



Stramit 



**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



STRAMIT® ACOUSTIC PANEL SYSTEM



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:-

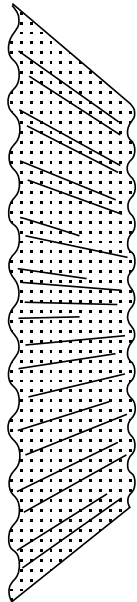
The internal wall/ceiling shall be Stramit Acoustic Panels in the.....profile. Sheeting material shall be protected steel sheet to Australian Standard ASI397 with a minimum yield stress of 550MPa (Grade 550) and an AZ150 zinc-aluminium coating with an off white ovenbaked paint film.

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

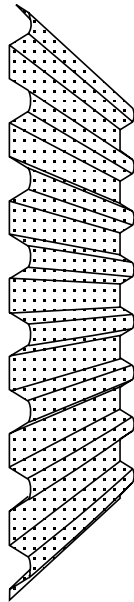
All sheeting shall be fixed in a workman like manner, leaving the job clean and with minor blemishes touched up with paint supplied by the manufacturer. All insulation/absorbing materials shall match the Stramit specification contained in the Stramit technical brochure.

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

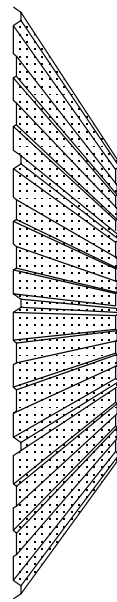
Stramit Corrugated®



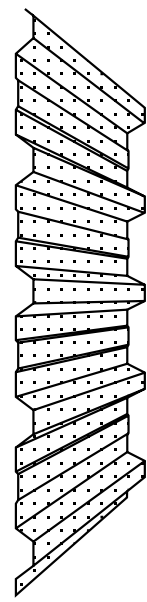
Stramit Longspan®



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/m3.
- 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/m3) 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

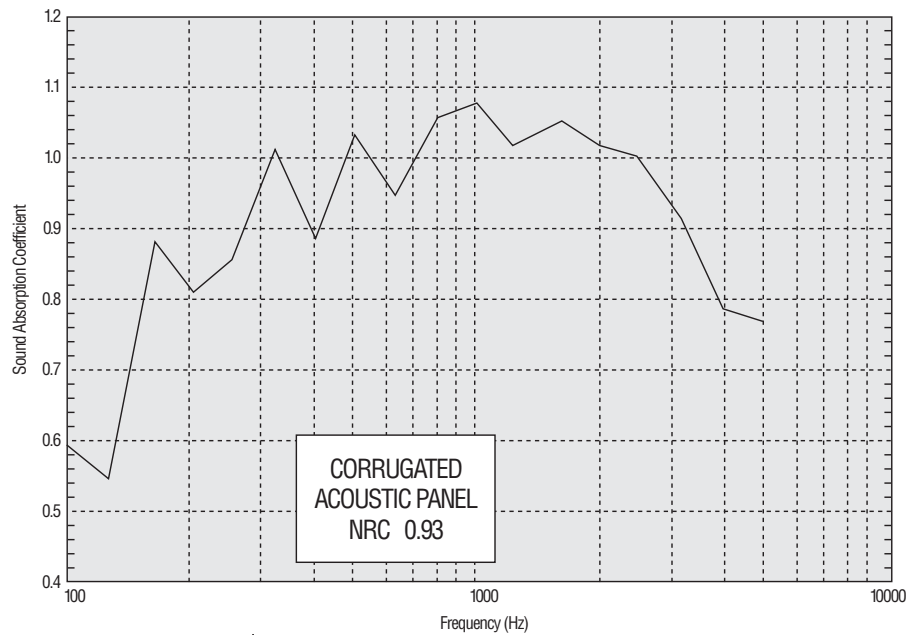
Acoustic panels may be subjected to loads from impact or limited by acceptable deflection. Maximum recommended spans in millimeters for each profile are as shown in the following table. For most expected applications the panels will not be subjected to wind or foot traffic loading. However if either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

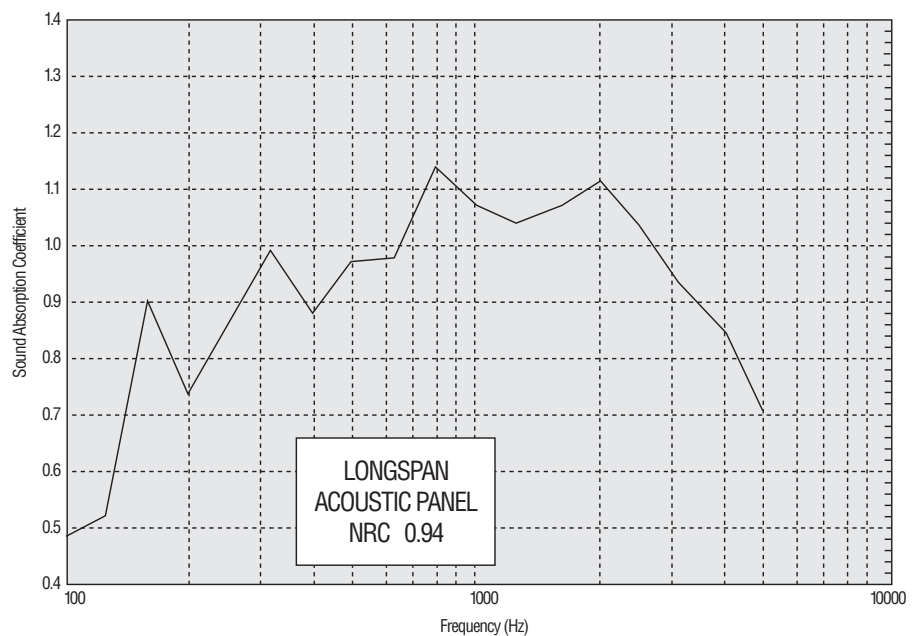
Acoustic Performance Graphs

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/m³) encapsulated in 25 micron Mylar.



The test specimen consisted of **Stramit Longspan® Perforated Sheet** backed with 50mm thick glasswool blanket (density 32 kg/m³) 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.

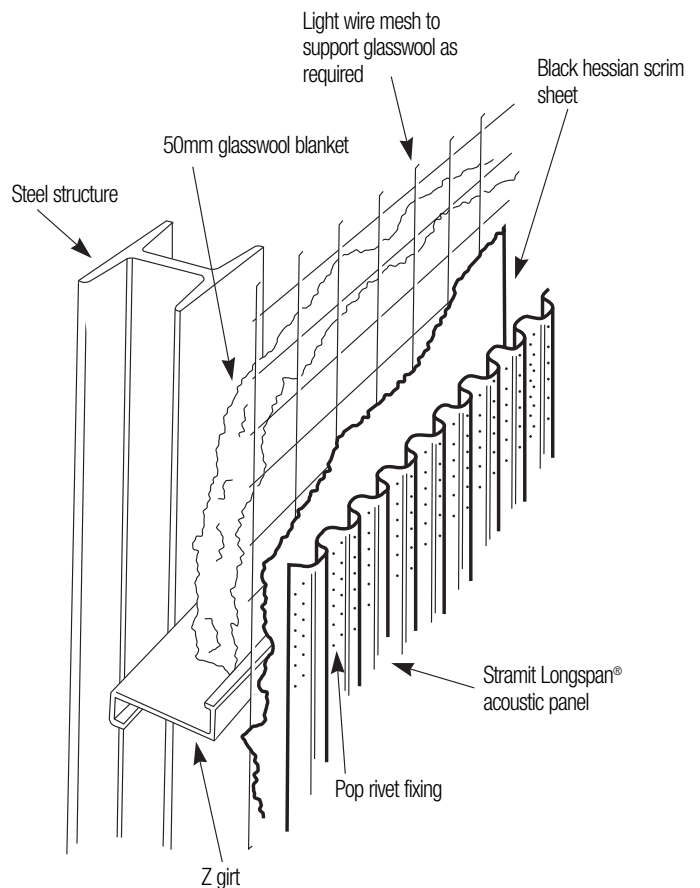
Handling/Storage

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).

| | | prices | availability | general | technical |
|--|--------------|---|--------------------------------|---|---|
| contact numbers for information | | | products coating colours | other | advice product data |
| SYDNEY 33-83 Quarry Rd, Erskine Park NSW 2759 | phone fax | (02) 9834 0909 (02) 9834 0988 | | (02) 9834 0900 (02) 9834 0988 | |
| CANBERRA 4 Bass Street, Queanbeyan NSW 2620 | phone fax | (02) 6298 2500 (02) 6298 2533 | | | |
| COFFS HARBOUR 6 Mansbridge Drive, Coffs Harbour NSW 2450 | phone fax | (02) 6656 3800 (02) 6656 3808 | | | |
| NEWCASTLE 17 Nelson Road, Cardiff NSW 2285 | phone fax | (02) 4041 3400 (02) 4041 3423 | | | |
| ORANGE 51 Leewood Drive, Orange NSW 2800 | phone fax | (02) 6360 9200 (02) 6360 9211 | | | |
| MELBOURNE 3/1464 Ferntree Gully Road, Knoxfield VIC 3180 | phone fax | (03) 9237 6300 (03) 9237 6399 | | (03) 9237 6200 (03) 9237 6299 | |
| ALBURY 18 Ariel Drive, Albury NSW 2640 | phone fax | (02) 6092 3700 (02) 6092 3766 | | | |
| BENDIGO Ramsay Court, Kangaroo Flat VIC 3555 | phone fax | (03) 5448 6400 (03) 5447 9677 | | | |
| HOBART 57 Crooked Billett Drive, Brighton TAS 7030 | phone fax | (03) 6262 8788 (03) 6262 8712 | | | (03) 6262 8788 (03) 6262 8712 |
| ADELAIDE 11 Stock Road, Cavan SA 5094 | phone fax | (08) 8219 2000 (08) 8262 6333 | | | (08) 8219 2000 (08) 8262 6333 |
| BRISBANE 57-71 Platinum Street, Crestmead QLD 4132 | phone fax | (07) 3803 9999 (07) 3803 1499 | | | |
| TOWNSVILLE 402-408 Bayswater Road, Garbutt QLD 4814 | phone fax | (07) 4412 3900 (07) 4412 3909 | | | |
| CAIRNS Vickers Street, Edmonton QLD 4869 | phone fax | (07) 4034 6555 (07) 4034 6511 | | | |
| MACKAY Brickworks Court, Glenella QLD 4740 | phone fax | (07) 4965 4000 (07) 4965 4012 | | | (07) 3803 9999 (07) 3803 1499 |
| MARYBOROUGH 10 Activity St, Maryborough QLD 4650 | phone fax | (07) 4123 9500 (07) 4123 9508 | | | |
| ROCKHAMPTON 41 Johnson St, Parkhurst QLD 4702 | phone fax | (07) 4921 5600 (07) 4921 5608 | | | |
| DARWIN 55 Albatross Street, Winnellie NT 0820 | phone fax | (08) 7922 4600 (08) 7922 4608 | | | |
| PERTH 605-615 Bickley Road, Maddington WA 6109 | phone fax | (08) 9493 8800 (08) 9493 8899 | | | |