

KNAUF



Stratopanel

ACOUSTIC PERFORATED PLASTERBOARD

WITH AIR PURIFYING **CLENEO**
TECHNOLOGY

FOR CEILINGS AND WALLS

Contents

Disclaimer

Products manufactured and systems designed by Knauf are produced in accordance with the Building Code of Australia and relevant Australian Standards. Information in this document is to be used as a guide only and is subject to project approval as many aspects of construction are not comprehensively covered. It is also the responsibility of the project to determine if Knauf's products and systems are suitable for the intended application. Knauf Plasterboard will not be held responsible for any claims resulting from the installation of its products or other associated products not in accordance with the recommendations of the manufacturer's technical literature or relevant Australian Standard.

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Warranty

Knauf products are guaranteed by a 10 Year Warranty. Visit **knaufplasterboard.com.au**

Version 3

November 2016

Stratopanel with CLEANEO Technology is manufactured in accordance with quality systems certified as complying to ISO 9001:2008.



Project: Bankstown Library and Knowledge Centre, New South Wales, Australia

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Project: Roseville College, New South Wales, Australia

Stratopanel with CLEANEO Technology brings a breath of fresh air to wall and acoustic ceiling linings. Delivering excellent acoustic performance, stunning aesthetics and CLEANEO air cleaning properties, Stratopanel is the smart choice for all commercial applications.

Stratopanel is the new name for Cleaneo and incorporates the original CLEANEO Technology. Manufactured with high quality, ultra-sharp perforations in a variety of continuous perforated patterns for a seamless finish, Stratopanel with CLEANEO Technology meets the high level of acoustic performance required for commercial public areas such as offices, retail centres, schools, hospitals, conference halls and hospitality spaces. It is also the world's first acoustic wall and ceiling lining with built-in air purification.

Stratopanel with CLEANEO Technology incorporates dehydrated zeolite, an aggregate mineral with a nanoporous structure in the patented manufacturing process. Zeolite, together with gypsum, creates a large inner layer of surfaces within the board itself. This inner layer works to reduce both smells and airborne pollutants such as volatile organic compounds (VOCs) e.g. formaldehyde, benzene and ammonia.

Excellent acoustic performance, a range of seamless aesthetic designs to choose from and the unique CLEANEO air purifying technology are the key benefits of using Stratopanel.



Project: Griffith University Students Centre, Queensland, Australia



YOU HEAR SOUND BUT YOU FEEL ACOUSTICS

Good acoustics are unnoticeable. The comfort you feel, when being in a room with good acoustics, is the essence of a perfect balance between the sound you hear and the room you see. It is this combination of sound, materials and surfaces that creates great living spaces.

Our mission is to help make your inspiration a reality, and we leave nothing to chance in pursuit of that goal.

> ACOUSTIC CALCULATOR

Knauf Reverberation Time Calculator is an innovative acoustic online tool that calculates the Reverberation Time (RT60 or T) of a room.

The acoustic calculator has been developed in-house and is unique and exclusive to Knauf.

Find it at <http://www.knaufplasterboard.com.au/calculators>





Project: Melbourne School of Design Building, Victoria, Australia



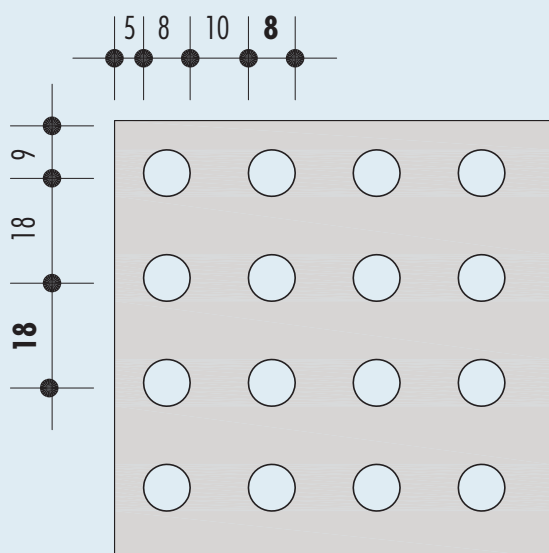
Project: Northern Beaches Christian School, New South Wales, Australia

Product Range

STANDARD RANGE

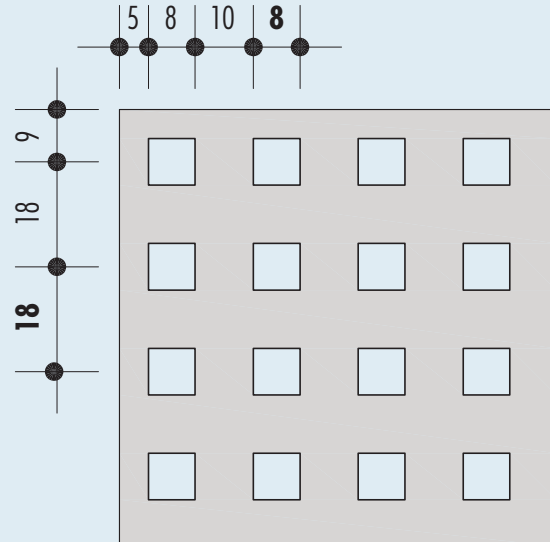
(Black acoustic fleece)

CIRCULAR 8/18 R



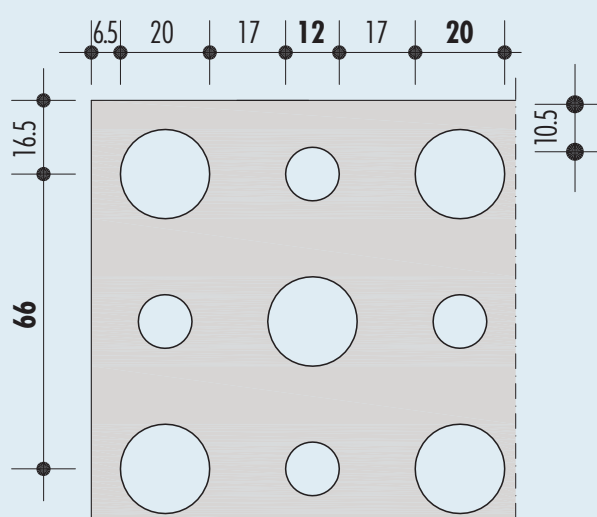
Thickness (mm)	Width (mm)	Length (mm)	Weight* (kg/m ²)	Open Area (%)
12.5	1188	1998	9.9	15.5

SQUARE 8/18 Q



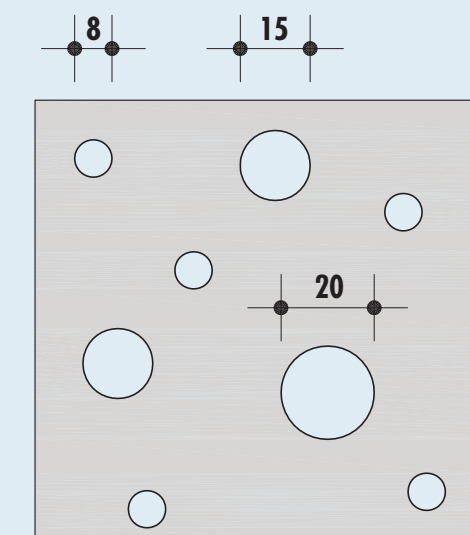
Thickness (mm)	Width (mm)	Length (mm)	Weight* (kg/m ²)	Open Area (%)
12.5	1188	1998	9.4	19.8

ALTERNATING CIRCULAR 12/20/66 R



Thickness (mm)	Width (mm)	Length (mm)	Weight* (kg/m ²)	Open Area (%)
12.5	1188	1980	9.4	19.6

RANDOM PLUS 8/15/20 R



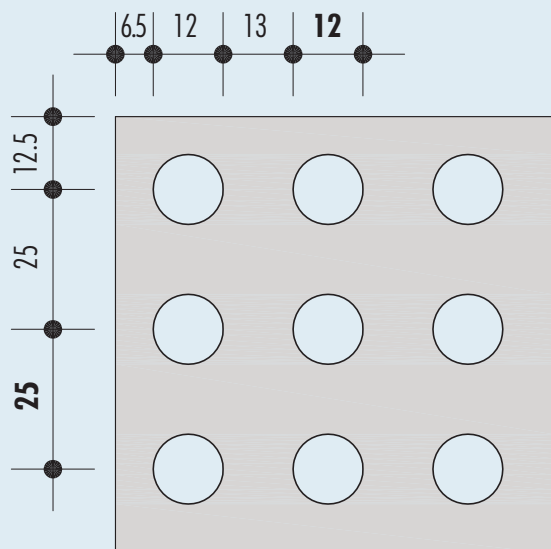
Thickness (mm)	Width (mm)	Length (mm)	Weight* (kg/m ²)	Open Area (%)
12.5	1200	1875	10.5	9.9

*Weights indicated are nominal
[White fleece available to order]

SPECIALTY RANGE

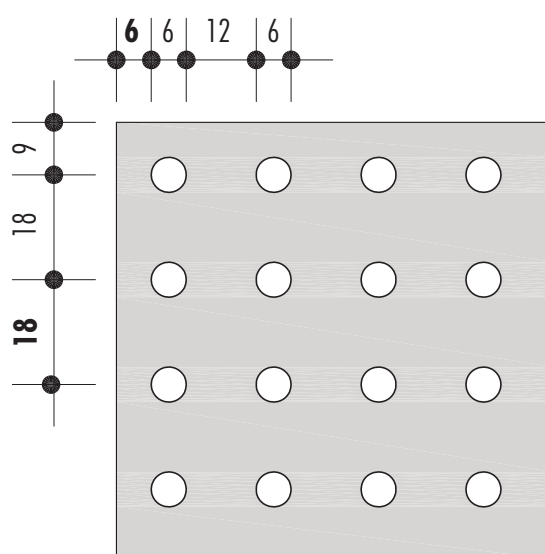
(Specialty range perforations are available to order[^])

CIRCULAR 12/25 R



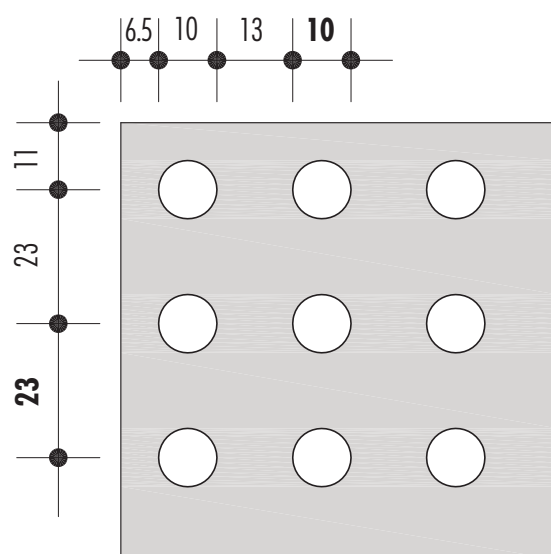
Thickness (mm)	Width (mm)	Length (mm)	Weight* (kg/m ²)	Open Area (%)
12.5	1200	2000	9.6	18.1

CIRCULAR 6/18 R



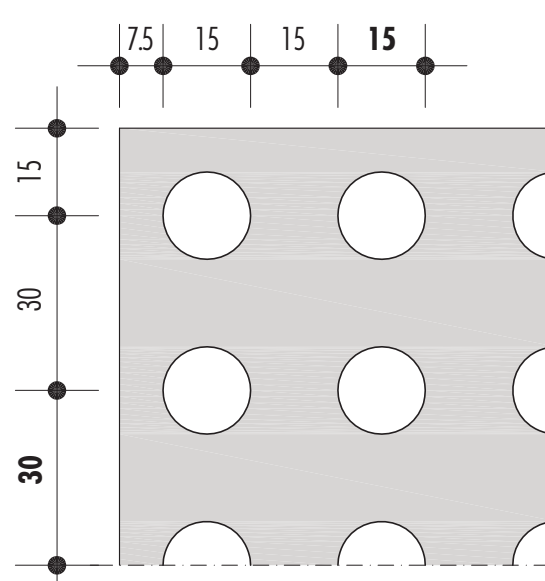
Thickness (mm)	Width (mm)	Length (mm)	Weight* (kg/m ²)	Open Area (%)
12.5	1188	1998	10.7	8.7

CIRCULAR 10/23 R



Thickness (mm)	Width (mm)	Length (mm)	Weight* (kg/m ²)	Open Area (%)
12.5	1196	2001	9.9	14.8

CIRCULAR 15/30 R



Thickness (mm)	Width (mm)	Length (mm)	Weight* (kg/m ²)	Open Area (%)
12.5	1200	1980	9.3	19.6

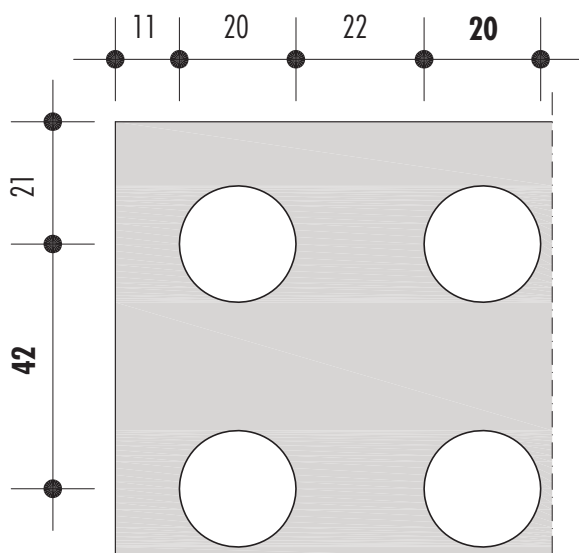
*Weights indicated are nominal

[^]Minimum quantities and lead times may apply

SPECIALTY RANGE

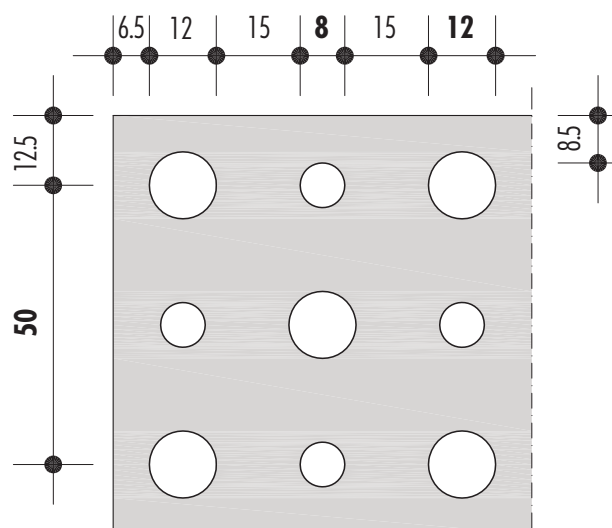
(Specialty range perforations are available to order[^])

CIRCULAR 20/42 R



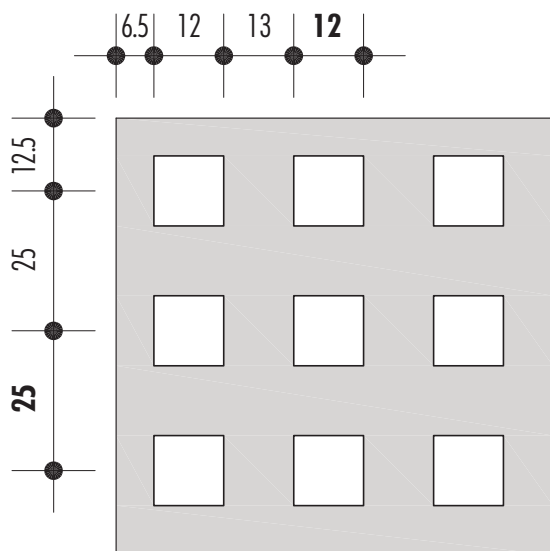
Thickness (mm)	Width (mm)	Length (mm)	Weight* (kg/m ²)	Open Area (%)
12.5	1176	1974	9.7	17.8

ALTERNATING CIRCULAR 8/12/50 R



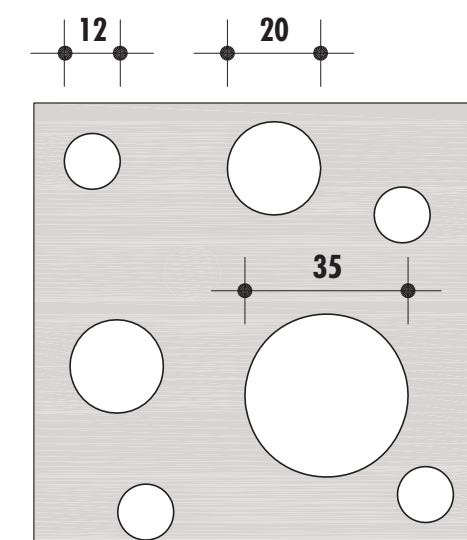
Thickness (mm)	Width (mm)	Length (mm)	Weight* (kg/m ²)	Open Area (%)
12.5	1200	2000	10.2	13.1

SQUARE 12/25 Q



Thickness (mm)	Width (mm)	Length (mm)	Weight* (kg/m ²)	Open Area (%)
12.5	1200	2000	9.2	23.0

RANDOM PLUS 12/20/35 R



Thickness (mm)	Width (mm)	Length (mm)	Weight* (kg/m ²)	Open Area (%)
12.5	1200	1875	10.5	9.8

*Weights indicated are nominal

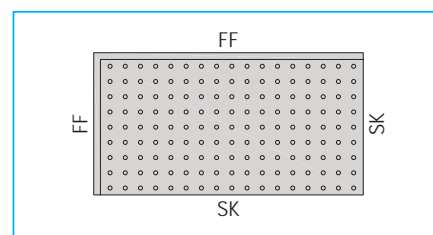
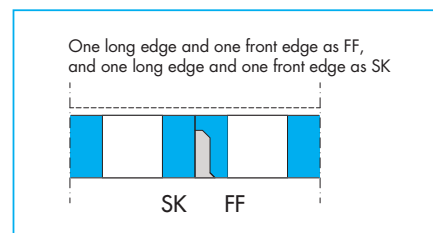
[^]Minimum quantities and lead times may apply

EDGE TYPE

FF Edge

The unique FF edge detail reduces the depth of the joint between boards and closes it on three sides. This leads to a stronger joint and optimises the consumption of filler.

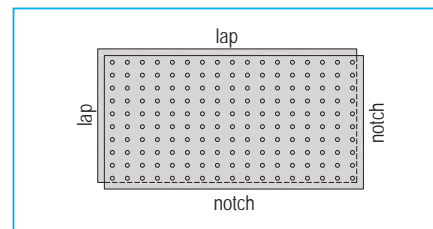
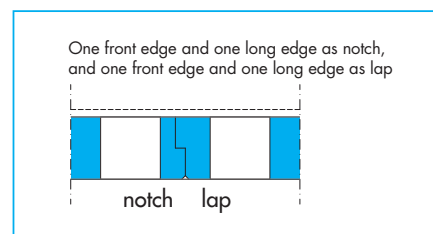
Continuous perforation patterns are available in FF edge. This means machined lip edges on one long and one short side, ensuring that the boards are straight and the perforation pattern aligns perfectly. FF edge is used when a totally jointless appearance is required. Joints are tapeless and virtually invisible when finished with Uniflott jointing.



Linear Edge

Linear edge offers the fastest installation for acoustic plasterboard, comes with bright white paper and does not need a sealer undercoat.

Linear edge is installed without jointing compounds, resulting in a 'micro' 1 mm bevelled 'V' joint all around each sheet. Linear edge Stratopanel has a lap and notch cut edge on one long and one short side allowing for a precise fit. This 'V' joint becomes almost invisible when painted. As no joint setting is required linear edge boards are easily removable and reusable.



Design	Perforation pattern	Perforation ratio (%)	Board dimensions		Edge type	
			Width mm	Length mm	FF	Linear
Standard						
Circular R	8/18 R	15.5	1188	1998	•	○
	12/25 R	18.1	1200	2000	•	○
Square Q	8/18 Q	19.8	1188	1998	•	
Alternating Circular R	12/20/66 R	19.6	1188	1980	•	○
Random PLUS R	8/15/20 R	9.9	1200	1875	•	
Specialty						
Circular R	6/18 R	8.7	1188	1998	○	
	10/23 R	14.8	1196	2001	○	○
	15/30 R	19.6	1200	1980	○	
	20/42 R*	17.8	1176	1974		
Square Q	12/25 Q	23.0	1200	2000	○	○
Alternating Circular R	8/12/50 R	13.1	1200	2000	○	
Random PLUS R	12/20/35 R	9.8	1200	1875	○	

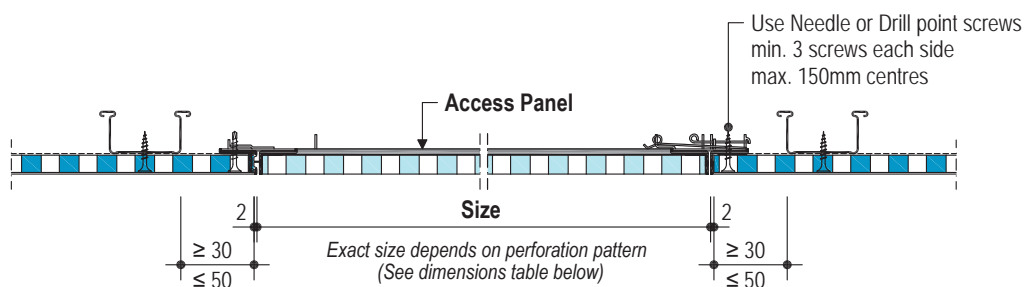
• Standard stock ○ Available to order minimum quantities and lead times apply

*20/42R is only available in a 4xSK (square) edge

ACCESS PANEL

Stratopanel Access Panels are designed specifically for Stratopanel wall and ceiling linings. A range of patterns and sizes matched to the Stratopanel perforations to maintain a seamless finish over access points in the wall or ceiling system.

600 x 600 Stratopanel access panels are stocked for the standard perforation patterns. Other sizes and patterns are available to order.




ACCESS PANEL DIMENSIONS

Perforation pattern		Access panel size in mm						
		approx. 200x200	approx. 300x300	approx. 400x400	approx. 500x500	approx. 600x600	approx. 700x700	approx. 800x800
Standard								
Circular R	8/18 R	217 x 217	307 x 307	415 x 415	505 x 505	613 x 613•	703 x 703	811 x 811
	12/25 R	201 x 201	301 x 301	401 x 401	501 x 501	601 x 601•	701 x 701	801 x 801
Square Q	8/18 Q	217 x 217	307 x 307	415 x 415	505 x 505	613 x 613•	703 x 703	811 x 811
Alternating Circular R	12/20/66 R	265 x 265	331 x 331	463 x 463	529 x 529	661 x 661•	727 x 727	793 x 793
Specialty								
Circular R	6/18 R	217 x 217	307 x 307	415 x 415	505 x 505	613 x 613	703 x 703	811 x 811
	10/23 R	208 x 208	300 x 300	415 x 415	507 x 507	622 x 622	714 x 714	806 x 806
	15/30 R	211 x 211	301 x 301	421 x 421	511 x 511	601 x 601	721 x 721	811 x 811
	20/42 R	211 x 211	337 x 337	421 x 421	505 x 505	631 x 631	715 x 715	799 x 799
Square Q	12/25 Q	201 x 201	301 x 301	401 x 401	501 x 501	601 x 601	701 x 701	801 x 801
Alternating Circular R	8/12/50 R	200 x 200	300 x 300	400 x 400	500 x 500	600 x 600	700 x 700	800 x 800

• Standard stock (other sizes and patterns available to order - minimum quantities and lead times apply)
[Stratopanel opening = Access panel size + 4mm]

ACCESSORIES

<p>UNIFLOTT JOINTING COMPOUND</p> <p>Uniflott is a jointing compound used to deliver a strong, seamless finish.</p> <p>Uniflott must be used for the installation of Stratopanel. As an approximate guide a 5 kg bag will cover 50 m² of installed Stratopanel (FF edge).</p>	
<p>Wide Furring Channel</p> <p>Furring channel with a wide fixing face (>48mm). Should be used at all short edge joints.</p>	
<p>PVA Based Primer</p> <p>Prime cut edges of Stratopanel and plasterboard strips with PVA based primer, prior to jointing with Uniflott.</p>	
<p>Cap Screws</p> <p>Screw and cap for easy fixing of boards with round perforations. Cap Screws remove the need for setting screw heads, with screw fixings hidden in round perforations holes which improves the appearance of the final finish. Available in 8, 10 and 12mm diameter. 32 caps required per sheet.</p>	
<p>Jet Spatula with Raised Edge</p> <p>Very useful tool for 'chipping' off excess filler from joints once Uniflott hardens. This helps to reduce damage to perforations.</p>	
<p>Jet Trowel with Punch</p> <p>Trowel which can be used to easily patch screw heads in Stratopanel with finishing compound, providing a neat finish.</p>	

Performance

AIR CLEANING

The quality of the air we breathe has a profound effect on human health and wellbeing.

Apart from just being generally unpleasant, poor air quality in buildings can lead to headaches, fatigue and concentration problems. Studies show that we spend up to 90% of our time indoors, so it's vitally important that we maintain the quality of the air in buildings. But the air in many public and private buildings is heavily contaminated with toxic compounds and unpleasant odours and the problem isn't confined to offices and residential buildings. Many schools suffer from very poor indoor air quality, which can impact the concentration and performance of students. The air in hospitals can also be contaminated and despite so much care being taken to keep wards and operating theatres clean, patients can be exposed to health risks from breathing contaminated air.

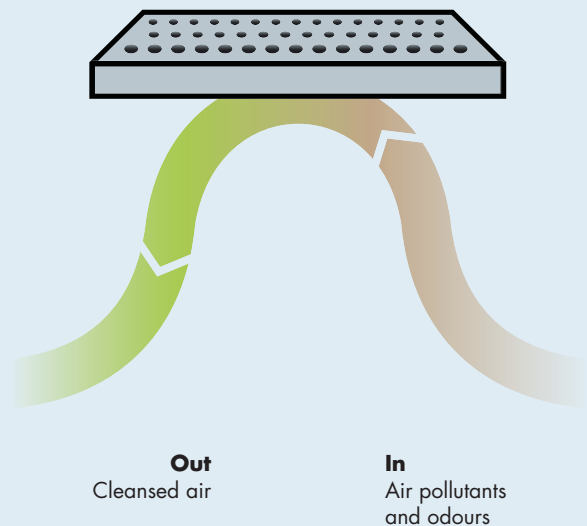
Everyday substances including paints and lacquers, cleaning and fabric-care products, perfumes, hair sprays, glues and solvents all create potentially harmful emissions, including a family of chemicals called Volatile Organic Compounds (VOCs), which have been linked to allergies, asthma and even cancer.

Computers and electronic equipment further contribute to the problem. Even the very materials that the building's made of can release pollutants, from plywood or particleboard to foam insulation and other materials. It's an unsettling thought that the room you're sitting in right now, may be silently exhaling a mixture of toxins, including formaldehyde, benzene and trichloroethylene, into the air that you're breathing.

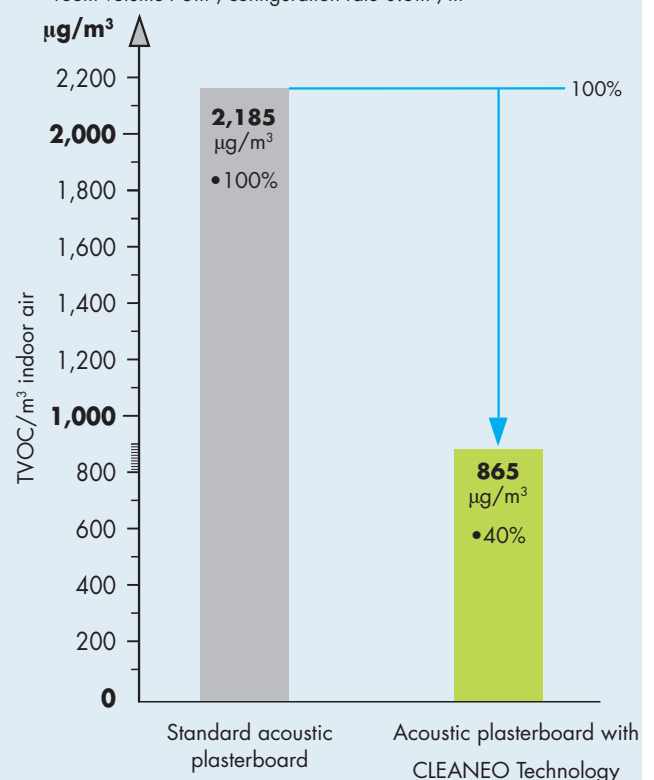
To make matters worse, in a bid to maximise energy efficiency, many new buildings are effectively airtight cells. As well as effectively containing heat, some modern buildings can trap pollutants, allowing the contaminants to build up.

In most commercial buildings, ceilings and walls provide the greatest surface area interacting with indoor air. When the ceiling or walls are lined with Stratopanel with CLEANEO Technology, cleaner air and a major impact on wellbeing can be achieved.

How CLEANEO Technology Works



Example*: **Reduction TVOC in room for smokers** comparing measurements with samples from passive accumulations, room volume 75m³, configuration rate 0.3m²/m³



*Source: Stuttgart College of Technology with supporting measurements and tests undertaken by Stuttgart Central Laboratory, University of Kaiserslautern and others.

HOW IT WORKS

CLEANEO Technology is derived from a natural volcanic rock called Zeolite. Stratopanel contains zeolite which absorbs and eliminates a host of environmental air pollutants including VOCs such as formaldehyde. As the air streams through the perforations in the Stratopanel, unpleasant pollutants are removed, leaving the air cleaner. And the CLEANEO effect continues to improve air quality long after installation.

With a three dimensional pore system and pore diameters of less than one millionth of a millimetre, the zeolites help create a gigantic inner surface layer

which acts as a naturally occurring 'sieve' capable of capturing and removing gas and liquid impurities from the air.

Independent laboratory tests at the Fraunhof Institute for Building Physics in Germany highlight the effectiveness of CLEANEO products demonstrating a significant reduction in the number of airborne pollutants including tobacco smoke, triethylamine, ammonia, formaldehyde, benzene, aromatic hydrocarbons and chlorinated hydrocarbons.

ACOUSTIC PERFORMANCE

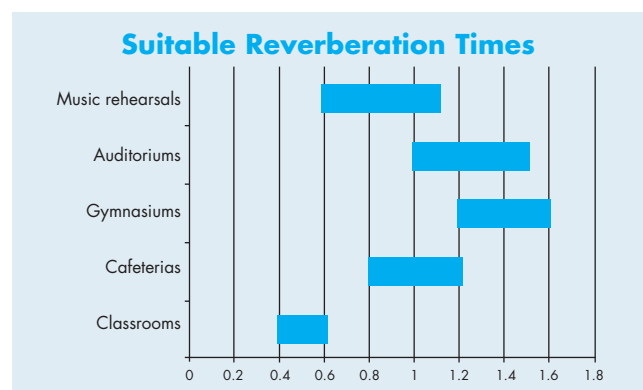
Whilst Stratopanel has unique air purifying capabilities, its main function is as an acoustic lining.

When designing restaurants, offices, hospitals and other public buildings, good acoustics help create a comfortable environment. In a classroom it is important that low frequencies are well absorbed, so that excessive noise does not distract the pupils from learning. At the same time, the high consonant frequency range should be well reflected since this is essential for good speech intelligibility.

In restaurants large glass facades and hard materials on floors and walls amplify the noise, therefore it is important, even in lively restaurants, to spread and dampen the sound in selected places. The degree to which sound is reflected or absorbed can be described by "reverberation time", i.e. echo within a room. The α_w rating, or NRC to a more limited extent, of a product describes how well it absorbs sound and therefore controls the reverberation time. Well-designed acoustic products absorb sound evenly across the

frequency range, therefore no area of the frequency range has low sound absorption and high reverberation. By using Stratopanel, it is not necessary to compromise acoustic performance.

Stratopanel lining has excellent sound absorption values across the frequency range and achieves an α_w or NRC rating of up to 0.8*, depending on the choice of pattern, use of Knauf insulation and the void depth. The ideal reverberation time depends on the use of the space and the graph below highlights some suggested reverberation times (in seconds) to optimise the acoustic environment.



*Square pattern 12/25 Q, 65 or 112.5mm cavity with 50mm EarthWool (min 14kg/m³)



► To find out more about acoustics in schools, hospitals, workplaces or restaurants - download our acoustic design ebooks at knaufplasterboard.com.au or contact our Technical team for further advice.

Acoustic Performance

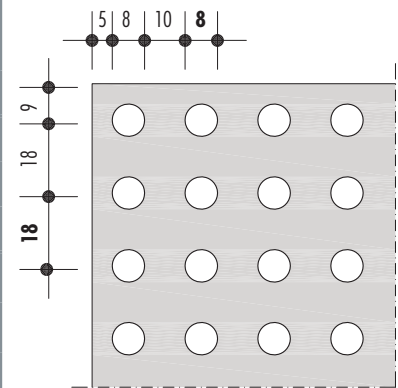
STANDARD RANGE

CIRCULAR 8/18 R

Furring Channel Centres: 333mm

	Ceiling Cavity (mm)	α_p Frequency (Hz)						α_w	NRC
		125	250	500	1000	2000	4000		
Without Insulation	65	0.15	0.3	0.6	0.75	0.65	0.6	0.6	0.6
	200	0.45	0.6	0.7	0.6	0.55	0.65	0.6	0.6
	400	0.55	0.65	0.6	0.6	0.55	0.65	0.6	0.6
50mm EarthWool 14 kg/m ³ or 75mm EarthWool 11 kg/m ³	65	0.35	0.55	0.7	0.75	0.65	0.65	0.7	0.65
	200	0.5	0.65	0.7	0.65	0.6	0.7	0.65	0.65
	400	0.55	0.65	0.6	0.7	0.6	0.65	0.65	0.65

Open Area: 15.5%

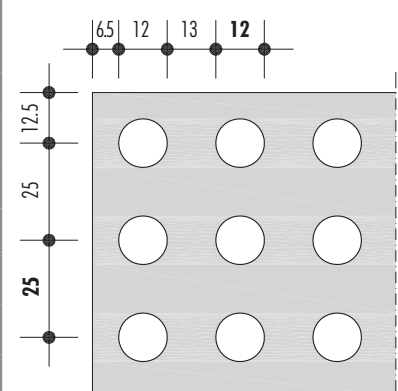


CIRCULAR 12/25 R

Furring Channel Centres: 333.3mm

	Ceiling Cavity (mm)	α_p Frequency (Hz)						α_w	NRC
		125	250	500	1000	2000	4000		
Without Insulation	65	0.15	0.3	0.6	0.8	0.7	0.55	0.6	0.6
	200	0.45	0.65	0.75	0.65	0.6	0.6	0.65	0.65
	400	0.55	0.7	0.65	0.65	0.6	0.6	0.65	0.65
50mm EarthWool 14 kg/m ³ or 75mm EarthWool 11 kg/m ³	65	0.3	0.55	0.75	0.8	0.7	0.6	0.75	0.7
	200	0.5	0.7	0.75	0.7	0.65	0.65	0.7	0.7
	400	0.55	0.65	0.7	0.75	0.65	0.65	0.7	0.7

Open Area: 18.1%

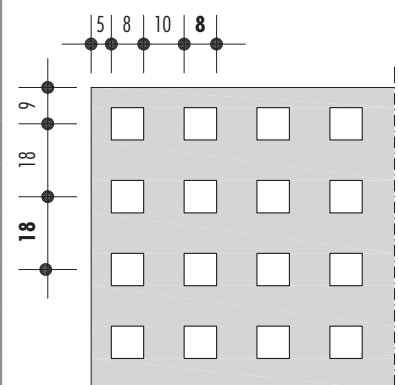


SQUARE 8/18 Q

Furring Channel Centres: 333mm

	Ceiling Cavity (mm)	α_p Frequency (Hz)						α_w	NRC
		125	250	500	1000	2000	4000		
Without Insulation	65	0.1	0.3	0.6	0.8	0.7	0.65	0.6	0.6
	200	0.45	0.65	0.75	0.65	0.6	0.7	0.65	0.65
	400	0.55	0.7	0.65	0.65	0.6	0.7	0.65	0.65
50mm EarthWool 14 kg/m ³ or 75mm EarthWool 11 kg/m ³	65	0.3	0.55	0.8	0.8	0.7	0.75	0.75	0.7
	200	0.55	0.7	0.75	0.7	0.7	0.75	0.75	0.7
	400	0.6	0.7	0.7	0.75	0.7	0.75	0.75	0.7

Open Area: 19.8%

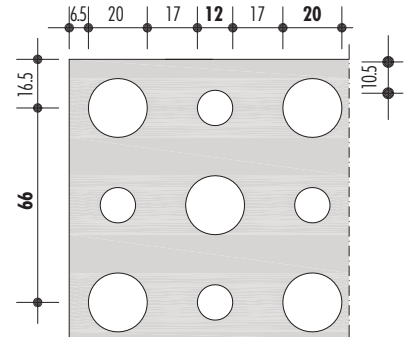


ALTERNATING CIRCULAR 12/20/66 R

Furring Channel Centres: 330mm

	Ceiling Cavity (mm)	α_p Frequency (Hz)						α_w	NRC
		125	250	500	1000	2000	4000		
Without Insulation	65	0.1	0.3	0.6	0.8	0.6	0.55	0.6	0.6
	200	0.45	0.65	0.8	0.65	0.5	0.6	0.6	0.65
	400	0.6	0.7	0.65	0.65	0.55	0.6	0.65	0.65
50mm EarthWool 14 kg/m ³ or 75mm EarthWool 11 kg/m ³	65	0.3	0.55	0.8	0.85	0.6	0.65	0.7	0.7
	200	0.55	0.7	0.8	0.75	0.6	0.65	0.7	0.7
	400	0.6	0.7	0.7	0.8	0.6	0.65	0.7	0.7

Open Area: 19.6%

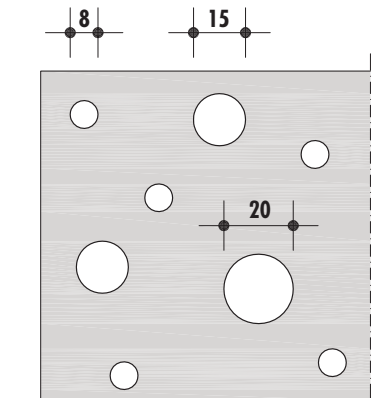


RANDOM PLUS 8/15/20 R

Furring Channel Centres: 312.5mm

	Ceiling Cavity (mm)	α_p Frequency (Hz)						α_w	NRC
		125	250	500	1000	2000	4000		
Without Insulation	65	0.15	0.3	0.5	0.6	0.45	0.45	0.5	0.45
	200	0.4	0.5	0.55	0.5	0.4	0.45	0.5	0.5
	400	0.45	0.5	0.5	0.5	0.4	0.45	0.5	0.5
50mm EarthWool 14 kg/m ³ or 75mm EarthWool 11 kg/m ³	65	0.35	0.45	0.55	0.55	0.4	0.45	0.5	0.5
	200	0.45	0.5	0.55	0.5	0.4	0.5	0.5	0.5
	400	0.45	0.5	0.5	0.55	0.45	0.45	0.5	0.5

Open Area: 9.9%



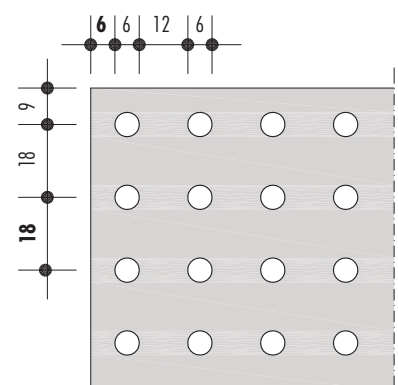
SPECIALITY RANGE

CIRCULAR 6/18 R

Furring Channel Centres: 333mm

	Ceiling Cavity (mm)	α_p Frequency (Hz)						α_w	NRC
		125	250	500	1000	2000	4000		
Without Insulation	65	0.2	0.3	0.45	0.55	0.45	0.45	0.5	0.45
	200	0.4	0.45	0.5	0.45	0.4	0.5	0.45	0.45
	400	0.4	0.45	0.45	0.45	0.45	0.5	0.45	0.45
50mm EarthWool 14 kg/m ³ or 75mm EarthWool 11 kg/m ³	65	0.35	0.45	0.5	0.5	0.45	0.5	0.5	0.5
	200	0.4	0.45	0.5	0.45	0.45	0.5	0.5	0.45
	400	0.4	0.45	0.45	0.5	0.45	0.5	0.5	0.45

Open Area: 8.7%



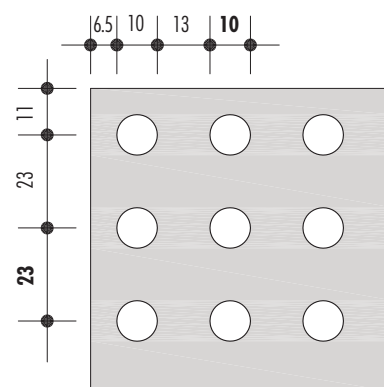
SPECIALITY RANGE

CIRCULAR 10/23 R

Furring Channel Centres: 333.5mm

	Ceiling Cavity (mm)	α_p Frequency (Hz)						α_w	NRC
		125	250	500	1000	2000	4000		
Without Insulation	65	0.15	0.3	0.6	0.7	0.65	0.6	0.6	0.55
	200	0.45	0.6	0.65	0.6	0.55	0.6	0.6	0.6
	400	0.55	0.65	0.6	0.6	0.55	0.6	0.6	0.6
50mm EarthWool 14 kg/m ³ or 75mm EarthWool 11 kg/m ³	65	0.35	0.55	0.7	0.7	0.6	0.65	0.7	0.65
	200	0.5	0.65	0.7	0.65	0.6	0.65	0.65	0.65
	400	0.55	0.65	0.6	0.65	0.6	0.65	0.65	0.65

Open Area: 14.8%

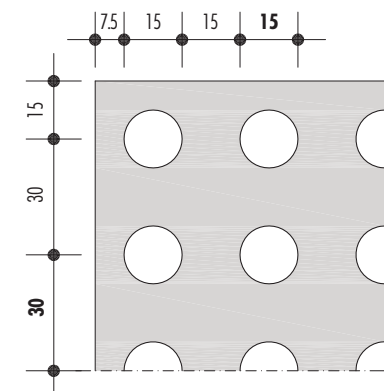


CIRCULAR 15/30 R

Furring Channel Centres: 330mm

	Ceiling Cavity (mm)	α_p Frequency (Hz)						α_w	NRC
		125	250	500	1000	2000	4000		
Without Insulation	65	0.15	0.3	0.6	0.8	0.65	0.6	0.6	0.6
	200	0.45	0.65	0.75	0.65	0.6	0.6	0.65	0.65
	400	0.55	0.7	0.65	0.65	0.6	0.6	0.65	0.65
50mm EarthWool 14 kg/m ³ or 75mm EarthWool 11 kg/m ³	65	0.3	0.55	0.8	0.8	0.65	0.65	0.75	0.7
	200	0.5	0.7	0.75	0.7	0.65	0.65	0.7	0.7
	400	0.55	0.7	0.65	0.75	0.65	0.65	0.7	0.7

Open Area: 19.6%

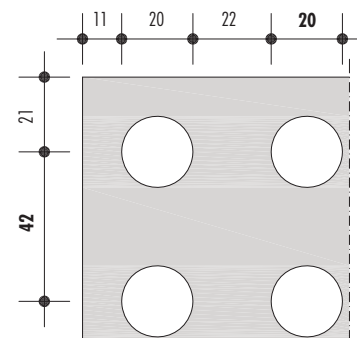


CIRCULAR 20/42 R

Furring Channel Centres: 329.3mm

	Ceiling Cavity (mm)	α_p Frequency (Hz)						α_w	NRC
		125	250	500	1000	2000	4000		
Without Insulation	65	0.15	0.3	0.6	0.75	0.5	0.5	0.55	0.55
	200	0.5	0.65	0.75	0.6	0.45	0.55	0.55	0.6
	400	0.55	0.7	0.7	0.6	0.5	0.55	0.6	0.65
50mm EarthWool 14 kg/m ³ or 75mm EarthWool 11 kg/m ³	65	0.3	0.55	0.8	0.8	0.5	0.55	0.6	0.65
	200	0.55	0.7	0.8	0.7	0.5	0.6	0.6	0.7
	400	0.55	0.65	0.7	0.75	0.5	0.6	0.6	0.65

Open Area: 17.8%

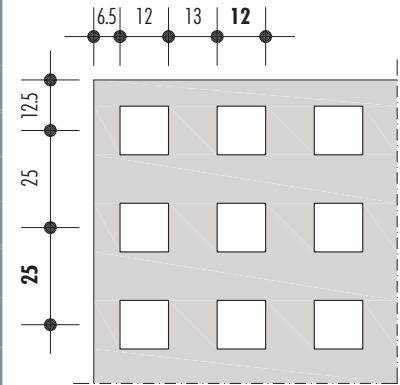


SQUARE 12/25 Q

Furring Channel Centres: 333.3mm

	Ceiling Cavity (mm)	α_p Frequency (Hz)						α_w	NRC
		125	250	500	1000	2000	4000		
Without Insulation	65	0.1	0.3	0.6	0.8	0.75	0.6	0.6	0.6
	200	0.5	0.7	0.8	0.7	0.65	0.65	0.7	0.7
	400	0.6	0.75	0.65	0.7	0.65	0.6	0.7	0.7
50mm EarthWool 14 kg/m ³ or 75mm EarthWool 11 kg/m ³	65	0.3	0.6	0.85	0.9	0.75	0.7	0.8	0.8
	200	0.55	0.75	0.8	0.75	0.75	0.75	0.8	0.75
	400	0.6	0.75	0.7	0.8	0.75	0.7	0.75	0.75

Open Area: 23.0%

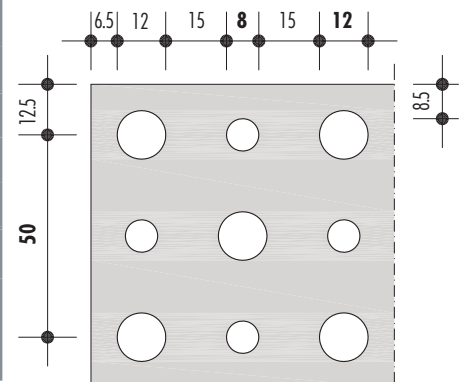


ALTERNATING CIRCULAR 8/12/50 R

Furring Channel Centres: 333.3mm

	Ceiling Cavity (mm)	α_p Frequency (Hz)						α_w	NRC
		125	250	500	1000	2000	4000		
Without Insulation	65	0.15	0.3	0.6	0.7	0.6	0.5	0.6	0.55
	200	0.45	0.6	0.65	0.6	0.5	0.55	0.6	0.6
	400	0.55	0.65	0.6	0.6	0.55	0.55	0.6	0.6
50mm EarthWool 14 kg/m ³ or 75mm EarthWool 11 kg/m ³	65	0.35	0.55	0.7	0.7	0.6	0.5	0.65	0.65
	200	0.5	0.65	0.65	0.65	0.55	0.55	0.65	0.65
	400	0.55	0.65	0.6	0.65	0.55	0.55	0.6	0.6

Open Area: 13.1%

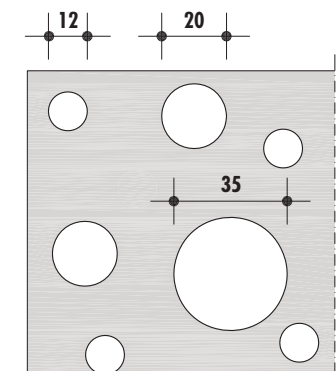


RANDOM PLUS 12/20/35 R

Furring Channel Centres: 312.5mm

	Ceiling Cavity (mm)	α_p Frequency (Hz)						α_w	NRC
		125	250	500	1000	2000	4000		
Without Insulation	65	0.15	0.3	0.55	0.55	0.4	0.35	0.45	0.45
	200	0.4	0.5	0.6	0.45	0.35	0.35	0.45	0.45
	400	0.45	0.55	0.55	0.45	0.35	0.35	0.45	0.5
50mm EarthWool 14 kg/m ³ or 75mm EarthWool 11 kg/m ³	65	0.35	0.5	0.65	0.55	0.35	0.35	0.45	0.5
	200	0.45	0.55	0.6	0.5	0.35	0.4	0.45	0.5
	400	0.45	0.5	0.55	0.5	0.35	0.4	0.45	0.5

Open Area: 9.8%



Care and Use



SAFETY

Stratopanel with CLEANEO Technology is not classified as hazardous according to the criteria of the National Occupational Health and Safety Commission (NOHSC). It is non-toxic and non-flammable.

Material Safety Data Sheets (MSDS) for Stratopanel with CLEANEO Technology are available at **knaufplasterboard.com.au** or by calling **1300 724 505**.

HANDLING, DELIVERY AND STORAGE

To ensure Stratopanel remains in the best condition prior to installation it is important to follow these key recommendations. Generally the board should be protected from any damage or conditions which could affect the final appearance or performance.

- Stratopanel must be kept dry and should be stacked clear of the floor, fully protected from the weather and delivered to sites when lock up stage is complete.

- To reduce the possibility of damage, delivery to site should occur immediately before installation.
- Care should be taken not to damage edges or the surface of the board.
- Exposure to excessive humidity during storage can result in plasterboard becoming damp and soft, and may appear defective. In this case the plasterboard should be allowed to dry out and handled with care during installation.
- Linear edge Stratopanel is UV resistant and will not become discoloured if exposed to direct sunlight or fixed and left standing unpainted for long periods.



To help protect plasterboard from absorbing humidity:

- Avoid open sources of water such as wet floors
- Wrap the plasterboard with plastic
- Provide ventilation
- Install soon after delivery
- Install during dry weather for best results.

Installation

GENERAL REQUIREMENTS

Install control joints in plasterboard ceilings at:

- 12m maximum intervals
- All control joints in the structure
- Any change in the substrate material
- At the junction of a large room and passageway

Separate plasterboard from building elements made with other materials, such as columns by creating control joints that allow for movement, e.g. utilising a shadow line profile.

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

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

Do not rigidly fix Stratopanel to the perimeter.

FRAMING

- Cut Top Cross Rail (TCR) and furring channel to leave 20mm expansion gaps at each wall
- Stagger joints in TCR and furring channel by 1200mm
- Install additional framing members around openings
- Fix short edges of Stratopanel boards to wide furring channel.

Do not fix Stratopanel directly to timber joists.



➤ Steel framed ceiling systems must be designed by an engineer according to the relevant Australian Standard.

- Framing members in this section are designed using a furring channel system.

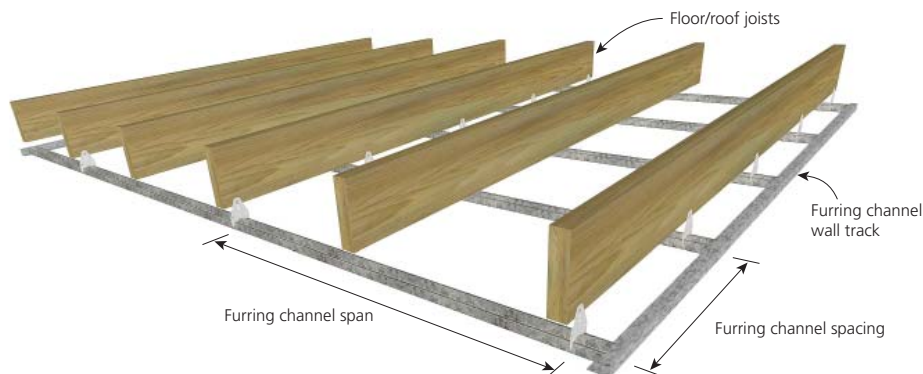
SPAN (FRAMING CENTRES) FOR STRATOPANEL STANDARD RANGE

Perforation	Furring Channel Spacing
Circular 8/18 R	333mm
Circular 12/25 R	333.3mm
Square 8/18 Q	333mm
Alternating Circular 12/20/66 R	330mm
Random Plus 8/15/20 R	312.5mm

SPAN (FRAMING CENTRES) FOR STRATOPANEL SPECIALTY RANGE

Perforation	Furring Channel Spacing
Circular 6/18 R	333mm
Circular 10/23 R	333.5mm
Circular 15/30 R	330mm
Circular 20/42 R	329.3mm
Square 12/25 Q	333.3mm
Alternating Circular 8/12/50 R	333.3mm
Random Plus 12/20/35 R	312.5mm

FIGURE 1 Furring Channel Span and Spacing



MAXIMUM SPAN OF FURRING CHANNEL

Plasterboard	28mm Furring Channel (AFC28) at 333mm max. spacing	
	Single Span (mm)	2 - or - more Spans (mm)
1 layer of 12.5mm Stratopanel	1350	1670

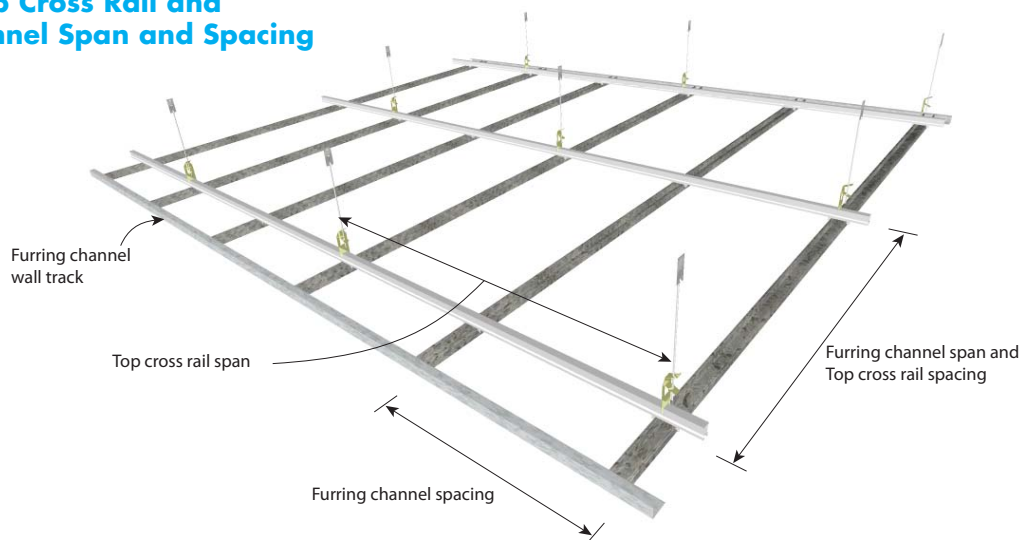
¹ Fix short edges of Stratopanel to wide furring channel.

² If furring channel track is not used, the furring channel must be supported 200mm from ends.

³ $W_{ultimate} = 0.5 \text{ kPa}$, Strength Load Case: $1.2G + W_u$.

⁴ $W_{serviceability} = 0.325 \text{ kPa}$, Serviceability Load Case 1: G [Limit is $L/600$], Serviceability Load Case 2: $G + W_s$ [Limit is $L/200$].

FIGURE 2 Top Cross Rail and Furring Channel Span and Spacing



SELECTED TOP CROSS RAIL (TCR) AND FURRING CHANNEL FRAMING OPTIONS

System	TCR span (mm)	TCR spacing (mm)	Demand per hanger (kN)
1 layer of 12.5mm Stratopanel with TCR 25	1200	950	1.28
1 layer of 12.5mm Stratopanel with TCR 30	1200	1150	1.55
1 layer of 12.5mm Stratopanel with TCR 38	1200	1200	1.62

¹ Fix short edges of Stratopanel to wide furring channel.

² If furring channel track is not used, the furring channel must be supported 200mm from ends.

³ 3 - or - more spans only.

⁴ $W_{ultimate} = 0.5 \text{ kPa}$, Strength Load Case: $1.2G + W_u$.

⁵ $W_{serviceability} = 0.325 \text{ kPa}$, Serviceability Load Case 1: G [Limit is $L/600$], Serviceability Load Case 2: $G + W_s$ [Limit is $L/200$].

⁶ Connections to be independently checked.

LAYOUT

- Start sheeting from the centre of the room. [Figure 3]
- Sheet ceilings perpendicular to framing members.
- All short edges must be over a wide furring channel (>48mm).

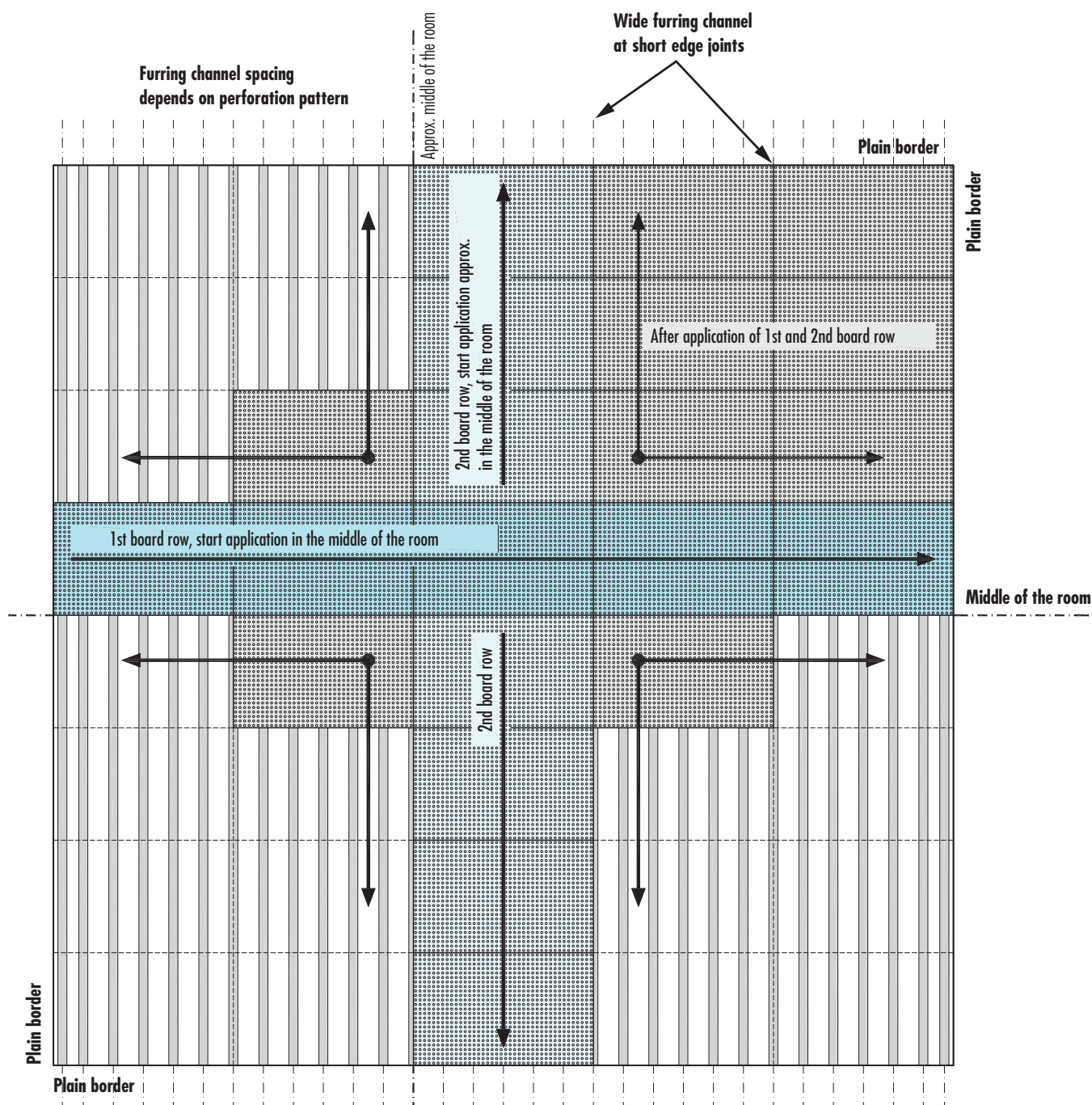


FIGURE 3 Installation Scheme

STRATOPANEL ALIGNMENT

- Place FF edge adjacent to SK edge along short and long edges. [Figure 4]
- Place linear notch edge adjacent to linear lap edge along short and long edges. [Figure 5]

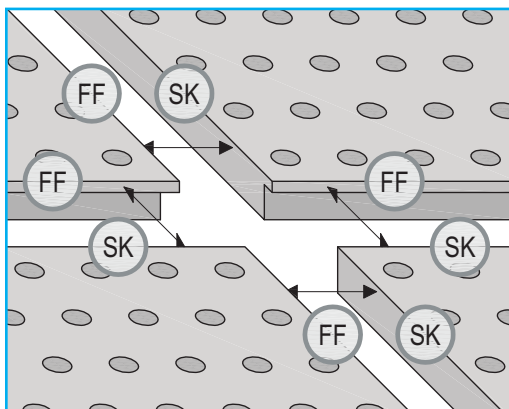


FIGURE 4 FF Edges Alignment

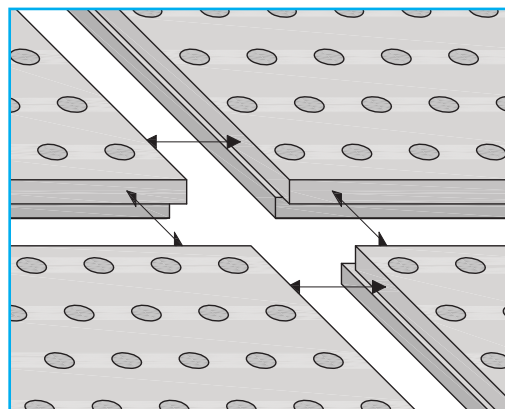


FIGURE 5 Linear Edges Alignment



Constantly check overall appearance of the ceiling via the straights and diagonals of the perforation rows during installation. [Figure 6]

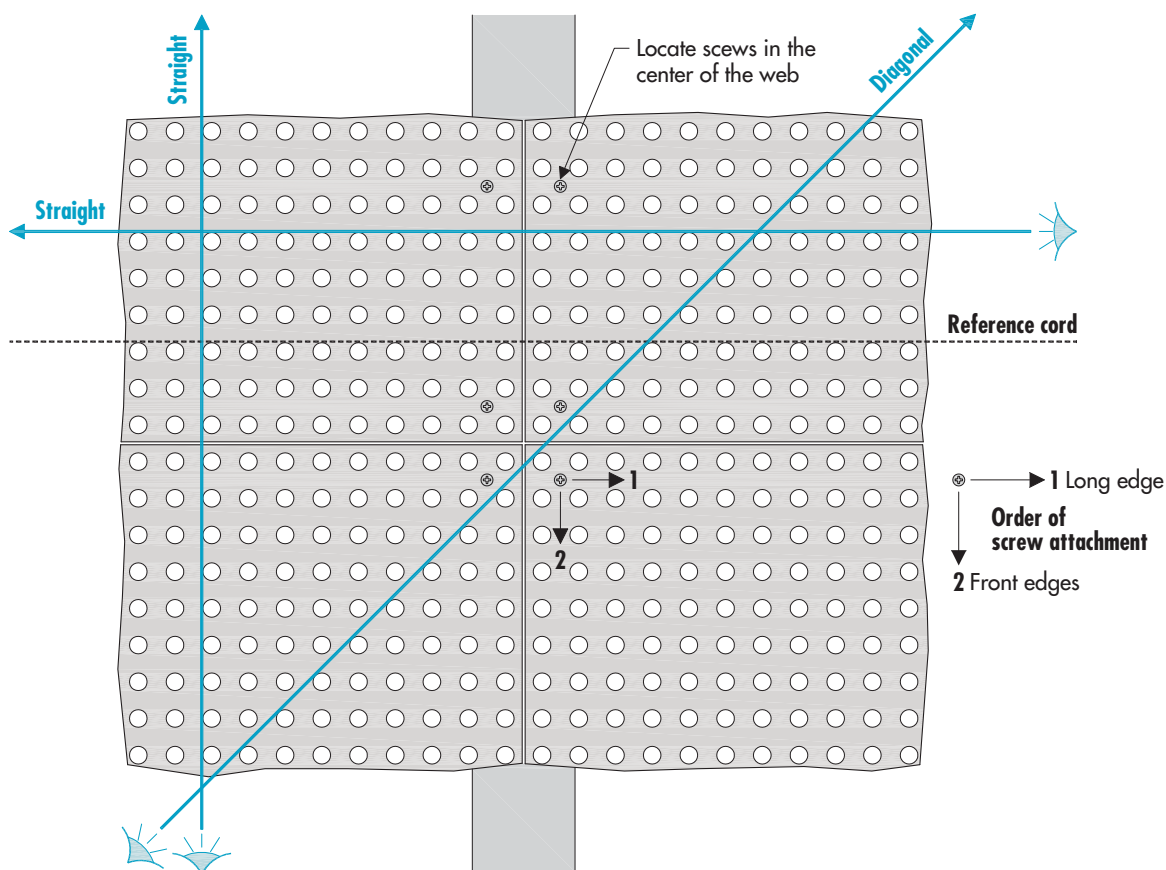


FIGURE 6 Board Application

FIXING

- Use fasteners only. Adhesive is not permitted.
- Use 25mm 6g plasterboard screws into metal furring channels.
- Drive fasteners to just below the sheet surface, taking care not to break the paper.
- Fix screws at 200mm maximum centres along the short edge and 300mm in the field of the boards.
- Press Stratopanel firmly on to the grid when screwing.
- Start fastening from the corner, where the board meets previously attached boards.
- Fasten long edge first and then short edge.

CAP SCREWS

- Use Cap Screws for easy installation in Stratopanel with 8, 10 and 12mm diameter round perforations [Figure 7].

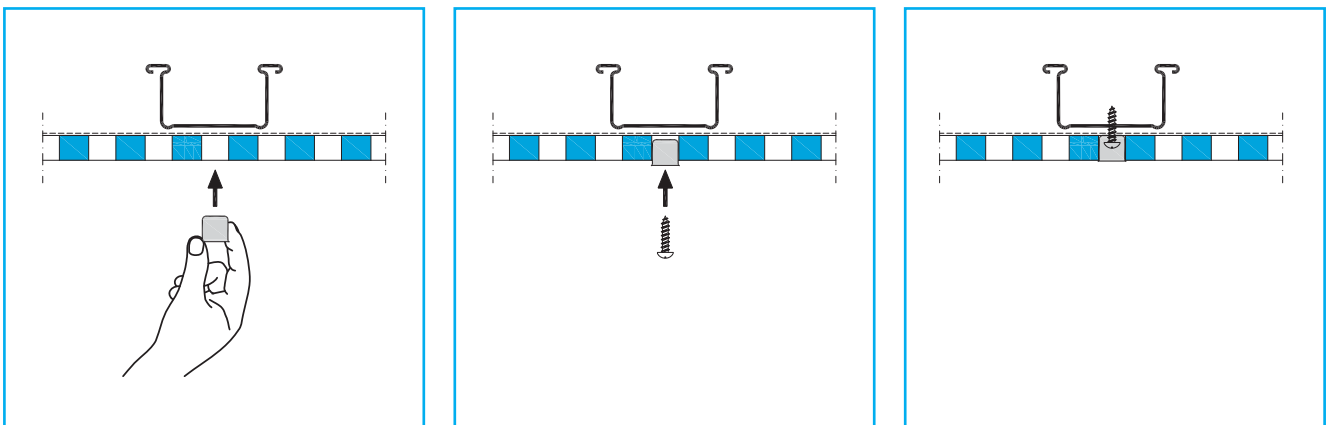


FIGURE 7 Cap Installation

ACCESS PANEL

- Mark out the opening in the Stratopanel board using the access panel frame or template on the box.
- If any furring channel is cut, reinforce the opening with extra furring channel. Leaving a minimum 50mm area around the hole perimeter to allow for the access panel frame - see *illustration*.
- Fix the Aluminium frame to the back of the Stratopanel.

No jointing is needed.

JOINTING AND FINISHING

FF EDGE

- Only use Uniflott for jointing.
- Use a wet brush to clean dust from joints after fixing the boards. *[Figure 8]*
- Prime site cut edges before jointing with PVA based primer.
- Mix Uniflott with clean water using a trowel (5 kg in approx. 2.4 L water).
- Fill joints fully with Uniflott using a caulking gun. *[Figure 9]*
- Scrape off excess Uniflott after hardening has begun (45 minutes in normal conditions). *[Figure 10]*
- Use MastaLite for finishing joints and screw heads. *[Figure 11 and 12]*

The edges of Stratopanel FF and Linear boards are already bevelled and primed off-the-shelf – only site cut edges require priming.

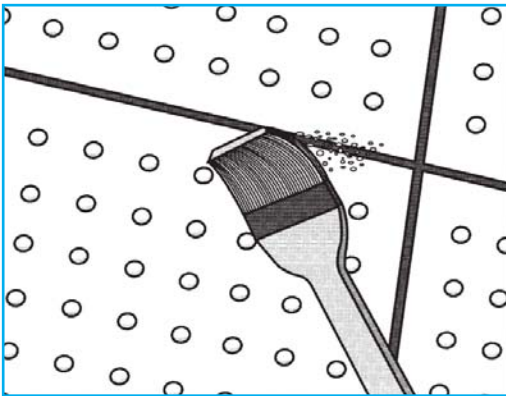


FIGURE 8 Cleaning of Joints

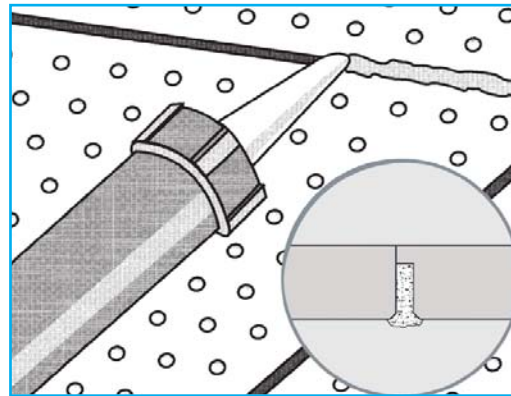


FIGURE 9 Joint Filling (with Uniflott)

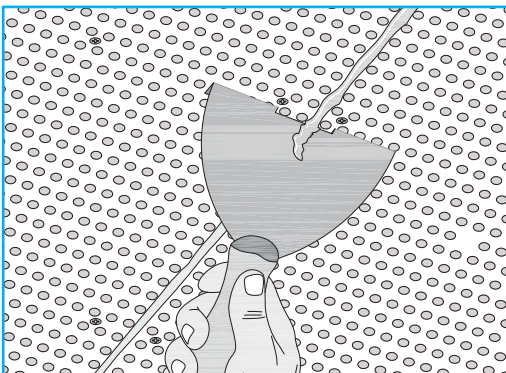


FIGURE 10 'Chipping' Off Excess Filler

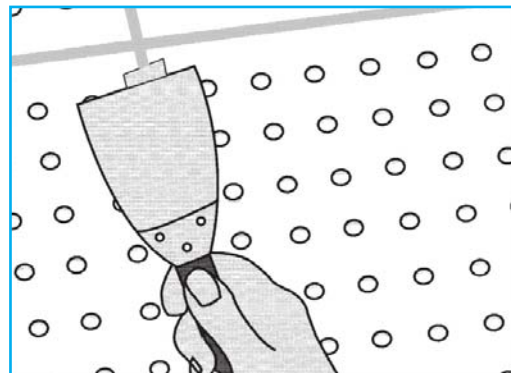
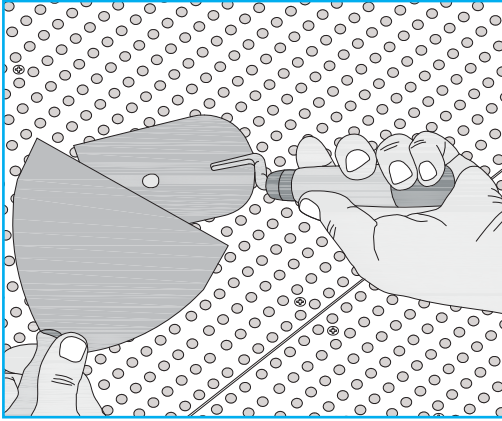


FIGURE 11 Finishing

LINEAR EDGE

- No jointing required. Fill screw heads with Mastalite or use screw caps. [Figure 12]



**FIGURE 12 Filling of Screw Heads
(if no Caps used)**

PAINTING

A three coat paint system must be applied in accordance with Australian Standard AS/NZS 2311, *Guide to the painting of buildings*. Both the quality of the paint and how it is applied have a large effect on the finished appearance of the plasterboard.

- Only use roller application for painting.
- Spray application of paint is not permitted.
- Follow the paint manufacturer's instructions for application.
- Apply the paint with a short napped roller and avoid the application of excess paint at any time.

Roller application applies a uniform texture over the entire surface and ensures the paint does not clog up the perforations or contact the acoustic felt on the back of the plasterboard.

Construction Details

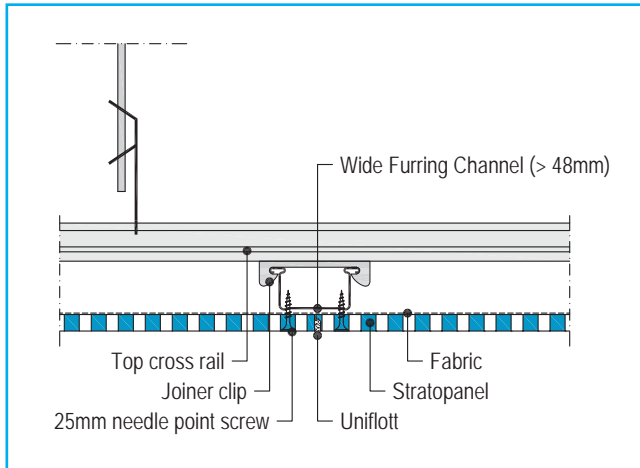


FIGURE 13 Short Edge Joint FF

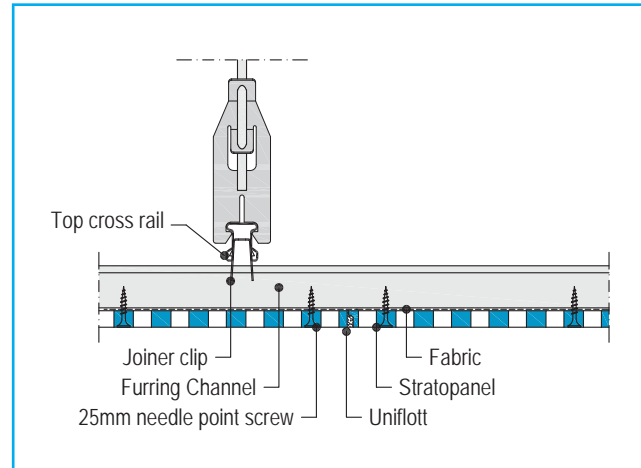


FIGURE 14 Long Edge Joint FF

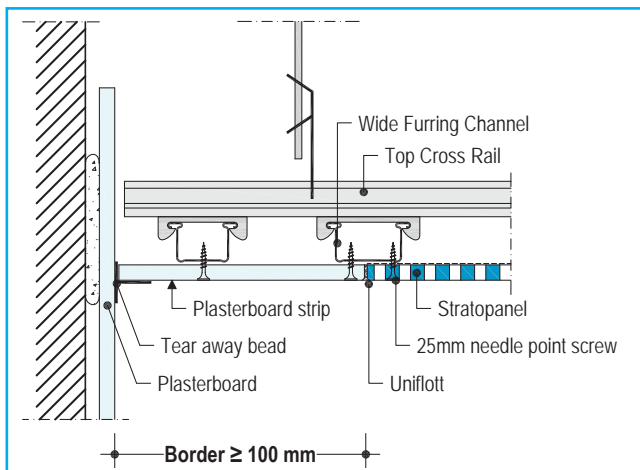


FIGURE 15 Connection to Wall

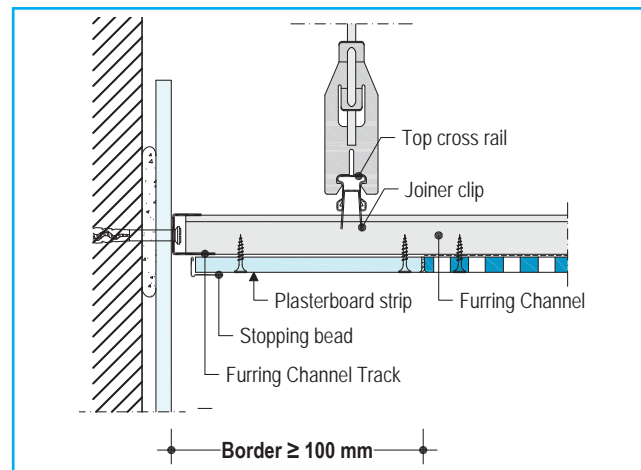


FIGURE 16 Connection to Wall with Exposed Joint

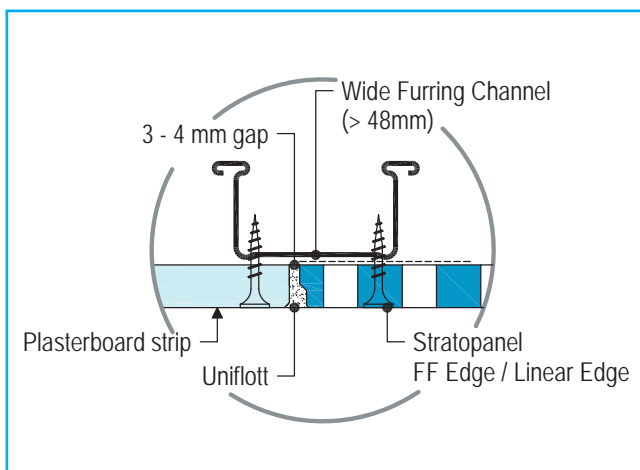


FIGURE 17 Connection to plain plasterboard with Stratopanel FF Edge / Linear Edge



Use techniques such as packers to ensure easy jointing of 12.5mm Stratopanel with 13mm MastaShield.

- Edge finishing options include: Casing beads, angles, flexible trim, tear away beads and shadowline beads.
- Prime the cut edges of Stratopanel and plasterboard strips with PVA based primer when Uniflott is used for jointing.

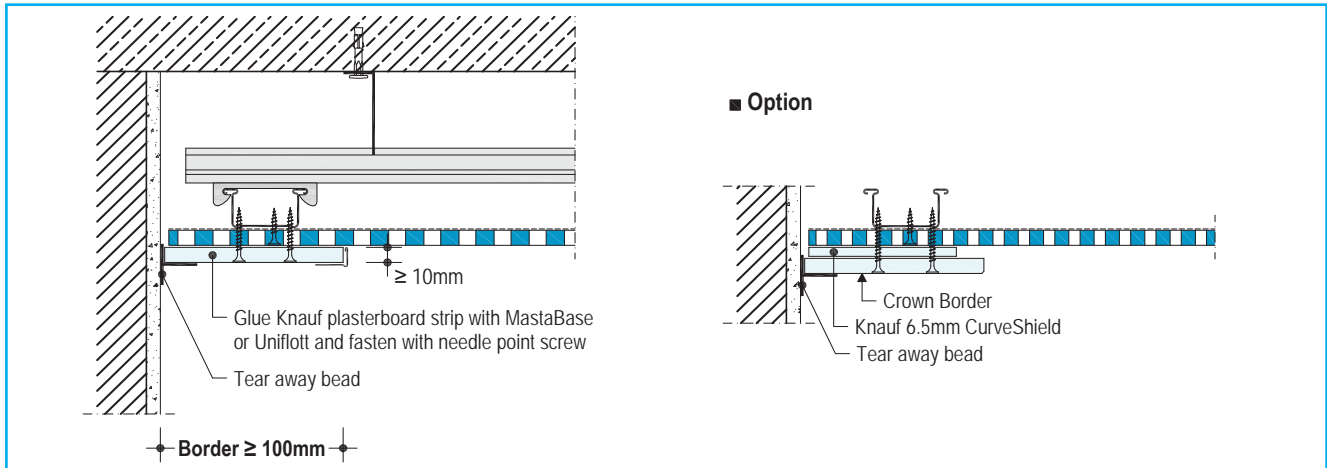


FIGURE 18 Crown Border

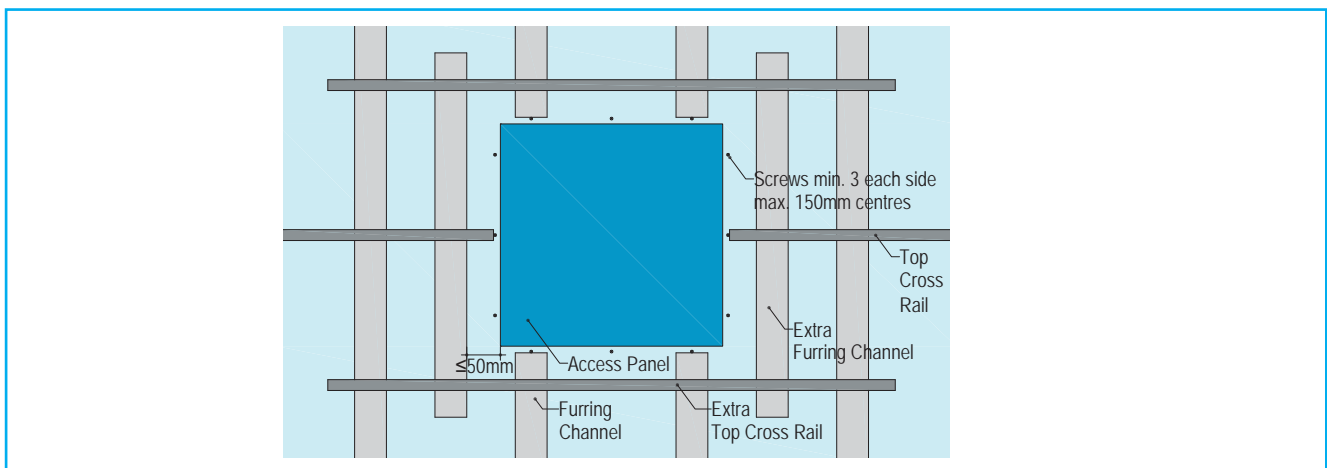


FIGURE 19 Access Panel Additional Framing

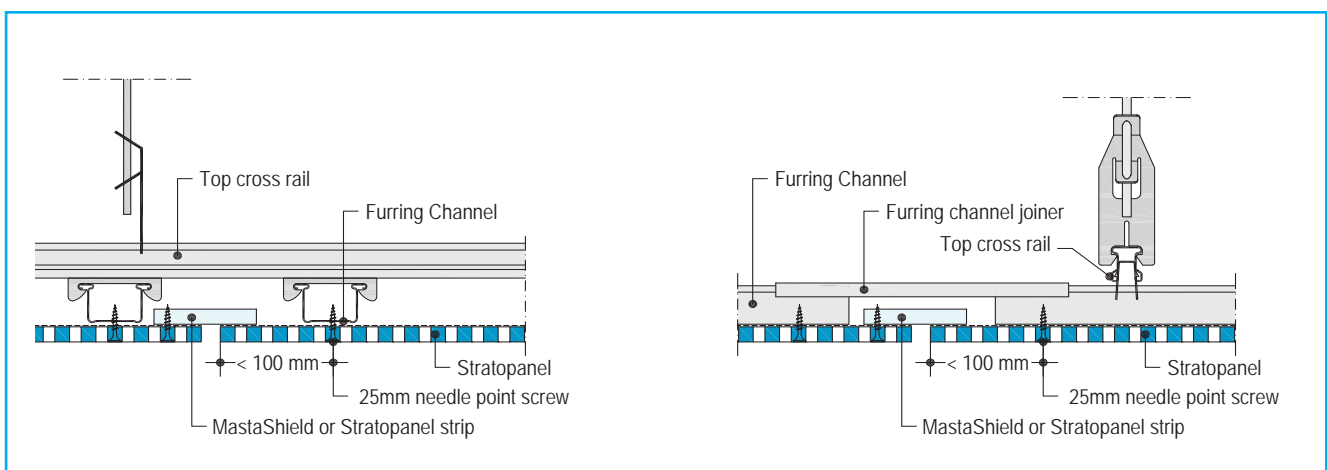


FIGURE 20 Stratopanel Control Joint



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