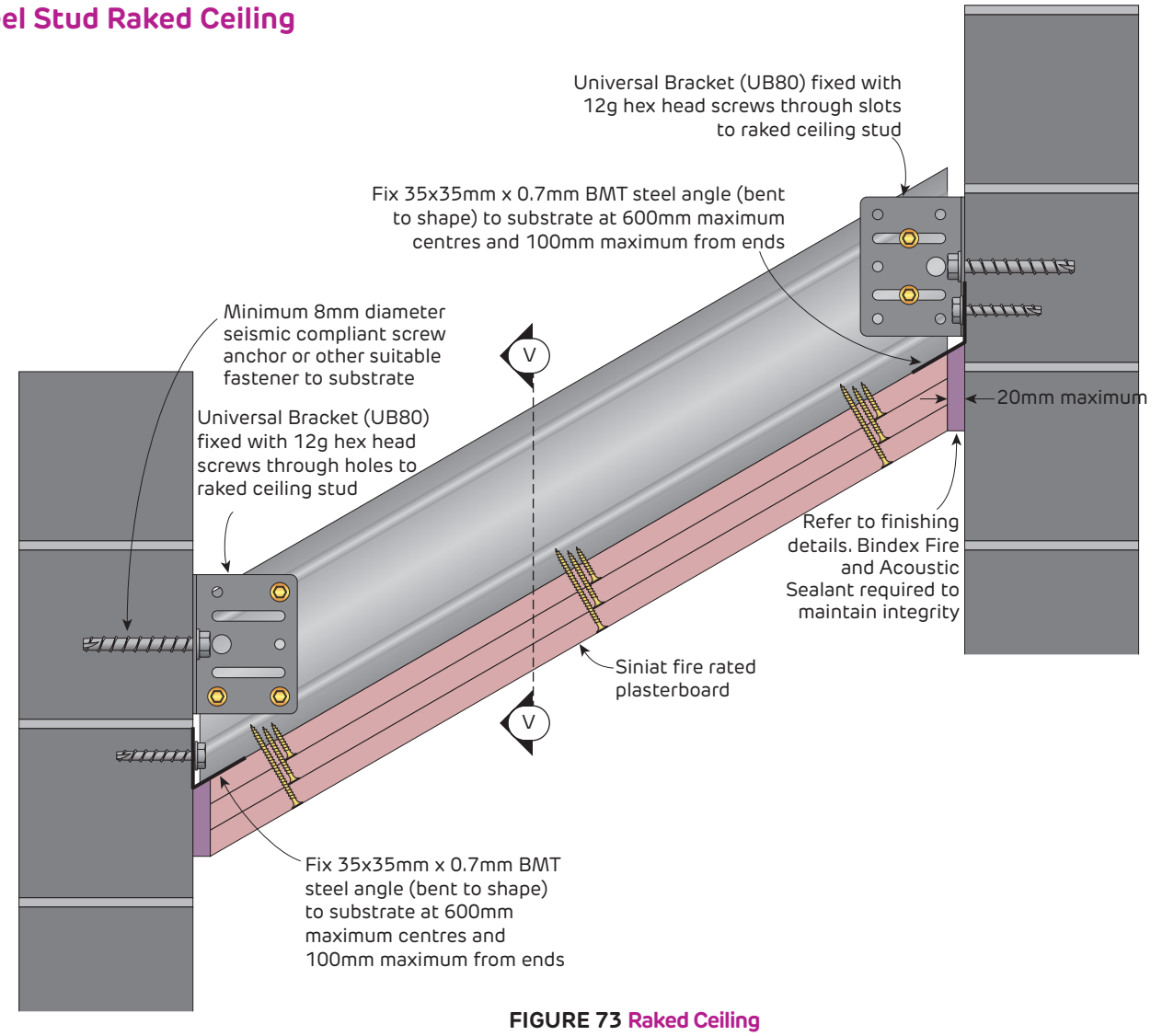
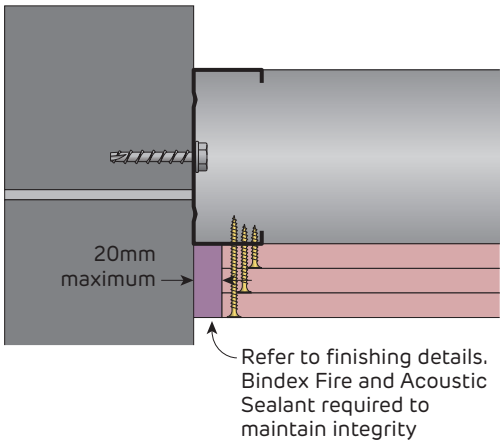


FIGURE 73 Raked Ceiling
Fire rated from below side only
Section



SECTION V-V
Section

Non-Fire Rated
Ceiling Perimeter Finishing Details

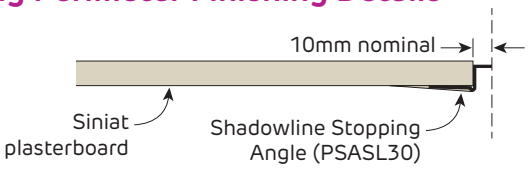


FIGURE 74 Finishing Detail - Shadowline
Section

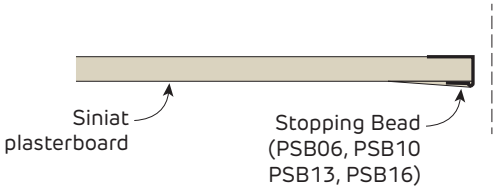


FIGURE 76 Finishing Detail - Stopping Bead
Section

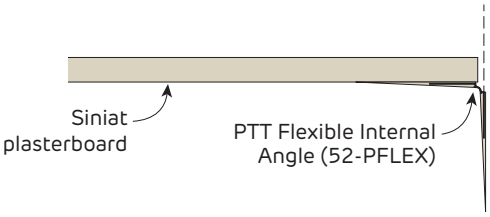


FIGURE 78 Finishing Detail - Flexible Square Set
Section

Gaps around the ceiling perimeter may reduce acoustic performance

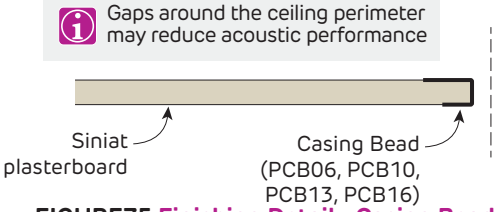


FIGURE75 Finishing Detail - Casing Bead
Section

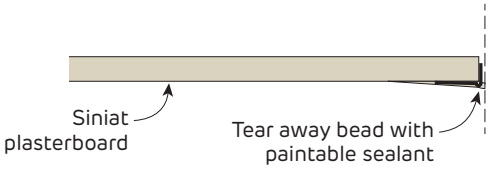


FIGURE 77 Finishing Detail - Square Set
Section

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

Some damage to ceiling linings for finishing details with low tolerance to movement can be expected in a Serviceability Earthquake event

Fire Rated and Non-Fire Rated
Ceiling Perimeter Finishing Details

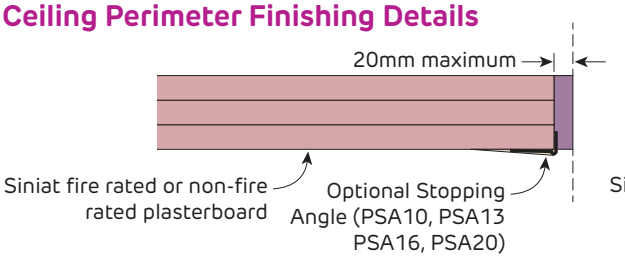


FIGURE 79 Finishing Detail - Stopping Angle
Valid for 1 to 4 layers
Section

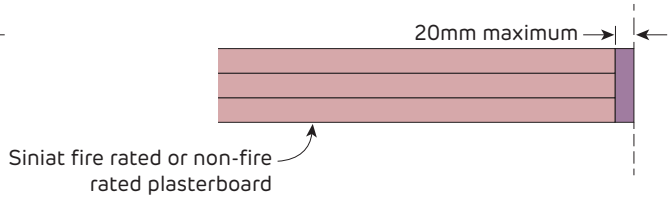


FIGURE 80 Finishing Detail - Bare finish with Sealant
Valid for 1 to 4 layers
Section

Not suitable for single layer ceiling

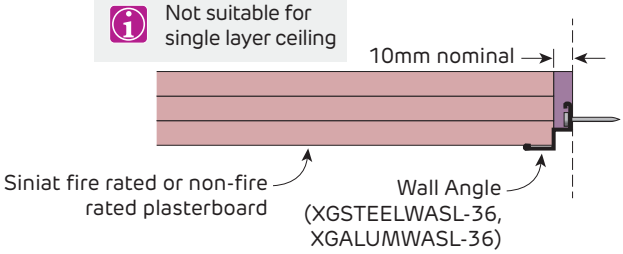


FIGURE 81 Finishing Detail - Shadowline Wall Angle
Valid for 2 to 4 layers only
Section

Not suitable for single layer ceiling

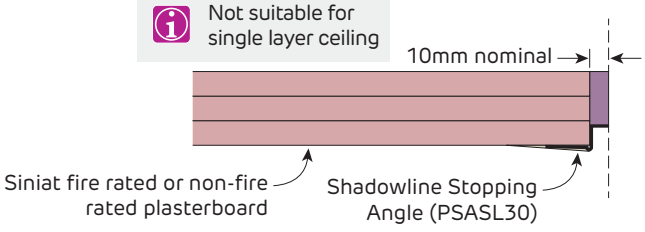


FIGURE 82 Finishing Detail - Shadowline
Valid for 2 to 4 layers only
Section

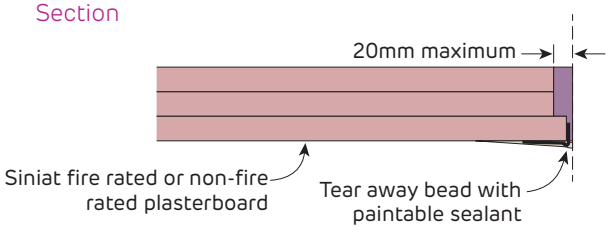


FIGURE 83 Finishing Detail - Square Set
Valid for 1 to 4 layers
Section

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

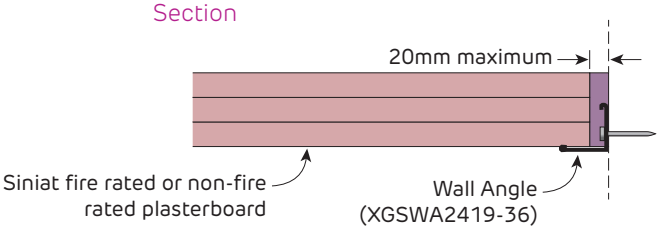


FIGURE 84 Finishing Detail - Wall Angle
Valid for 1 to 4 layers
Section

Some damage to ceiling linings for finishing details with low tolerance to movement can be expected in a Serviceability Earthquake event