

Cinemas



 **SPEEDPANEL**
FIRE AND ACOUSTIC RATED WALL SYSTEMS

Speedpanel are an Australian owned and operated company which manufactures and markets cutting edge fire and acoustic rated wall systems.

Invented in Australia; the light weight composition, ease of installation and superior fire and acoustic performance of Speedpanel has seen its broad acceptance throughout the building industry.

The innovative “click” together technology makes Speedpanel Systems a **fast and easy method** to construct walls in various building applications. Our systems replace traditional methods of partition systems because they **save time** and **eliminate unnecessary costs** to your projects.

Our team has many years of experience in the construction industry. We combine an eye for innovation with practical real world knowledge of the realities faced by builders, contractors, architects and engineers. We work proactively to develop the right solution for your project and are determined to make it a success.

Product development is one of our key passions. Our systems are **tested at independent laboratories** constructed as they would be on site, ensuring that you can rest easy knowing that your building is safe and sound.

We are proud of our **green initiatives** and dedication to sustainable practices. Whether it be developing products that are created using recycled components, developing construction systems that reduce wastage, or refining manufacturing practices; we maintain an eco-friendly ethos.

At Speedpanel, our purpose is simple; combine **high end service** with **practical solutions** and certified quality systems that will add value to your project.

We add value to your project.



Save time.

- “Click” together technology means fast installation and no specialist trades due to its simplicity
- Speedpanel is made to measure, reducing cutting time and costs on site
- Lightweight material decreases the chance of workplace injury
- Removal of wet, messy materials makes for cleaner work areas that can be occupied by multiple trades



Save money.

- Weatherproof material means high wind loading capabilities, so you can install sooner
- Lightweight composition and large spans result in less structural members and lighter footings
- No need for slow, expensive scaffolding
- Reduce costly structures including lintels



Improve performance.

- Ensure peace of mind knowing Speedpanel products are thoroughly certified by independent testing bodies
- Superior fire and acoustic performance will ensure you meet and exceed building code requirements



Build sustainably.

- Durable up to 100 years in certain environments
- Easily dismantle and re-use Speedpanel several times during its lifespan
- Made to measure means heavily reduced wastage
- Speedpanel components are 100% recyclable
- Speedpanel is manufactured from 29.5% recycled materials



Build cinemas that out-perform.

It's faster...

- Speedpanel can be stacked continuously to unlimited heights!
- Speedpanel is a single skin on each face of the cinema walls – plasterboard systems require multiple layers on each face to build up the system density to provide mass.
- It is easily positioned and stacked horizontally into place.
- Sections of wall can be left out to allow for the movement of EWPs, machinery and materials between cinemas/work areas.
- Apertures can be easily infilled with Speedpanel post construction without any detrimental effects to acoustic or fire rating requirements.
- Penetrations can be easily treated without any detrimental effects to acoustic or fire rating requirements.
- Speedpanel is not affected by weather, so installation of the walls can continue prior to the completion of the roof system; allowing greater construction flexibility and opportunity to reduce program time.

It's lighter...

- Speedpanel is lighter than traditional plasterboard systems.
- Less overall structure is required to support the wall systems, with reductions available in foundations.
- Large spans are available, resulting in less structural steel.

It's simply better...

- By varying the density of the infill (kg/m^3) within each skin of the Speedpanel system, the panels have a strong ability to disrupt sound transmission, meaning better acoustic results across greater frequency ranges.
- Speedpanel inner core can be specifically adjusted to suit project acoustic requirements.

SPEEDPANEL BENEFITS



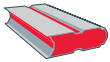
ACOUSTIC RATED

Speedpanel systems are tested and certified to meet or exceed certain BCA standards for sound proof of mind.



SUSTAINABLE

Made from 29.5% recycled materials, Speedpanel can be dismantled, reused, and is 100% recyclable.



CUSTOM LENGTHS AND COLOURS

We can manufacture or cut to length custom sizes, reducing on site labour, and utilise the full colour steel range for pleasing aesthetics.



LIGHTWEIGHT

Speedpanel product range begins at 7.5kg/lm. The primary materials used in the composition of Speedpanel include aerated concrete and light gauge steel.



FIRE RATED

Speedpanel systems are tested and certified, and may provide up to a -/240/240 FRL.



100 YEAR LIFESPAN

Installed in appropriate conditions, Speedpanel can last up to 100 years from date of manufacture.



TONGUE AND GROOVE SIMPLICITY

"Click" together technology which allows simple and fast construction to reduce your critical path.



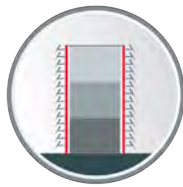
ZERO WET TRADES

We don't need to wait for anything to dry, so we are faster and cleaner than our competitors.

SPEEDPANEL APPLICATIONS



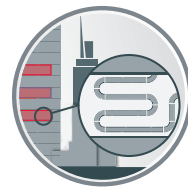
Cinemas & Studio Walls



External & Facade Substrate



Corridors



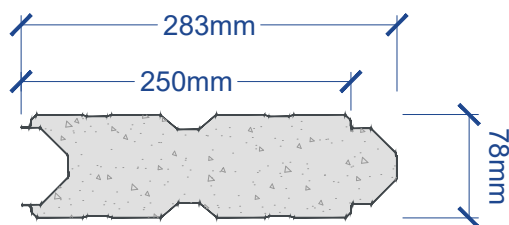
Back of House (Plant Rooms)

FOR MORE INFORMATION ON COMMERCIAL AND STEEL APPLICATIONS
CONTACT US ON +61 3 9724 6888

Specifications

SPEEDPANEL PROPERTIES

The table below illustrates Speedpanel properties for 78mm Speedpanel. For more information regarding other Speedpanel densities please contact our office on +61 39724 6888.



PANEL PROPERTIES			
Panel profile	78		
Density (kg/m ³)	435	600	750
Weight per 1m (kg/m ³)	10.6	13.6	16.3
Weight per m ² (kg)	42.6	54.6	65.5
Shell material	0.4 BMT galvanised steel		
Core material	Light weight concrete		

SPEEDPANEL FRL AND ASSOCIATED SPANS: WALL SYSTEMS

The table across illustrates Speedpanel FRL and associated spans in Speedpanel 78mm Wall Systems. Please read this table in conjunction with the relevant brochure and fire assessment for each specific system.

* Intermediate fire-rated structure between "Max. wall length" panel dimensions.

** Based on 600 kg/m³ density panel core. Reduced density may result in reduced height, for more information please contact our office on +61 39724 6888.

SPEEDPANEL WIND LOADING DATA

The table below illustrates wind loading data for 78mm Speedpanel with 435kg/m³ density.

78 78mm SPEEDPANEL WIND LOADING TABLE					
Span (m)	ULS	L/150 (kpa)	L/200 (kpa)	L/250 (kpa)	L/300 (kpa)
2.0	10.69	10.69	9.37	8.03	7.10
2.5	6.87	6.04	4.96	4.21	3.66
3.0	4.79	3.63	2.95	2.48	2.13
3.5	3.53	2.36	1.90	1.58	1.35
4.0	2.71	1.62	1.30	1.07	0.91
4.5	2.14	1.17	0.92	0.76	0.64
5.0	1.74	0.87	0.68	0.56	0.46
5.5	1.44	0.66	0.52	0.42	0.35
6.0	1.21	0.52	0.40	0.33	0.27
6.5	1.03	0.41	0.32	0.26	0.21
7.0	0.89	0.34	0.26	0.21	0.17
8.0	0.68	0.23	0.18	0.14	0.11

SPEEDPANEL WALL SYSTEM			
Panel profile	78		
Fire rating	- /120/120		
Direction of fire rating	Either way		
Panel orientation	Vertical	Horizontal	
		All other applications	Scissor Stair application only
Max. span between structural connections	6.0m	4.5m	5.0m
Max. wall length (Single span)	Unlimited	4.5m	5.0m
Max. wall height (Single span)	6.0m	Unlimited	Unlimited
Max. wall length (Multiple structural connections)*	N/A	Unlimited	N/A
Max. wall height (Multiple structural connections)**	14.0m	N/A	N/A

HOYTS CINEMA, CHADSTONE SHOPPING CENTRE

A new state of the art 13-screen Hoyts cinema. Already a 5 star Green Star building, the new development will add 60,000m² of space to the centre, including 25,000m² of retail space.

Dual skin, high performance Speedpanel systems were developed to meet the specific requirements of this project.

Panels were installed horizontally up to 16m in height prior to the external skin of the building being built; a task made possible due to the wind loading capability and weather resistant properties of Speedpanel.

Builder: Probuild

Architect: Buchan Group / Bates Smart

Project cost: \$580m

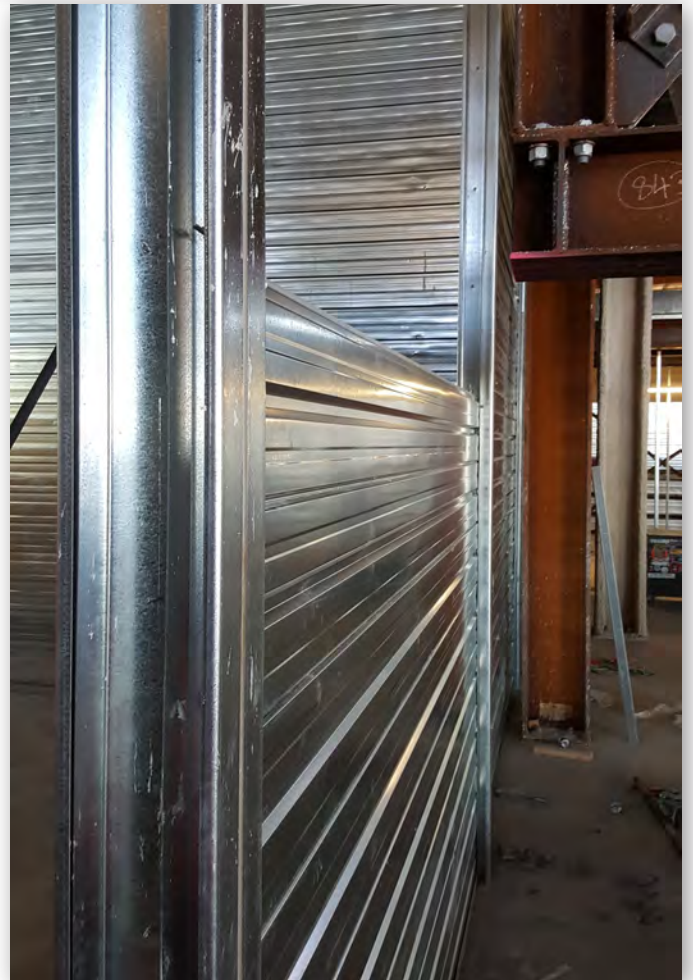
Performance:

- Superior acoustic performance
- Ability to stack large heights
- Fast and easy construction
- Reduction in structural elements

Applications:

- Cinema separation walls
- Back of house areas
- High performance acoustic barriers





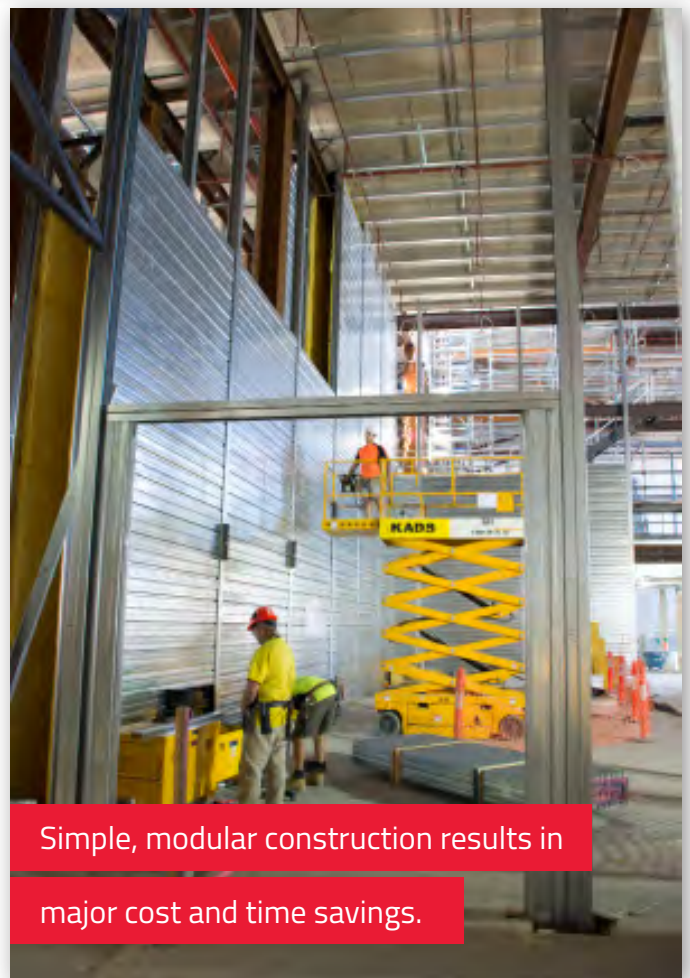
Large apertures can be left open during construction for access equipment.



Arrives onsite clearly labelled between densities,
and stacks up easily between structures.



Panels can be stacked to unlimited heights!



Simple, modular construction results in
major cost and time savings.

OTHER CINEMAS

Speedpanel has been used throughout the following Australian cinema projects:

- Greater Union Cinema Complex (Burwood, NSW)
- Ozone Cinema (Glenelg, SA)
- Wallis Cinema (Torrens Park, SA)
- Hoyts Cinema, Chadstone Shopping Centre (Chadstone, VIC)
- Lido Cinema (Hawthorn, VIC)
- Hoyts Cinema (Sylvia Park, NZ)
- Berkeley Cinema Complex (Botany, NZ)

Performance:

- Superior acoustic performance
- Ability to stack large heights
- Fast and easy construction
- Reduction in structural elements
- Can be installed before external skin of building due to weather resistant materials and high wind loading ability

Applications:

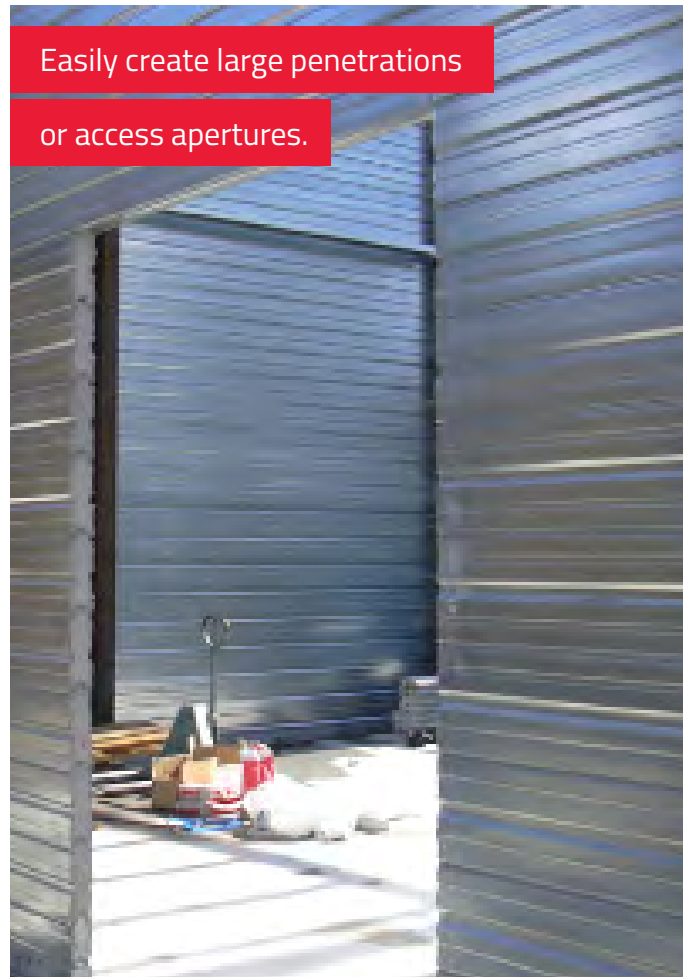
- Cinema separation walls
- Back of house areas
- High performance acoustic barriers
- External facade substrate

Weatherproof material allows for construction of walls before the roof or external facades.





Easily create large penetrations
or access apertures.



Speedpanel can be used as a facade substrate!



Supporting Structures

Speedpanel is adaptable to fit within many types of common structural elements used in cinema construction.

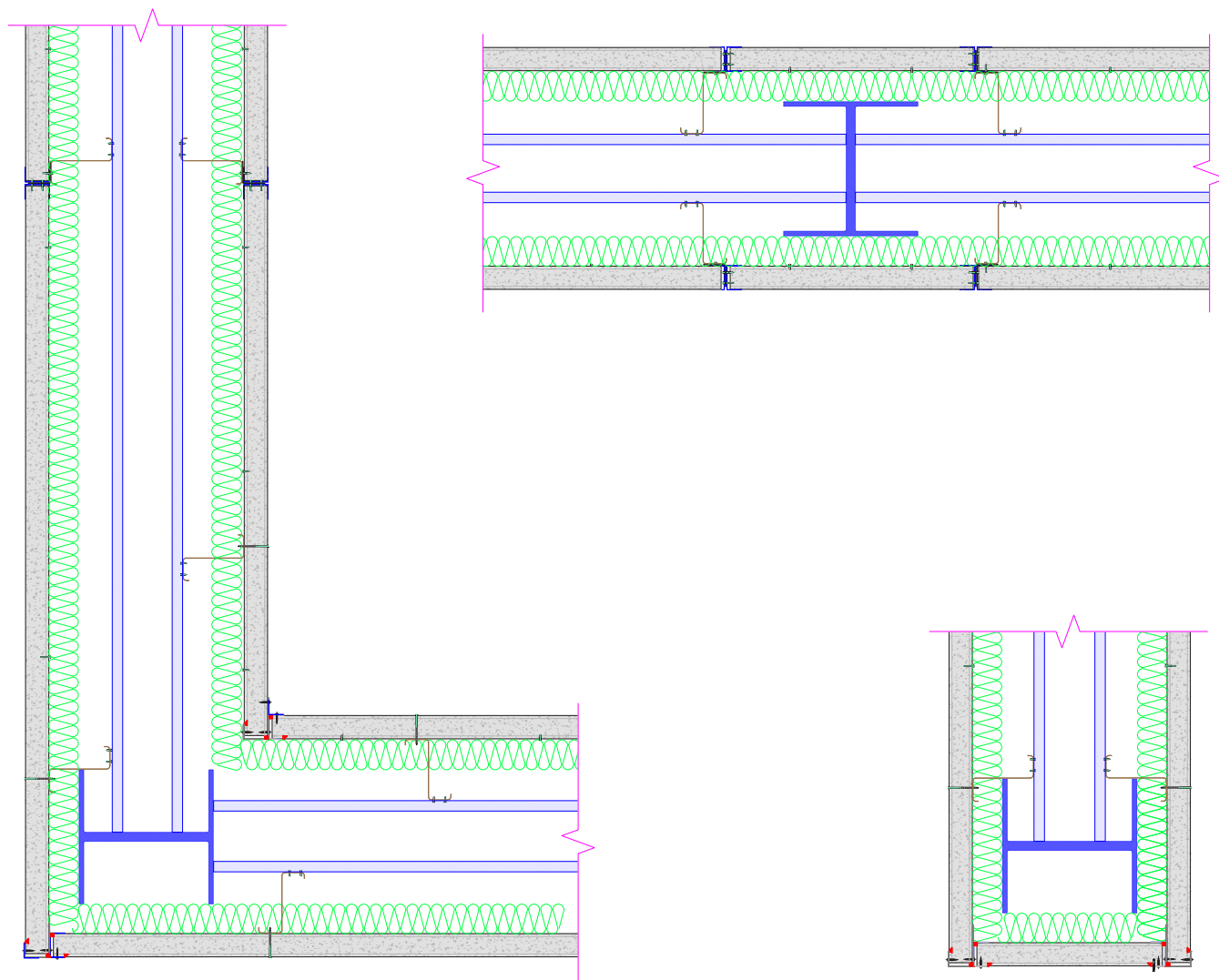
Each project will be different due to heights of the walls, local wind load requirements and current steel structures already in place to support roofing.

Speedpanel systems can be designed to transfer the weight to the steel structure or the floor slab. Common designs on past projects have included the use of Z-Purlins, C-Purlins, SHS and UC columns.

For assistance on how Speedpanel can be best utilised in your current project structure please contact our experienced team on +61 3 9724 6888.

CINEMA TO CINEMA WALL

See below a conceptual design using lightweight Z-Purlins, fire-rated from both directions.



EXTERNAL WALL USING Z-PURLINS

Fire-rated from Speedpanel direction.

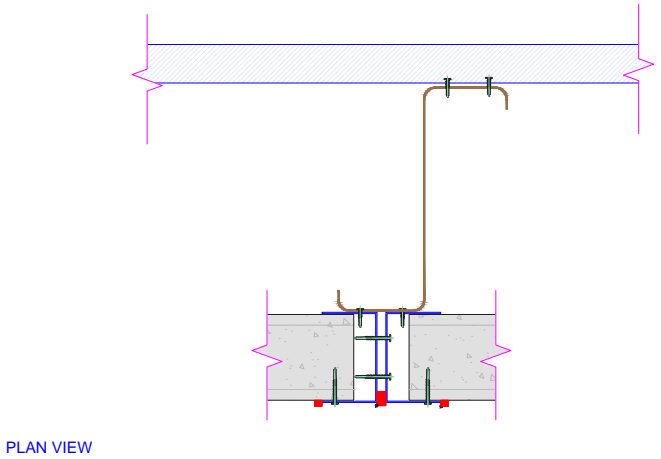


FIGURE 1A

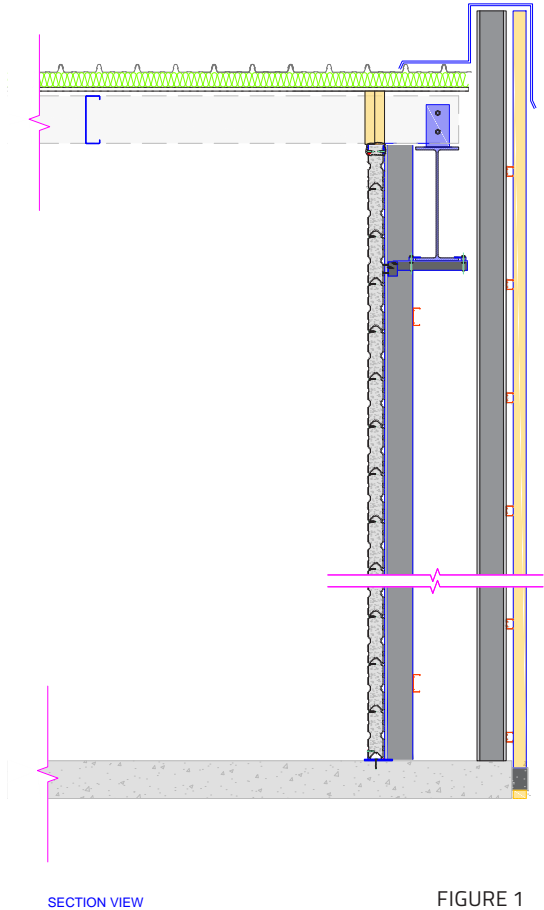


FIGURE 1

EXTERNAL WALL USING SHS POSTS

Not fire-rated unless SHS protected to equivalent FRL or positioned behind Speedpanel.

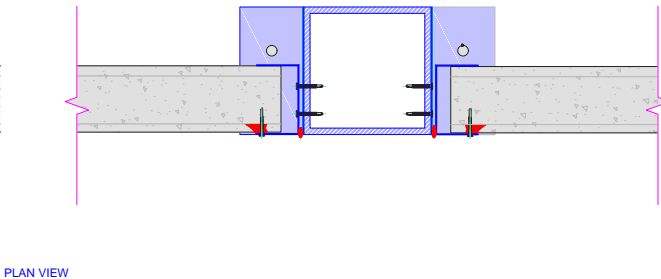


FIGURE 2A

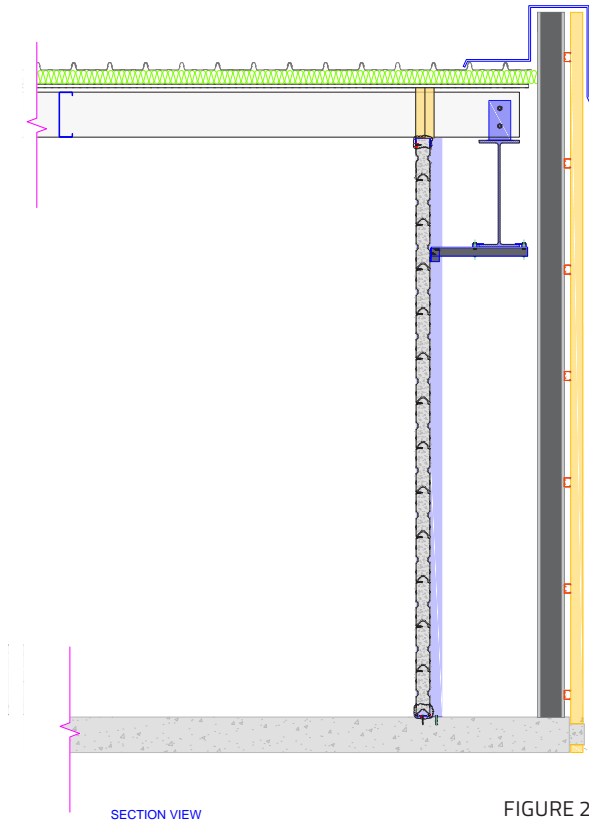


FIGURE 2

General Penetrations



FIRE-RATED PENETRATIONS

Penetrations are easily cut directly through Speedpanel using a hole saw, reciprocating saw or diamond blade. Various branded passive fire products are certified to fire-rate many forms of service penetrations.

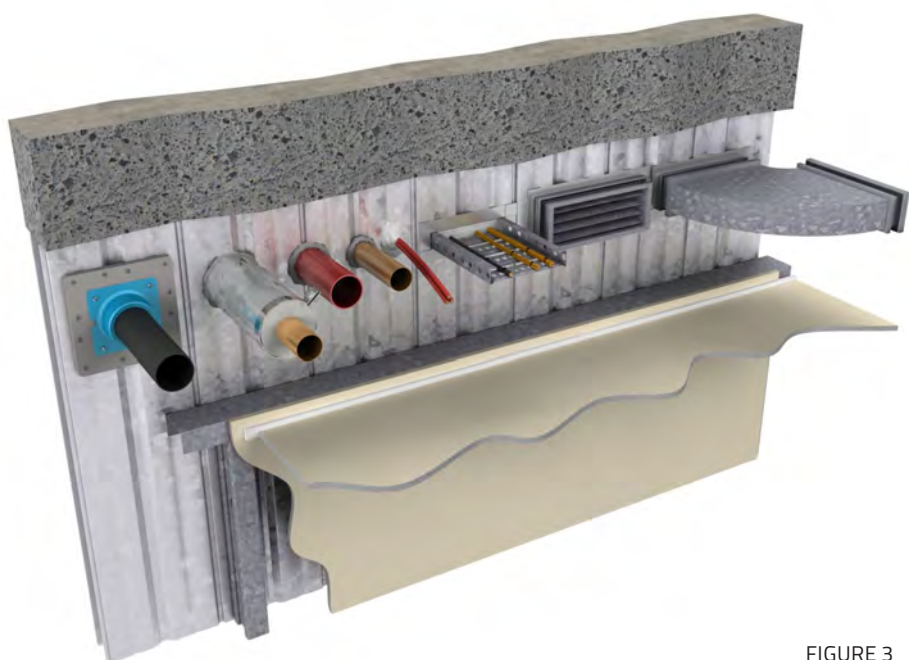


FIGURE 3



Remember: Consult fire certification assessments as each service is unique. Scan the QR code to access all Speedpanel fire assessments.

HORIZONTAL SPEEDPANEL SYSTEMS MULTIPLE PENETRATIONS

Horizontal Speedpanel systems can handle multiple apertures. Please refer to the table and illustration below for the full details.

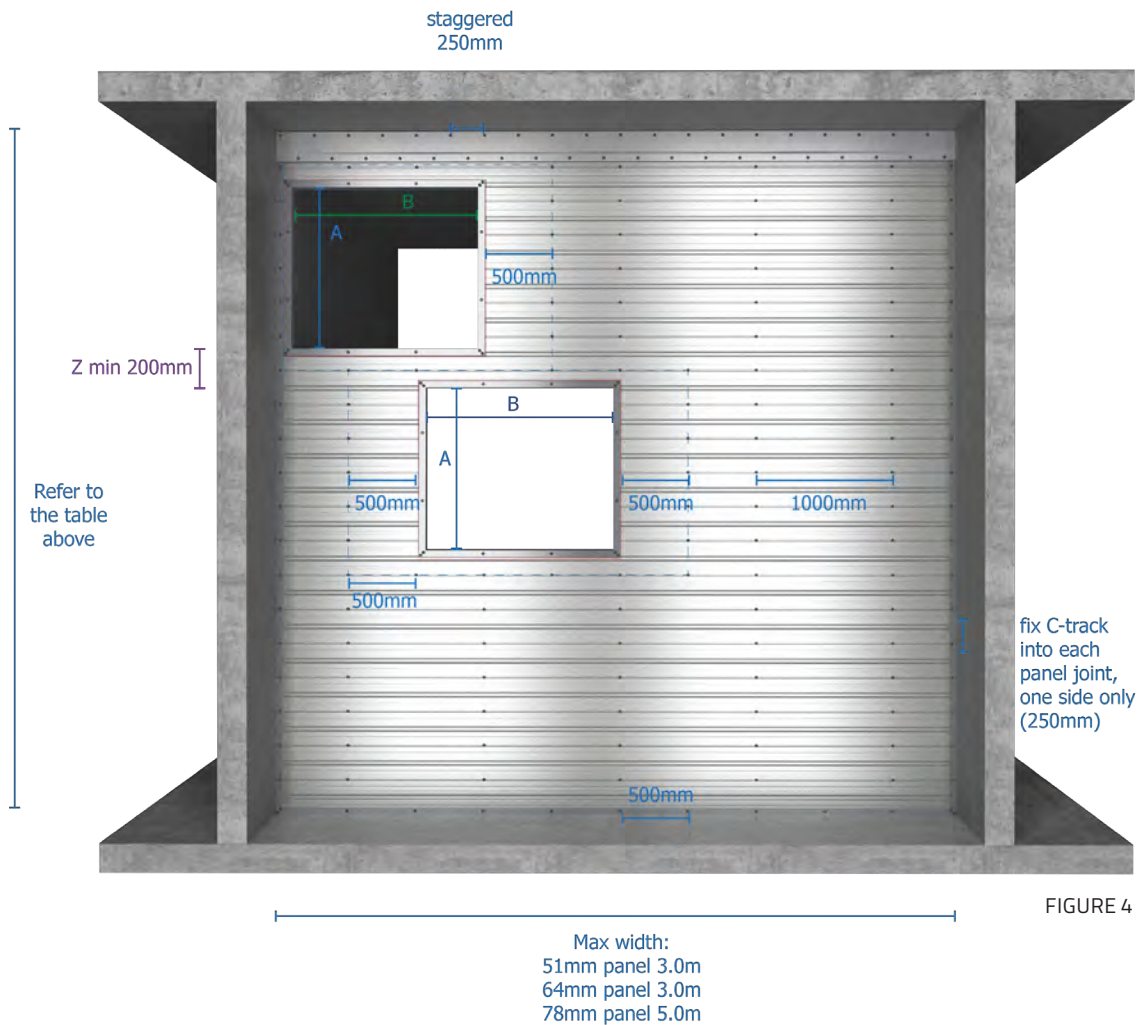


FIGURE 4

51

64

78

Wall height (mm)			Max. area A x B	Bmax (mm)	Zmin (mm)	Head detail*
3000	-	-	4m ²	2444	200	Standard head detail required
-	5000	-				
-	-	5000				
5000	-	-				
-	5000	-				
-	-	6000				

*For further information regarding head details please refer to the Speedpanel Installation Guide.

Acoustic Systems

78mm Speedpanel

SYSTEM SPOP022

78

Report No.	Fire rating level	Thickness
Marshall Day - Da002	Up to -/240/240	556mm

System Composition

- 78mm Speedpanel 700kg/m³ (up to 6m)
- 78mm Speedpanel 535kg/m³ (over 6m)
- Z stud
- 100mm x 35kg/m³ Glasswool insulation
- 400mm gap
- Z stud
- 100mm x 35kg/m³ Glasswool insulation
- 78mm Speedpanel 550kg/m³ (up to 6m)
- 78mm Speedpanel 435kg/m³ (over 6m)

FREQUENCY (Hz)	SOUND TRANSMISSION LOSS (dB)
63	46
125	49
250	59
500	71
1000	77
2000	84
4000	>85



FIGURE 6

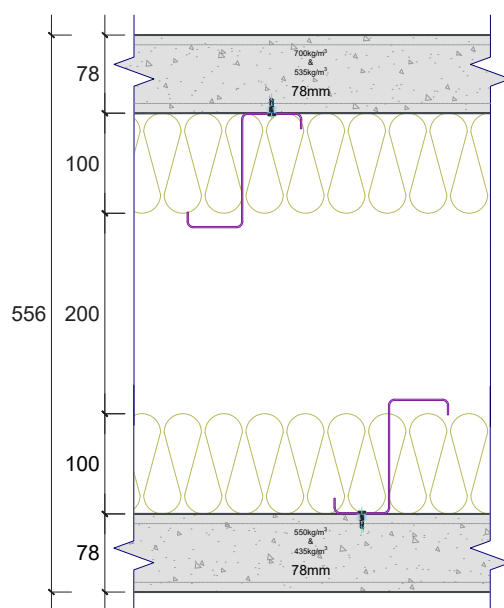


FIGURE 5

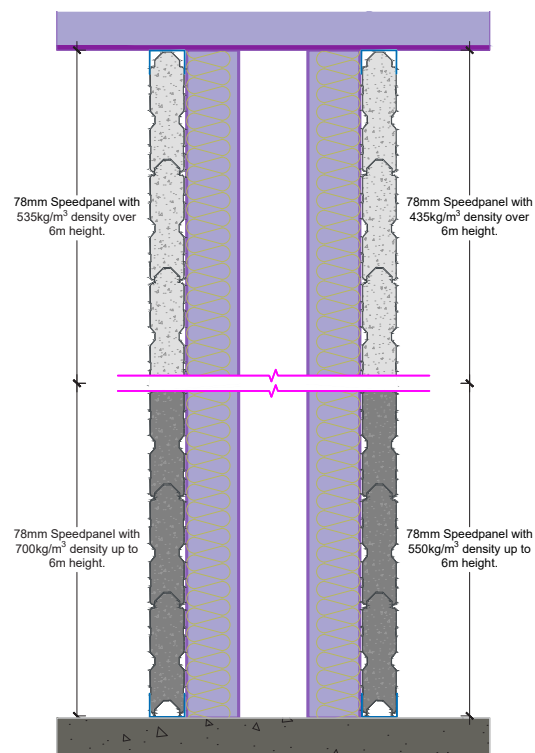


FIGURE 7

SYSTEM SPOP023

78

Report No.	Fire rating level	Thickness
Marshall Day - Da002	-/120/120*	394mm

System Composition

- 16mm fire rated plasterboard
- Z stud
- 100mm x 20kg/m³ Glasswool insulation
- 300mm gap
- Z stud
- 78mm Speedpanel 600kg/m³ (up to 6m)
- 78mm Speedpanel 435kg/m³ (over 6m)

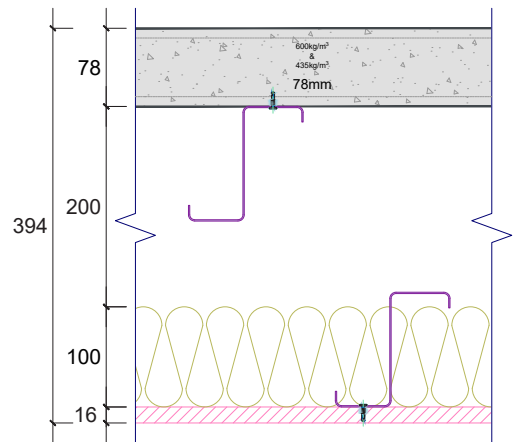


FIGURE 8

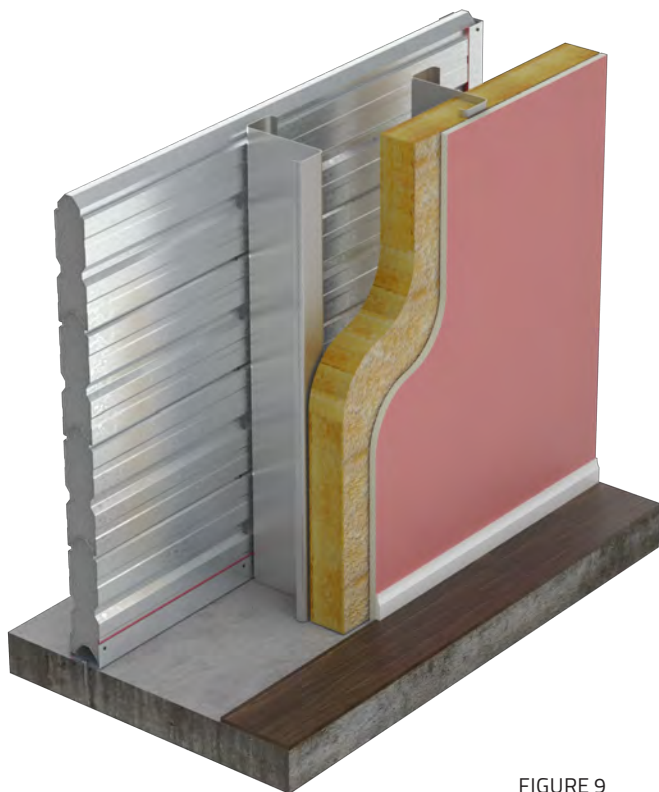


FIGURE 9

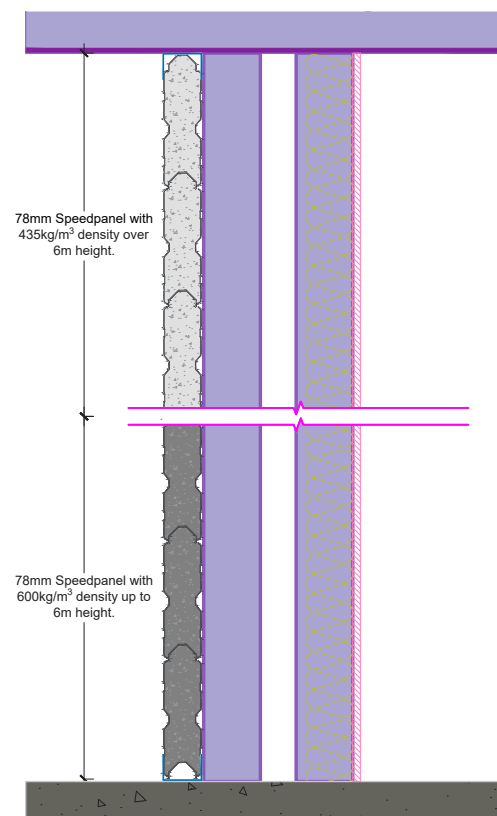


FIGURE 10

*Fire-rating from Speedpanel direction only, unless supporting structure is treated to achieve FRL 120/120/120,

SYSTEM SPFT032

78

Report No.	Fire rating level	DnT,w	Thickness
Marshall Day 2007354AL R01	Up to -/240/240	70	410mm

System Composition

- 78mm Speedpanel 435kg/m³
- 50mm x 60kg/m³ Rockwool insulation in wall cavity
- 250mm air cavity
- 50mm x 60kg/m³ Rockwool insulation in wall cavity
- 78mm Speedpanel 600kg/m³

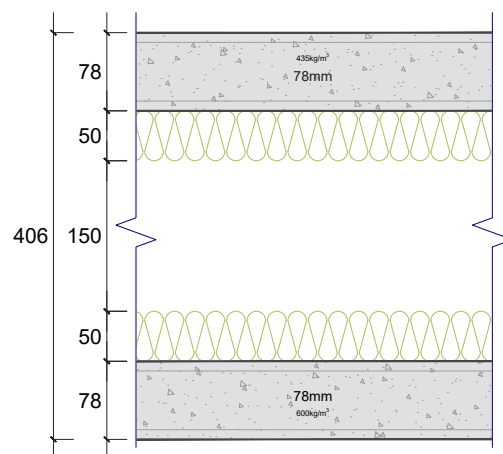


FIGURE 11



FIGURE 12

SYSTEM SPFT033

78

Report No.	Fire rating level	DnT,w	Thickness
VIPAC 50B-07-0090-TRP-293454-0	Up to -/240/240	72	606mm

System Composition

- 50mm fibreglass batt
- 78mm Speedpanel 800kg/m³ (up to 5m)
- 78mm Speedpanel 700kg/m³ (above 5m)
- 350mm air cavity
- 100mm x 40kg/m³ Glasswool insulation in wall cavity
- 78mm Speedpanel 800kg/m³ (up to 5m)
- 78mm Speedpanel 700kg/m³ (above 5m)
- 50mm fibreglass batt
- Lightweight curtain fabric cover

FREQUENCY (Hz)	DnT,w 72 REF. CURVE (dB)	SOUND TRANSMISSION LOSS (dB)
80	-	36.2
100	53	39.2
125	56	42.0
160	59	46.2
200	62	49.3
250	65	58.8
315	68	59.0
400	71	64.9
500	72	68.8
630	73	73.1
800	74	73.2
1000	75	75.3
1250	76	77.2
1600	76	78.4
2000	76	78.9
2500	76	75.7
3150	76	72.0
4000	76	72.7
5000	76	70.5



FIGURE 14

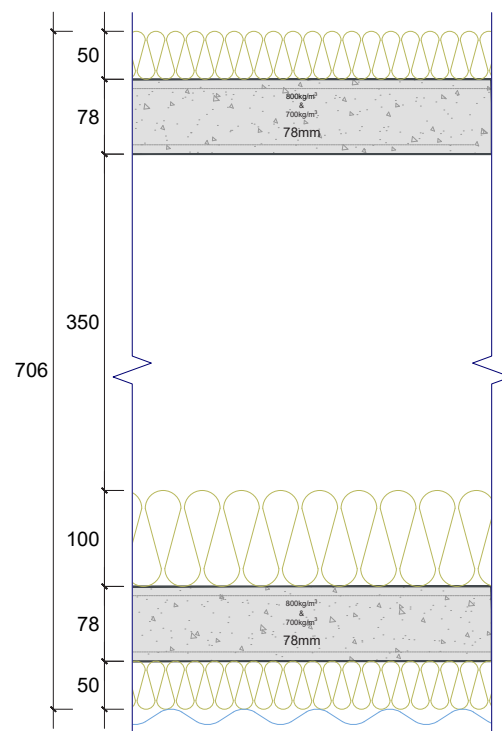


FIGURE 13

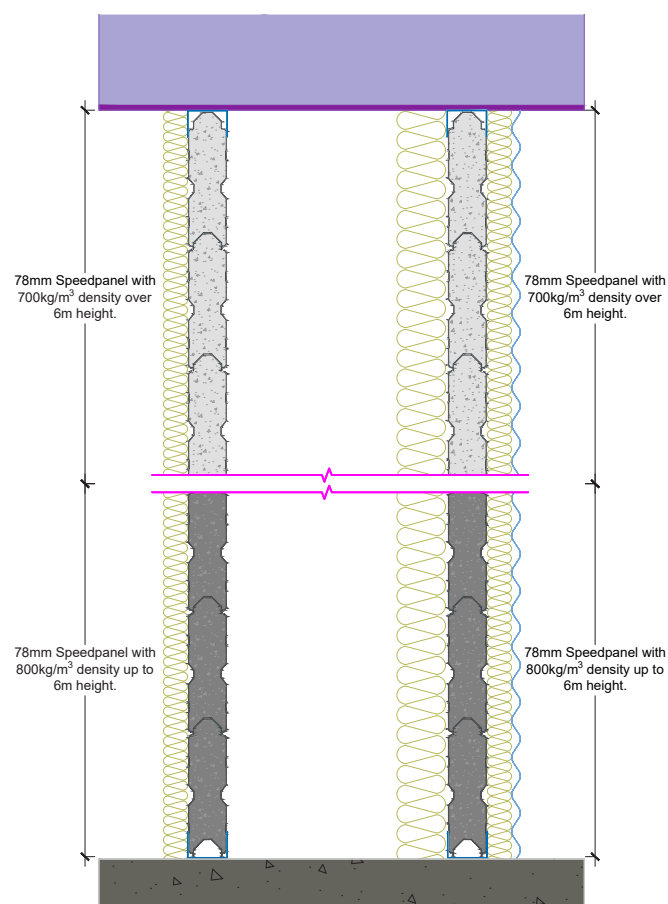


FIGURE 15

SYSTEM SP2P013

78

Report No.	Fire rating level	R _w	C	CTR	Net Acoustic Rating	Thickness
RMIT 121i/949/PD	Up to -/240/240	75	-2	-9	66	596mm

System Composition

- 78mm 600kg/m³ Speedpanel
- Polyester 90mm x 42kg/m³ acoustic insulation in a 440mm cavity
- 78mm 600kg/m³ Speedpanel

FREQUENCY (Hz)	R _w 75 REF. CURVE (dB)	SOUND TRANSMISSION LOSS (dB)
80	-	-
100	56	48
125	59	55
160	62	58
200	65	65
250	68	68
315	71	71
400	74	71
500	75	73
630	76	73
800	77	77
1000	78	82
1250	79	86
1600	79	86
2000	79	88
2500	79	92
3150	79	92*
4000	-	91*
5000	-	90

*Beyond the threshold of microphone testing.

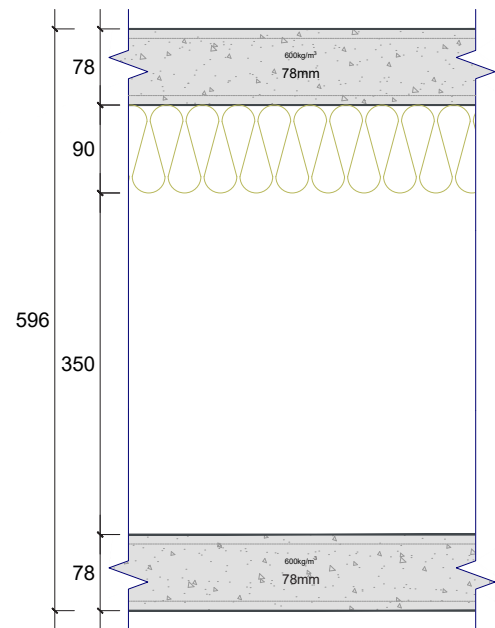
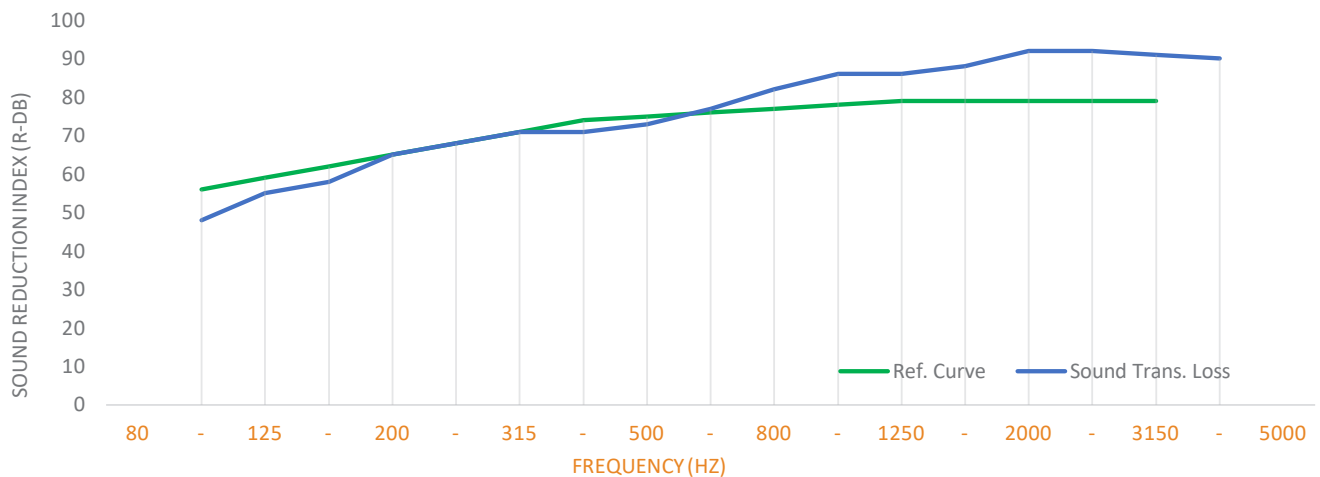


FIGURE 16



FIGURE 17



Certification you can trust.

Speedpanel systems are fire tested and certified by the following independent laboratories:



RMIT



CSIRO

Fire

- FRL from -/60/60 to -/240/240
- Various wall configurations
- Unlimited height walls
- Unlimited length walls
- Ceilings
- Service penetrations up to 4m²
- Various services:
 - Doors
 - Plastic pipes
 - Metal pipes
 - Cables
 - Cable trays
 - Ducts and dampers
 - Movement joints

Acoustics - Rw32 up to Rw80

- High quality cinema systems
- Back of house systems
- Corridor systems
- Ceiling systems
- Car Park systems

Cyclonic regions

Wind loading / Deflection data

Combustibility



Scan the QR code to
access Speedpanel
fire assessments.

Featured Image

Hoyts Cinema, Chadstone Shopping Centre (VIC)

Client: Probuild

Architect: Buchan Group / Bates Smart

Completion Date: 2016



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