



# **STRAMIT® ACOUSTIC PANEL SYSTEM**

p r o d u c t   t e c h n i c a l   m a n u a l



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## IMPORTANT NOTE

The information contained within this brochure is as far as possible accurate at the date of publication, however, before application in a particular situation, Stramit Building Products recommends that you obtain qualified expert advice confirming the suitability of product(s) and information in question for the application proposed. While Stramit accepts its legal obligations, be aware however that to the extent permitted by law, Stramit disclaims all liability (including liability for negligence) for all loss and damage resulting from the use of the information provided in this brochure.

## Selection & Specification

### Features

- Suits most architectural styles.
- Range of profiles available.
- Can be used vertically and horizontally.
- Manufactured from high tensile steel for high strength and low weight.
- Simple to install.
- Exceptional sound reduction performance.
- High sound absorption with NRC's in excess of 0.93.
- Tested in accordance with ASI045 for sound absorption.

### Applications

**Stramit® Acoustic Panels** are suitable for applications such as school halls, gymnasiums, terminal buildings, open-sided covered walkways or wherever noise reduction is required.

### Materials

**Stramit® Acoustic Panels** are cold roll formed cladding sheets produced from pre-perforated COLORBOND® steel materials. Steel is G550 base material (G550 MPa minimum yield stress) with a ZINCALUME® steel (AZ150 coating, in accordance with ASI397), plus an off white COLORBOND® finish coat. Standard steel thickness is 0.42mm BMT (base material thickness). Other materials such as unpainted ZINCALUME® or galvanised steel, stainless steel, aluminium and copper can be roll formed subject to enquiry.

### Perforation

Stramit standard perforations cover approximately 11% of the cladding surface. Holes are 2.4mm in diameter and are pitched symmetrically across the sheet. This layout gives the best balance between appearance, ease of installation cladding performance and noise reduction. Should other hole patterns be required please contact your local Stramit Technical Services Manager.

### Testing

Stramit has in-house purpose built testing equipment used to design, develop and improve products for the Australian market. In addition, Stramit products are tested or witnessed by independent organisations. Sound absorption tests on **Stramit® Acoustic Panels** have been conducted by National Acoustic Laboratories using the reverberation chamber method in accordance with ASI045. Results of these tests are shown in the graphs on page 5. Should further information be required, please contact your local Stramit Technical Services Manager.

### Durability

Many internal applications for **Stramit® Acoustic Panels** will be relatively benign. In applications of high humidity (eg pools) or having a corrosive atmosphere contact Stramit to discuss the optimum material choice.

Covered external applications, particularly walls, may be subject to dust, salt and other wind-blown pollutants. As these are 'unwashed' (by rainwater) areas careful choice of materials is needed. Talk to your local Stramit Technical Services Manager for advice.

### Architectural Specification

A suggested specification is:-

The internal wall/ceiling shall be Stramit Acoustic Panels in the.....profile. Sheeting material shall be protected steel sheet to Australian Standard ASI 397 with a minimum yield stress of 550MPa (Grade 550) and an AZ150 zinc-aluminium coating with an off white ovenbaked paint film.

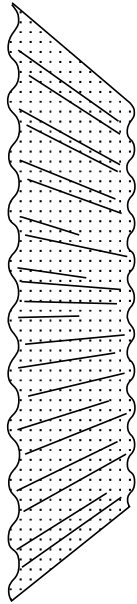
The sheeting shall be fixed to the structure in accordance with the manufacturers instructions.

All sheeting shall be fixed in a workman like manner, leaving the job clean and with minor blemishes touched up with paint supplied by the manufacturer.

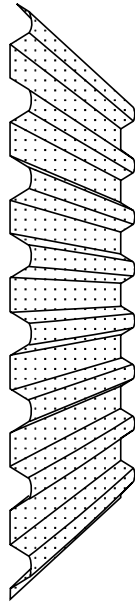
All insulation/absorbing materials shall match the Stramit specification contained in the Stramit technical brochure.

Please note: Not all profiles will be available from all Stramit branches. Please contact your local Stramit office for product availability.

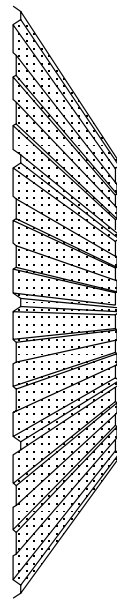
Stramit Corrugated®



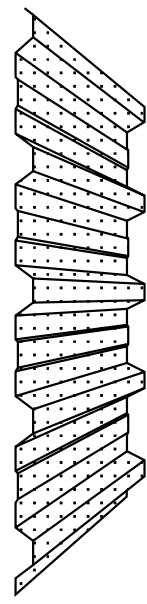
Stramit Longspan®



Stramit K-Panel®



Stramit Monoclad®



## Design

### Performance Variations

The tests described in this brochure used:

- **Stramit® Corrugated** or **Stramit® Longspan** perforated sheet.
- Insulation Solutions Sonobatt type I glasswool insulation with a density of 32kg/m<sup>3</sup>.
- With or without a 75mm air gap between the perforated sheet and the insulation.

Any variation to these specifications could result in a change in acoustic performance. Generally a NRC over 0.6 will give a noticeable increase in acoustic comfort, while NRC's over 0.8 are excellent.

As a guide the following changes will affect the NRC values given in the graphs.

- Use of 75mm air gaps increase NRC by 0.02.
- Use of 75mm Sonobatt will increase NRC by 0.1.
- **Stramit Monoclad®** or **Stramit K-Panel® Perforated Sheets** will reduce NRC by 0.1.
- Use of 50mm Sonomatt (14kg/m<sup>3</sup>) reduces NRC by 0.2.

These variations are approximate only and have been determined from previous Insulation Solutions test results.

### Thermal Performance

In addition to the glasswool acoustic properties, this system also provides reasonable thermal performance. 50mm Sonobatt insulation provides a thermal resistance rating of approximately  $R = 1.5$ . Designers should be aware of this and if condensation is anticipated, adequate ventilation and/or vapour barriers should be provided to protect the acoustic panels.

### Spanning

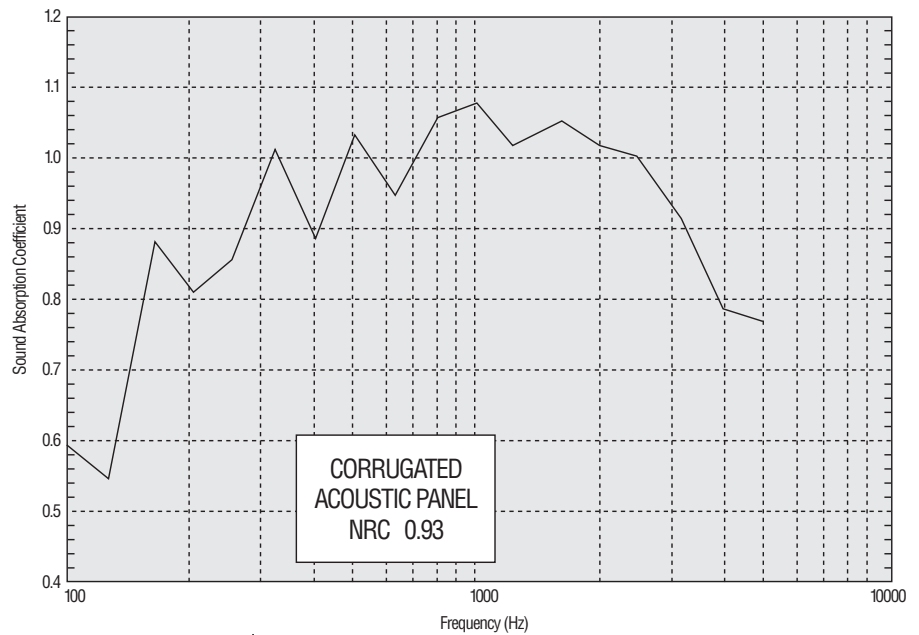
Acoustic panels may be subjected to loads from impact or limited by acceptable deflection. Maximum recommended spans in millimeters for each profile are as shown in the following table. For most expected applications the panels will not be subjected to wind or foot traffic loading. However if either should be applicable refer to the profile specific Product Technical Manual for these capacities.

Stramit® Profile	Ceiling Applications	Non-Impact Areas of Walls	Possible Impact Areas of Walls
Longspan	1200	1500	1200
Monoclad	1200	1500	1200
Corrugated	1200	1200	900
K-Panel	900	900	600

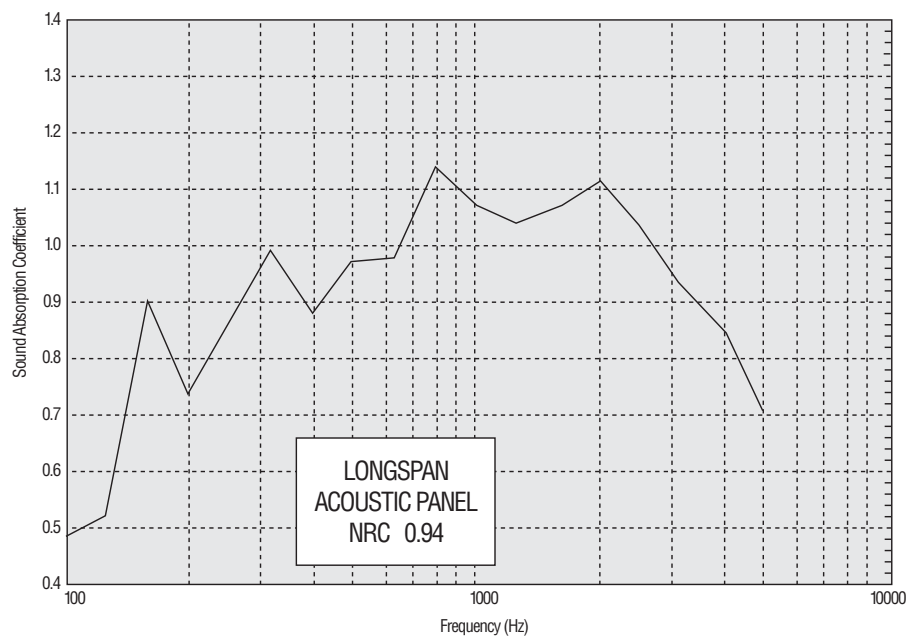
## Acoustic Performance Graphs

The following graphs give the performance levels obtained with the absorption material (the glasswool blanket) immediately behind the acoustic panel. Improved figures are possible if the panel and glasswool blanket are separated with a 75mm air gap. Contact your Stramit Technical Services Manager for details.

The test specimen consisted of **Stramit® Corrugated Perforated Sheet** backed with 50mm thick glasswool blanket (density 32kg/m<sup>3</sup>) encapsulated in 25 micron Mylar.



The test specimen consisted of **Stramit Longspan® Perforated Sheet** backed with 50mm thick glasswool blanket (density 32 kg/m<sup>3</sup>) encapsulated in 25 micron Mylar.



## Procurement

### Prices

Prices on **Stramit® Acoustic Panels** can be obtained from your nearest Stramit location or distributor of Stramit products. As Stramit does not provide an installation service, ask your tradesperson for a supply and fix price. Contact your nearest Stramit location for the names of tradespersons in your area.

### Length

**Stramit® Acoustic Panels** are supplied cut-to-length. When designing or transporting long products ensure that the length is within the limit of the local Transport Authority regulations. The manufacturing tolerance on the length of product supplied is +0, -15mm.

### Ordering

**Stramit® Acoustic Panels** can be ordered directly, through distributors, or supplied and fixed from a cladding contractor.

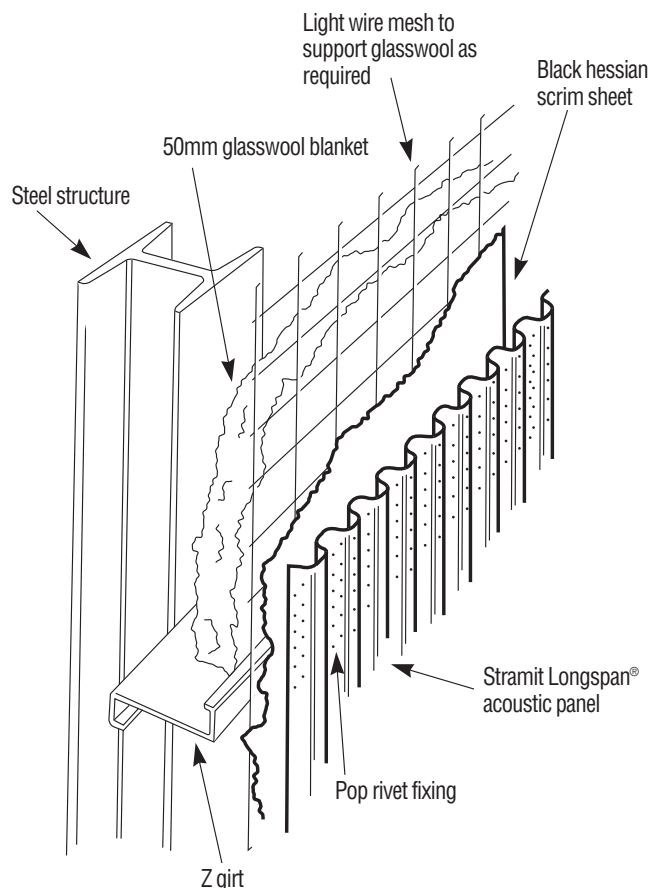
### Handling/Storage

**Stramit® Acoustic Panels** should be handled with care at all times to preserve the quality of the finish. Packs should always be kept dry and stored above ground level while on site. If, however, the sheets have become wet, then they should be separated, wiped and placed in the open to promote drying.

## Installation

### Fasteners

**Stramit® Acoustic Panels** are installed using typical cladding fixing methods. Designers need to determine the best way of holding the glasswool blankets in place (either against or 75mm away from the back of the panel) to suit the structure or method of construction concerned.



### Good Practice

Stramit recommends that good trade practice be followed when installing this product, such as that found in Australian Standards Handbook HB39.

### Cutting

**Stramit® Acoustic Panels** can be easily cut, where required, using a power saw with a steel cutting blade or a power nibble and for localised cutting, tin snips. Avoid the use of abrasive discs as these can cause burred edges and coating damage. Please dispose of any off-cuts carefully.

## Additional information

### Cleaning

Should it become necessary to wash **Stramit® Acoustic Panels** follow the procedure below:

1. Wash the surface with a mild solution of pure soap or non-abrasive, non-toxic, kitchen detergent in warm water using a sponge, soft cloth or soft bristle nylon brush.
2. Thoroughly rinse with clean water immediately after cleaning.

**WARNING – Never use abrasive or solvent type cleaners (e.g. turps, petrol, thinners or kerosene) on COLORBOND® steel.**

### Further Information

Additional information on **Stramit® Acoustic Panels** is available from your local Stramit office including details on curved corrugated acoustic material.

As well as the standard range of Product Technical Manuals, Installation leaflets, Case Studies and other promotional literature, Stramit has a series of Guides to aid design.

These include:

- Concealed Fixed Decking.
- Roof Slope Guide.
- Foot Traffic Guide.
- Roof System Selection Guide.
- Bullnosing, Curving and Crimping.
- Cyclonic Areas.
- Spring Curving Guide.

Please contact your local Stramit office for copies of any of these guides or other literature.

### Other Products

Stramit offers a wide range of building products including:

- Purlins and girts.
- Formwork decking.
- Roof and wall sheeting.
- Lightweight structural sections.
- Truss components.
- Gutters and downpipes.
- Fascias.
- Custom flashings.
- Insulating products.
- Fasteners.

### References

In preparing this document reference has been made to:

- Standards Australia Handbook - HB39 (Installation code for metal roof and wall cladding).
- BlueScope Steel - Technical Bulletin TB-4 (Maintenance of Colorbond prepainted steel roofing).
- BlueScope Steel - Technical Bulletin TB-1 (Steel roofing and walling products - selection guide).



The Stramit web page can be found at:

[www.stramit.com.au](http://www.stramit.com.au)

Details of many **Stramit**® products can also be seen on the AIA site 'Product Selector' at:

[www.selector.com.au](http://www.selector.com.au)

## Building Products

contact numbers for information

		prices	availability	general	technical
			products coating colours	other	advice product data
<b>SYDNEY</b> 33-83 Quarry Road, Erskine Park NSW 2759	phone fax	(02) 9834 0909 (02) 9834 0988		(02) 9834 0900 (02) 9834 0988	
<b>CANBERRA</b> 4 Bass Street, Queanbeyan NSW 2620	phone fax		(02) 6297 3533 (02) 6297 8089		
<b>COFFS HARBOUR</b> 6 Mansbridge Drive, Coffs Harbour NSW 2450	phone fax		(02) 6652 6333 (02) 6651 3395		(02) 4954 5033 (02) 4954 5856
<b>NEWCASTLE</b> 17 Nelson Road, Cardiff NSW 2285	phone fax		(02) 4954 5033 (02) 4954 5856		
<b>ORANGE</b> 51 Leewood Drive, Orange NSW 2800	phone fax		(02) 6361 0444 (02) 6361 9814		
<b>MELBOURNE</b> 2/1464 Ferntree Gully Road, Knoxfield VIC 3180	phone fax	(03) 9237 6300 (03) 9237 6399		(03) 9237 6200 (03) 9237 6299	
<b>ALBURY</b> 18 Ariel Drive, Albury NSW 2640	phone fax		(02) 6041 7600 (02) 6041 7666		
<b>BENDIGO</b> Ramsay Court, Kangaroo Flat VIC 3555	phone fax		(03) 5447 8455 (03) 5447 9677		
<b>HOBART</b> 57 Crooked Billett Drive, Brighton TAS 7030	phone fax		(03) 6263 5536 (03) 6263 6950		(03) 6263 5536 (03) 6263 6950
<b>LAUNCESTON</b> 289 Hobart Road, Kings Meadows TAS 7249	phone fax		(03) 6343 7390 (03) 6343 7381		
<b>ADELAIDE</b> 11 Stock Road, Cavan SA 5094	phone fax		(08) 8262 4444 (08) 8262 6333		(08) 8262 4444 (08) 8262 6333
<b>BRISBANE</b> 57-71 Platinum Street, Crestmead QLD 4132	phone fax		(07) 3803 9999 (07) 3803 1499		
<b>TOWNSVILLE</b> 402-408 Bayswater Road, Garbutt QLD 4814	phone fax		(07) 4779 0844 (07) 4775 7155		
<b>CAIRNS</b> Vickers Street, Edmonton QLD 4869	phone fax		(07) 4045 3069 (07) 4045 4762		
<b>MACKAY</b> Brickworks Court, Glenella QLD 4740	phone fax		(07) 4942 3488 (07) 4942 2343		(07) 3803 9999 (07) 3803 1499
<b>MARYBOROUGH</b> 10 Activity St, Maryborough QLD 4650	phone fax		(07) 4121 2433 (07) 4123 3139		
<b>ROCKHAMPTON</b> 41 Johnson St, Parkhurst QLD 4702	phone fax		(07) 4936 2577 (07) 4936 4603		
<b>SUNSHINE COAST</b> Unit 1, 5 Kerry St, Kunda Park QLD 4556	phone fax		(07) 5456 4083 (07) 5456 4862		
<b>MURWILLUMBAH</b> 6 Kay Street, Murwillumbah NSW 2484	phone fax		(02) 6672 8542 (02) 6672 6798		
<b>DARWIN</b> 55 Albatross Street, Winnellie NT 0820	phone fax		(08) 8947 0780 (08) 8947 1577		
<b>PERTH</b> 605-615 Bickley Road, Maddington WA 6109	phone fax		(08) 9493 8800 (08) 9493 8899		
<b>BUNBURY</b> 25 Proffit Street, Bunbury WA 6230	phone fax		(08) 9721 8046 (08) 9721 8017		

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