



# Sonic System Acoustic Roof Panel VR

The Science of Silence

## PRODUCT OVERVIEW

The Sonic System VR is a high-performance acoustic roof panel engineered for industrial, commercial, and infrastructure applications requiring **sound transmission loss, sound absorption, and weather protection within a single roofing system.**

Featuring a steel outer sheet, perforated internal liner, and Rockwool insulated core, the VR panel delivers effective acoustic control for overhead applications. Tested in accordance with relevant international standards, with  $R_w$  determined to ISO 717-1, the system achieves sound absorption up to  $\alpha_w$  1.0 and sound transmission loss up to  $R_w$  34dB.

The VR panel's wide-span roof design and integrated acoustic lining make it suitable for industrial facilities, plant enclosures, and infrastructure projects where both environmental protection and acoustic performance are required.

## KEY FEATURES

- Wide-span design: 1000mm width for faster installation and fewer joints
- Variable thickness options: 50mm to 200mm to suit acoustic and thermal requirements
- Micro-locked perforated sheet: 15% FOA with 3mm holes at 5mm spacing for optimised absorption
- Self-supporting construction: Spans up to 5m depending on thickness and loading
- Thermal performance: U-values from 0.77 to 0.20 W/m<sup>2</sup>K
- Fire safety: Mineral wool core and steel facings provide excellent fire resistance characteristics.
- Customisable lengths: Up to 11,900mm to eliminate on-site cutting

## APPLICATIONS

- Industrial roofing with integrated noise control
- Manufacturing facilities requiring overhead sound absorption
- Plant rooms and mechanical equipment enclosures
- Resource and utilities infrastructure
- Commercial buildings with noise-sensitive environments
- Critical infrastructure requiring acoustic and thermal performance

## TECHNICAL SPECIFICATIONS

<b>Panel construction</b>	<b>Internal steel sheet:</b> 0.50mm perforated (15% open area). <b>External steel sheet:</b> 0.60mm solid profiled steel. <b>Rockwool acoustic core:</b> 50–200mm thickness.
<b>Standard sizes</b>	<b>Width:</b> 1000mm effective panel width.   <b>Length:</b> up to 11,900mm.   <b>Thickness:</b> 50mm to 200mm.
<b>Weight</b>	Weight varies by thickness. <b>50mm:</b> 14.2 kg/m <sup>2</sup>   <b>100mm:</b> 19.2 kg/m <sup>2</sup>   <b>200mm:</b> 29.2 kg/m <sup>2</sup>
<b>Surface finish</b>	Anti-corrosion treatment with epoxy primer Painted finish Available in Pre-finished off-white
<b>Customisation</b>	Custom lengths and colours available to meet project requirements
<b>Thermal transmittance</b>	Thermal transmittance ranges from 0.77 W/m <sup>2</sup> K (50mm) to 0.20 W/m <sup>2</sup> K (200mm)
<b>Installation</b>	Modular system for rapid assembly and disassembly
<b>Testing</b>	Structural performance assessed in accordance with UNI EN 14509 insulated panel standard.
<b>Fire rating</b>	Rockwool core and steel facings provide excellent fire resistance characteristics.

## ACOUSTIC PERFORMANCE – SOUND ABSORPTION

The VR panel achieves exceptional sound absorption through its micro-locked perforated internal steel face (15% FOA) and high-density mineral wool core. Tested in accordance with ISO 354, the VR delivers a sound absorption coefficient ( $\alpha_w$ ) of up to 1.0 with 50mm thickness, making it highly effective for controlling reverberation in large industrial spaces while providing weather-resistant roofing.

### HIGHLIGHTS

- $\alpha_w$  up to 1.0 (50mm thickness)
- Micro-locked perforation: 3mm diameter holes at 5mm spacing for optimised frequency response
- 15% perforated surface for balanced absorption and structural integrity
- Variable core thickness (50-200mm) for enhanced low-frequency control
- Ideal for overhead applications requiring both acoustic control and environmental protection



## ACOUSTIC PERFORMANCE – SOUND INSULATION

The VR panel provides robust sound insulation with a Weighted Sound Reduction Index (Rw) of 34dB, tested in accordance with ISO 717-1. The Rockwool core combined with dual steel faces provides sound insulation between internal and external environments.

### HIGHLIGHTS

- Rw 34dB sound insulation rating
- Variable core thickness (50-200mm) for enhanced mass and insulation
- Dual steel face construction for structural integrity and weather resistance
- Self-supporting design suitable for industrial roofing applications
- Provides sound insulation between internal and external environments



## STRUCTURAL PERFORMANCE

The VR panel is engineered as a self-supporting roof system with load-bearing capabilities tested in accordance with UNI EN 14509. Performance varies by thickness and span, with calculations provided for both Ultimate Limit States and Serviceability Limit States (deflection = 1/200 span).

## LOAD BEARING CAPACITY TABLE

Thickness (mm)	Weight (kg/m <sup>2</sup> )	Maximum allowable load (P kg/m <sup>2</sup> ) at support centres							
		150	200	250	300	350	400	450	500
50	14.2	215	160	125	90	60	50	-	-
60	15.2	245	180	140	110	90	70	50	-
80	17.2	295	215	170	140	120	95	75	60
100	19.2	330	240	190	160	130	120	100	85
120	21.2	345	255	200	165	135	125	120	110
150	24.2	350	260	205	170	140	130	125	115
200	29.2	365	265	210	175	145	135	130	120



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## THERMAL PERFORMANCE

Panel Thickness (mm)	Thermal Transmittance U (W/m <sup>2</sup> K) UNI EN 14509A.10	Avg. Thermal Transmission Coefficient λ (W/m <sup>2</sup> K) EN ISO 6946
50	0.77	0.67
60	0.64	0.57
80	0.49	0.44
100	0.40	0.36
120	0.33	0.29
150	0.27	0.24

## COMPLIANCE AND TESTING

- Sound absorption tested in accordance with ISO 354
- Sound Insulation tested to ISO 140-3
- Structural performance tested to UNI EN 14509
- Thermal performance tested to UNI EN 14509 and EN ISO 6946
- Fire Safety: Compliant with fire resistance standards
- All testing conducted in accordance with relevant international standards. Test reports available on request.

## ORDERING AND SUPPORT

- Sonic System VR 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

<b>System</b>	AcousTech Sonic System Acoustic Roof Panel VR.
<b>Construction</b>	Self-supporting structural roof panel (50mm-200mm) with Rockwool core
<b>Finish</b>	Pre-finished off-white steel with corrosion-resistant coating.
<b>Acoustic Performance</b>	<b>Rw:</b> 34dB <b>NRC:</b> 1.00 <b>Thermal Transmittance (U-value):</b> 0.77-0.20 W/m <sup>2</sup> K



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## FIRE SAFETY STANDARDS

### FIRE RATING & TESTING COMPLIANCE

Fire Safety Category	Standard/Test Method	Result/Rating	Details
Reaction to Fire	International Standards	Non-combustible rockwool core with steel facings	<ul style="list-style-type: none"><li>• Rockwool core non-combustible</li><li>• Steel construction</li><li>• Compliant with fire resistance requirements</li></ul>

### MATERIAL FIRE PROPERTIES

Component	Material	Thickness/Density	Fire Characteristics
External Face	Steel Sheet	0.6mm	Non-combustible metal
Core	Rockwool	50-200mm / High density	<ul style="list-style-type: none"><li>• Non-combustible</li><li>• Inorganic, amorphous</li><li>• No toxic fumes</li><li>• Maintains integrity at high temps</li></ul>
Internal Face	Perforated Steel Sheet	0.5mm (15% FOA)	Non-combustible metal
Surface Treatment	Epoxy Primer + Paint	Anti-corrosive coating	Protective coating system

### COMPLIANCE & CERTIFICATION

Category	Details
Testing Standards	International fire resistance standards
Documentation Available	<ul style="list-style-type: none"><li>• Fire resistance test certificates</li><li>• Material Safety Data Sheets</li><li>• Product compliance documentation</li></ul>

## QUICK REFERENCE SPECIFICATIONS

Category	Specification
Acoustic Absorption	$\alpha_w$ up to 1.0 (ISO 354) - 50mm thickness   <b>Micro-locked perforation:</b> 15% FOA with 3mm holes at 5mm spacing Effective absorption for overhead noise control
Acoustic Transmission	Rw 34dB (ISO 717-1) Enhanced mass loading with variable core thickness options
Structural Performance	Self-supporting roof panel system Structural performance in accordance with UNI EN 14509 insulated panel standard <b>Load capacity:</b> 215-365 kg/m <sup>2</sup> depending on thickness and span <b>Deflection limit:</b> 1/200 span
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 <sup>2</sup> (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	<b>External steel sheet:</b> 0.6mm (solid) <b>Internal steel sheet:</b> 0.5mm (micro-locked perforated - 15% FOA) <b>Rockwool core:</b> 50-200mm <b>Perforation:</b> 3mm diameter holes at 5mm spacing
Standard Sizes	<b>Width:</b> 1000mm standard <b>Length:</b> Up to 11,900mm <b>Thickness:</b> 50mm, 60mm, 80mm, 100mm, 120mm, 150mm, 200mm
Custom Options	Custom lengths up to 11,900mm Custom colours available Tailored dimensions to eliminate on-site cutting Integration with roof accessories
Weight	14.2 kg/m <sup>2</sup> (50mm) 29.2 kg/m <sup>2</sup> (200mm)
Surface Finish	Anti-corrosive treatment with epoxy primer Painted finish Available in Pre-finished off-white Custom colours on request
Thermal Transmittance	0.77 W/m <sup>2</sup> K (50mm) to 0.20 W/m <sup>2</sup> K (200mm), Tested to UNI EN 14509 and EN ISO 6946
Installation	Self-supporting roof panel system Interlocking joint detail Wide-span design for rapid installation <b>Effective support width:</b> 1200mm
Compliance	<b>Acoustic testing:</b> ISO 354 and ISO 717-1 <b>Structural testing:</b> UNI EN 14509 <b>Thermal testing:</b> UNI EN 14509 and EN ISO 6946 <b>Fire:</b> Compliant with fire resistance standards
Branding	AcousTech part of the Flexshield Group Pty Ltd (ABN 42 631 902 899 ACN 631 902 899)