



Sonic System Acoustic Modular Panel V100SP

The Science of Silence

PRODUCT OVERVIEW

The Sonic System acoustic modular panel V100SP is a specialised acoustic panel engineered for **high-performance sound insulation with integrated sound absorption**, making it suitable for reverberant industrial environments and high-noise plant applications.

The system incorporates a perforated steel acoustic face (38% open area), high-density Rockwool core, and reinforced steel sheet construction to enhance structural integrity and acoustic performance. Tested in accordance with AS ISO 354 and AS/NZS 1191, with R_w determined to AS/NZS ISO 717.1, the V100SP achieves NRC 0.90 and R_w 45, with transmission loss reaching 64.6dB at 4000 Hz.

The V100SP is structurally engineered in accordance with AS 1170.2 and is suited to acoustic enclosures, compressor buildings, and plant rooms where high levels of sound containment are required.

KEY FEATURES

- Perforated steel faces (38% open area)
- Enhanced sound insulation through integrated internal barrier layer
- Transmission loss exceeding 60dB at high frequencies
- Tested in accordance with AS 1191-2002, with R_w determined to AS/NZS ISO 717.1
- Modular system for permanent or temporary installation
- Available in standard panels or **custom sizes**
- Fire resistance tested in accordance with AS 1530.4-2014, achieving FRL -/120/- for panel integrity when tested as an isolated element.

APPLICATIONS

- Acoustic enclosures for high-noise machinery and equipment
- Equipment rooms and mechanical spaces
- Wall linings for manufacturing facilities
- Sound control in infrastructure projects
- Dividing walls where absorption is needed on both sides
- Temporary and permanent noise mitigation

TECHNICAL SPECIFICATIONS

Panel construction	Acoustic face: 0.50mm perforated steel sheet (38% open area) Rockwool core: 100mm Supported steel sheet reinforcement: 1.00mm External steel sheet: 1.00mm
Standard sizes	Width: 450mm standard Overlap connection: 25mm Thickness: 100mm
Weight	46.0 kg/m ²
Surface finish	Anti-corrosive treatment with epoxy primer Painted finish Available in Pre-finished off-white
Customisation	Custom lengths and colours available to meet project requirements
Thermal transmittance	0.38 W/m ² K
Installation	Modular system for rapid assembly and disassembly
Acoustic rating	R_w 45dB determined in accordance with AS/NZS ISO 717.1, NRC 0.90
Fire rating	FRL -/120/- in accordance with AS 1530.4-2014 Sections 1, 2 & 3



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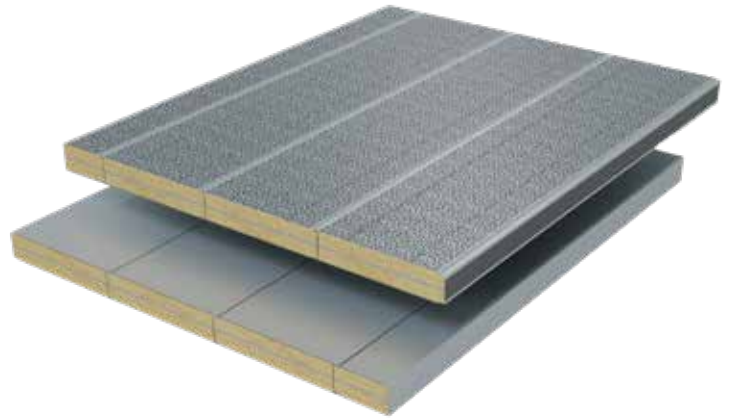
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ACOUSTIC PERFORMANCE – SOUND TRANSMISSION LOSS

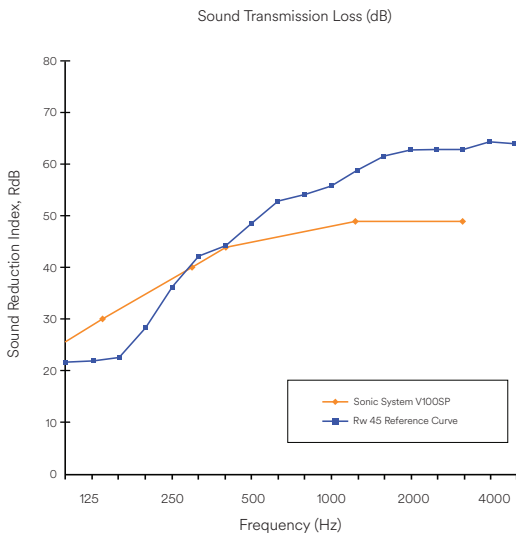
The V100SP panel delivers high-performance airborne sound insulation, achieving a Weighted Sound Reduction Index (Rw) of 45 dB, tested in accordance with AS 1191-2002, with Rw determined to AS/NZS ISO 717.1.

HIGHLIGHTS

- Rw 45dB airborne sound insulation performance
- Transmission loss exceeding 60dB at high frequencies
- Consistent attenuation across a broad frequency range



TRANSMISSION LOSS CURVE DEMONSTRATING BARRIER PERFORMANCE RISING STEADILY TO MORE THAN 60dB AT HIGH FREQUENCIES.



MEASURED TRANSMISSION LOSS BY 1/3 OCTAVE BAND

1/3 Octave Centre Frequency Hz	Sound Transmission Loss: R dB	Rw 54 Reference Curve	95% Confidence levels, dB
100	21.7	22.1	1.8
125	22.0		1.8
160	22.7		2.6
200	28.6	32.6	1.0
250	36.2		0.7
315	42.3		1.6
400	44.4	47.4	1.0
500	48.7		0.6
630	53.0		0.6
800	54.3	56.1	0.8
1000	56.0		0.9
1250	59.1		1.0
1600	61.8	62.6	0.9
2000	63.0		1.3
2500	63.1		0.8
3150	63.0	63.9	0.9
4000	64.6		0.8
5000	64.2		1.0



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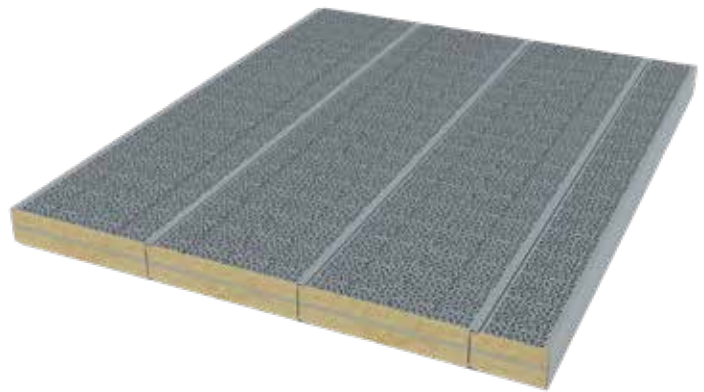
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ACOUSTIC PERFORMANCE – SOUND ABSORPTION

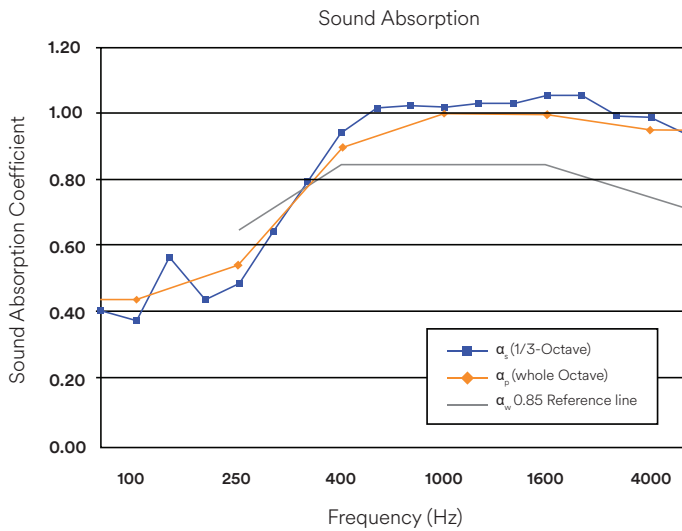
The V100SP panel achieves high sound absorption through its perforated acoustic face, acoustic fabric backing, and high-density Rockwool core. Tested in accordance with AS ISO 354, the V100SP delivers a Noise Reduction Coefficient (NRC) of 0.90, making it a high-performance acoustic absorption solution for reverberant environments requiring strong sound control.

HIGHLIGHTS

- Tested NRC 0.90 in accordance with AS ISO 354
- Peak sound absorption up to α_s 1.05 delivering effective mid-to-high frequency reverberation control
- Engineered for combined absorption and containment in demanding industrial environments



ABSORPTION CURVE SHOWING STRONG PERFORMANCE ACROSS CRITICAL MID - TO HIGH-FREQUENCY RANGES.



ABSORPTION COEFFICIENTS ACROSS FREQUENCY RANGE

Freq ^d Hz	Sound Absorption Coefficient α_s	Sound Absorption Coefficient α_p	95% Confidence (S)	Reverberation times, T_{60} (sec) Empty Room	Reverberation times, T_{60} (sec) with Specimen
50	0.04	0.10	N/A	4.92	4.63
63	0.09		N/A	5.45	4.62
80	0.18		N/A	7.19	4.90
100	0.41	0.45	0.07	5.67	3.06
125	0.38		0.06	6.35	3.38
160	0.57		0.07	6.56	2.76
200	0.44	0.55	0.05	5.73	2.98
250	0.49		0.05	4.85	2.59
315	0.65		0.06	5.87	2.46
400	0.80	0.90	0.06	5.98	2.18
500	0.94		0.06	5.53	1.91
630	1.01		0.06	5.25	1.79
800	1.02	1.00	0.04	4.99	1.74
1000	1.02		0.03	4.87	1.74
1250	1.03		0.04	4.38	1.66
1600	1.03	1.00	0.04	3.81	1.57
2000	1.05		0.05	3.46	1.49
2500	1.05		0.04	3.07	1.42
3150	0.99	0.95	0.04	2.65	1.36
4000	0.99		0.05	2.14	1.23
5000	0.94		0.04	1.72	1.10



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STRUCTURAL PERFORMANCE – WIND LOAD RESISTANCE

Panel Support Centres (m)	Maximum Ultimate Wind Load Pressure (kPa)
4.0m	6.0 kPa*
4.5m	5.3 kPa*
5.0m	4.2 kPa*
5.5m	3.5 kPa*
6.0m+	2.9 kPa*

Engineering assessed loading pressure reports available.

COMPLIANCE AND TESTING

- Sound absorption tested in accordance with AS ISO 354
- Sound transmission loss tested in accordance with AS 1191-2002, with R_w determined to AS/NZS ISO 717.1
- Fire resistance tested in accordance with AS 1530.4-2014, achieving FRL –/120/– for panel integrity when tested as an isolated element.
- All testing conducted by NATA-accredited laboratories. Full test certificates available upon request.

ORDERING AND SUPPORT

- Sonic System V100SP panels are available in both standard and **fully custom configurations**. From tailored dimensions to project-specific colour finishes, our team will engineer the right fit for your site.
- To discuss your project, contact AcousTech and discover how the Science of Silence can work for you.

HOW TO SPECIFY TO FIT YOUR PROJECT

System	Sonic System acoustic modular panel V100SP
Construction	100mm acoustic panel with perforated acoustic face, high-density Rockwool core, supported steel sheet reinforcement, and solid external steel sheet
Finish	Corrosion-resistant perforated steel
Acoustic Performance	R_w : 45dB NRC : 0.90



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FIRE SAFETY STANDARDS

FIRE RATING & TESTING COMPLIANCE

Fire Safety Category	Standard/Test Method	Result/Rating	Details
Fire Resistance Level (FRL)	AS 1530.4-2014 (Sections 1, 2 & 3)	-/120/-	<ul style="list-style-type: none">• Structural Adequacy: - (N/A)• Integrity: 120 minutes• Insulation: - (Not rated)
Ignitability Index	AS/NZS 1530.3:1999 (R2016)	0	Scale: 0-20 (0 = best performance)
Spread of Flame Index	AS/NZS 1530.3:1999 (R2016)	0	Scale: 0-10 (0 = best performance)
Heat Evolved Index	AS/NZS 1530.3:1999 (R2016)	0	Scale: 0-10 (0 = best performance)
Smoke Developed Index	AS/NZS 1530.3:1999 (R2016)	Low	Scale: 0-10 (lower = better)
Combustibility	AS 1530.1 – Non-combustibility (Rockwool core)	Non-Combustible	Rockwool core is inorganic and non-combustible

MATERIAL FIRE PROPERTIES

Component	Material	Thickness/Density	Fire Characteristics
Internal Face	Perforated Steel Sheet	0.50mm (38% FOA)	Non-combustible metal
Core	Rockwool	100mm / 70kg/m ³	<ul style="list-style-type: none">• Non-combustible• Inorganic, amorphous• No toxic fumes• Maintains integrity at high temps
Reinforcement	Supported Steel Sheet	1.0mm	Non-combustible metal
External Face	Perforated Steel Sheet	1.00mm (38% FOA)	Non-combustible metal
Surface Treatment	Epoxy Primer + Paint	Anti-corrosive coating	Protective coating system

COMPLIANCE & CERTIFICATION

Category	Details
Testing Laboratory	NATA-accredited facilities
Documentation Available	<ul style="list-style-type: none">• Full AS 1530.4-2014 fire resistance certificate• AS/NZS 1530.3 test reports• Material Safety Data Sheets (MSDS)• Fire engineering reports
BCA/NCC Compliance	Suitable for fire-rated partitions and acoustic enclosures (subject to engineering assessment)
Certificate Availability	Full NATA fire test results available upon request

FIRE SAFETY PERFORMANCE SUMMARY

Performance Metric	V100SP Rating	Interpretation
Fire Barrier Integrity	120 minutes	Maintains barrier for 2 hours during fire exposure
Contribution to Fire Load	Zero	Non-combustible construction throughout
Flame Spread	Zero	Does not support flame propagation
Smoke Generation	Low	Minimal smoke production during fire exposure
Toxic Fume Production	None	Inorganic materials do not produce toxic gases



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QUICK REFERENCE SPECIFICATIONS

Category	Specification
Acoustic Absorption	α_s up to 1.05 (AS ISO 354) NRC: 0.90 — reliable absorption performance from 400 Hz to 5000 Hz
Acoustic Transmission	Rw 45 determined in accordance with AS/NZS ISO 717.1
Structural Performance	Up to 6.0 kPa (at 4.0m centres)
Hydrophobic Rockwool core	Actively repels water on contact. Rain simply beads off and runs away; the core does not absorb or wick moisture.
Inorganic Rockwool	Will not support biological growth even if minor moisture is present (ASTM C1104). Remains clean and stable indefinitely.
Water absorption	0.5kg/m ² (partial immersion test, BS EN ISO 29767) if core is submerged, uptake is negligible and dries out immediately with no long-term retention.
Panel Construction	Internal steel sheet: 0.50mm perforated steel sheet External steel sheet: 1.00mm perforated steel sheet Rockwool core Structural reinforcement: 1.00mm supported steel sheet
Standard Sizes	Width: 450mm standard Overlap connection: 25mm Thickness: 100mm
Custom Options	Custom sizes and colours available
Weight	46.0 kg/m ²
Surface Finish	Anti-corrosive treatment with epoxy primer Painted finish Available in pre-finished off-white
Thermal Transmittance	0.38 W/m ² K
Installation	Interlocking modular panel system, screwless assembly
Compliance	AS ISO 354 – Sound absorption AS 1191-2002 – Airborne sound transmission loss AS/NZS ISO 717.1 – Rw determination AS 1170.2 – Wind actions (engineering assessment) AS 1530.1 / AS/NZS 1530.3 – Reaction to fire AS 1530.4-2014 – Fire resistance
Branding	AcouSTech part of the Flexshield Group Pty Ltd (ABN 42 631 902 899 ACN 631 902 899)