



**STRAMIT
MONOCLAD®**
ROOF AND WALL CLADDING

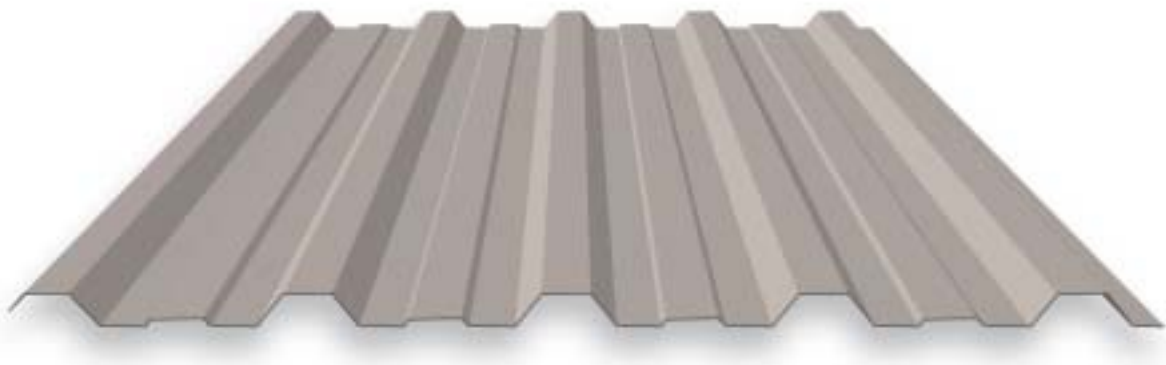
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STRAMIT MONOCLAD[®]

ROOF AND WALL CLADDING

Selection & Specification



Features

- Economical – unique blend of characteristics provides a low installed cost.
- Simple Installation – through fixing and easy notching of flashings.
- 762mm Cover – quick installation and easy handling.
- Hi-tensile Steel – lightweight and high strength.
- Deep Ribs – provide excellent spanning capability with good water carrying capacity.
- Domed Crest – provides greater foot traffic performance.
- Anti-capillary Side Laps – gives improved weather structure.
- 2° Minimum Pitch – reduces support structure.
- Fully Tested – a full range of load performance tables to suit almost any application.

Applications

The visual appeal, strength, wide cover, light weight and weather resistance of **Stramit Monoclad[®]** cladding make it perfect for all commercial roofing and walling applications. Its excellent strength and ease of assembly allow for long, economical spans. The large water-carrying capacity and weather-tightness permit very low roof pitches, leading to economies in the building structure.

Stramit Monoclad[®] cladding may also be used for domestic applications.

Stramit Monoclad[®] cladding is only intended for use in commercial/industrial/residential roof or wall cladding applications. Do not use for any other purpose.

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.

Materials

Stramit Monoclad[®] cladding is manufactured from hi-tensile G550 colour coated steel or zinc aluminium alloy coated steel. In some locations galvanised and severe environment colour coated steel may be available by arrangement. Colour coated steels are in accordance with AS2728 – Category 3 and, for the substrate, with ASI397. Zinc aluminium alloy coated AZI50 and galvanised Z450 conform to ASI397.

Stramit has a comprehensive range of colours as standard. Ask your nearest Stramit location for colour availability.

STRAMIT MONOCLAD[®] CLADDING – SHEETING MASS (kg/m² of roof area)

	ZINCALUME [®]	COLORBOND [®]	GALVANISED
0.42mm BMT	4.28	4.35	4.65
0.48mm BMT	4.86	4.93	5.23

Adverse Conditions

Stramit Monoclad[®] cladding will give excellent durability in almost all locations. It is however important to choose the correct coating for each application environment. The table below shows the suitability of coating types for different exposure conditions.

suitability of coating type	site exposure condition				
	benign	moderate	marine	severe marine	very severe marine
ZINCALUME [®]	✓	✓	✗	✗	✗
GALVANISED Z450	✓	?	✗	✗	✗
COLORBOND [®]	✓	✓	✓	✗	✗
COLORBOND [®] ULTRA	N/A	N/A	✓	✓	✗

? Question marks indicate conditions where durability may be diminished, depending on the particular application.

The approximate site exposure conditions in the table above are defined below.

site exposure condition	distance of site from	
	breaking surf	calm surf
benign	100m +	100m +
moderate	401m-1000m	201-1000m
marine	201m-400m	101m-200m
severe marine	100m-200m	0m-100m
very severe marine	0m-100m	N/A

The suitability and exposure tables above are guidelines only; conditions will vary from site to site. If uncertain about the appropriate coating for a particular application, or if the product is to be used in environments affected by industrial emissions, fossil fuel combustion or animal farming, contact your nearest Stramit office for advice.

Compatibility

All building products need to be checked for compatibility with adjacent materials. These checks need to be for both direct contact between materials, and where water runs from one material to another. The following guidelines generally avoid material incompatibility:

- For zinc aluminium alloy coated steel, colour coated steel and galvanised steel roofs avoid copper, lead, green or treated timber, stainless steel and mortar or concrete.
- In addition galvanised steel roofs should not receive drainage from aluminium or any inert materials, such as plastics, glass, glazed tiles, colour coated steel and zinc aluminium alloy coated steel. Contact Stramit for more detailed information.

Testing

Stramit has in-house, purpose built, testing equipment used to design, develop and improve products for the Australian market. In addition many Stramit products are tested or witnessed by independent organisations. These include:

- Cyclone Testing Station (James Cook University)
- The University of Sydney
- University of Technology, Sydney

This ongoing research and development activity ensures that Stramit remains at the forefront of innovation, design and consumer information.

Architectural Specification

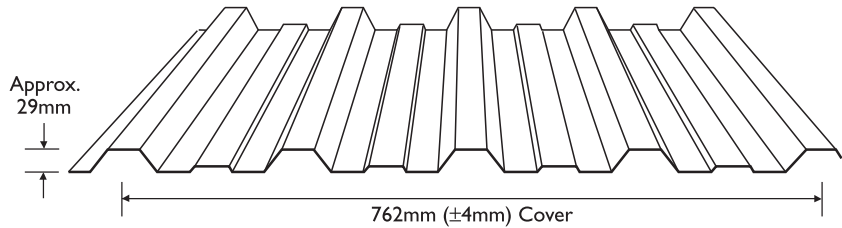
This specification can be found on the Stramit web site and can be easily downloaded onto your documentation.

The roofing/walling shall be 0.42 (or 0.48) mm BMT **Stramit Monoclad**[®] cladding in continuous lengths with trapezoidal ribs approximately 29mm high, spaced at 190mm centres. Sheeting material shall be protected steel sheet to Australian Standard ASI397, with a minimum yield stress of 550MPa (Grade G550) and an AZI50 zinc-aluminium coating with or without an oven-baked paint film of selected colour. The sheeting shall be fixed to the purlins/girts in accordance with the manufacturer's recommendations. Suitable fixing screws in accordance with Australian Standards AS3566, Class 3, shall be used at every rib at every support with side lap fasteners installed at mid span if required. Sheets shall be laid in such a manner that the approved side lap faces away from the prevailing weather. A minimum of 50mm shall be provided for projection into gutters. Flashings shall be supplied in compatible materials as specified; minimum cover of flashing shall be 150mm. All sheeting shall be fixed in a workman-like manner, leaving the job clean and weathertight. Repair minor blemishes with touch-up paint supplied by the roof manufacturer. All debris (nuts, screws, cuttings, filings etc.) shall be cleaned off daily.

Design

Spans

The spans shown below take account of 'normal' foot traffic and wind resistance including local pressure zone effects. Pressures are based on AS4055 or AS1170.2 section 2. Where the two standards differ, the worst case has been taken for each classification. Data should only be used for buildings 7m or less in height, 1000m² or less in area and unaffected by land topography.



STRAMIT MONOCLAD® CLADDING – MAXIMUM SPAN CHART (mm)

bmt (mm)	roofs					walls					overhangs	
	pressure (kPa) service -ability		double spans	equal spans	internal (end) span combination	pressure (kPa) service -ability		double spans	equal spans	internal (end) span combination	free edge	stiffened edge
N1 or Region A (sheltered suburban)												
0.42	0.76	1.35	1350	1350	1700 (1400)	0.61	1.04	2700	2850	3000 (2500)	150	400
0.48	0.76	1.35	1700	1700	2300 (1900)	0.61	1.04	2900	2750	3000 (2500)	200	500
N2 or Region B (sheltered suburban) and Region A (exposed suburban)												
0.42	0.78	1.94	1350	1350	1700 (1400)	0.61	1.49	2700	2850	3000 (2500)	150	400
0.48	0.78	1.94	1700	1700	2300 (1900)	0.61	1.49	2900	2750	3000 (2500)	200	500
N3 or Region A (rural) and Region B (exposed suburban)												
0.42	1.18	2.96	1350	1350	1700 (1400)	0.92	2.25	2050	2200	2800 (2300)	100	300
0.48	1.18	2.96	1700	1700	2300 (1900)	0.92	2.25	2600	2500	3000 (2500)	150	400

Internal spans must have both end spans 20% shorter. Values are only valid for use with steel members of 0.75mm or thicker. For more specific applications **Stramit Monoclad®** cladding must be designed to the pressure and foot traffic limitations below.

Pressures

STRAMIT MONOCLAD® CLADDING – SERVICEABILITY LIMIT STATE CAPACITY

thickness bmt(mm)	fasteners per sheet at each support	span type	pressure (kPa) at the spans (mm) shown									
			600	900	1200	1500	1800	2100	2400	2700	3000	
0.42	4	internal	5.41	5.41	3.75	2.76	2.10	1.64	1.29	1.01	0.80	
		equal	5.00	5.00	2.87	1.88	1.34	1.02	0.81	0.67	0.56	
		double	4.06	4.06	2.34	1.55	1.13	0.88	0.72	0.61	0.53	
0.48	4	internal	7.28	7.28	4.44	3.11	2.37	1.91	1.61	1.40	1.25	
		equal	5.07	5.07	3.76	2.78	2.05	1.49	1.04	0.68	0.39	
		double	4.54	4.54	3.52	2.70	2.05	1.55	1.15	0.83	0.56	

STRAMIT MONOCLAD® CLADDING – STRENGTH LIMIT STATE CAPACITY (Non-cyclonic)

thickness bmt(mm)	fasteners per sheet	span type	pressure (kPa) at the spans (mm) shown									
			600	900	1200	1500	1800	2100	2400	2700	3000	
0.42	4	internal	8.69	8.69	7.01	5.75	4.81	4.09	3.52	3.07	2.69	
		equal	7.13	7.13	6.59	5.63	4.72	3.93	3.27	2.72	2.25	
		double	6.24	6.24	4.81	4.00	3.49	3.14	2.88	2.69	2.53	
0.48	4	internal	9.42	9.42	8.33	6.99	5.81	4.83	4.02	3.34	2.77	
		equal	8.17	8.17	7.52	6.32	5.18	4.21	3.38	2.69	2.10	
		double	8.10	8.10	7.46	6.38	5.37	4.50	3.77	3.16	2.64	

Tables are based on testing to AS1562 and AS4040 parts 0, 2 and 3. Internal spans must have both end spans 20% shorter. Values only valid for use with steel support members of 0.75mm or thicker.

Refer to **Stramit® Cyclonic Areas Roof and Wall Cladding** brochure for information on use in cyclonic regions.

Foot Traffic

Foot traffic limits for **Stramit Monoclad**[®] cladding are shown for three alternate foot traffic categories. These are:

- High Maintenance – for applications with repeated maintenance, particularly where personnel may be unfamiliar with correct procedures for walking on metal roofs.
- Normal – based on traditional expectations, with moderate maintenance foot traffic using designated foot paths.
- Controlled – spans that conform to ASI562 but require minimal careful foot traffic only on the designated foot path. Suggested for use only where occasional aesthetic imperfections from foot traffic are acceptable.

STRAMIT MONOCLAD[®] CLADDING – FOOT TRAFFIC LIMITED SPANS (mm)

thickness bmt	fasteners per sheet	span type	foot traffic limits		
			heavy	normal	controlled
0.42	4	internal	-	1700	2100
		equal	-	1350	1800
		double	-	1350	1800
0.48	4	internal	1000	2300	2700
		equal	800	1700	2250
		double	800	1700	2250

Tables are based on tests to ASI562 and AS4040 parts 0 and 1.

For more information on foot traffic performance of **Stramit Monoclad**[®] cladding and other Stramit roofing profiles refer to Stramit's Foot Traffic Guide.

Spring Curving

Stramit Monoclad[®] cladding can be spring-curved, concave and convex, including curved ridges, provided it is sealed at the apex and within the recommended limits below:

STRAMIT MONOCLAD[®] CLADDING – SPRING-CURVED RADII LIMITS (m)

bmt (mm)	performance restricted		restricted by drainage at the rainfall intensities shown		
	minimum* radius	lowest neutral radius	370 mm/hr	220 mm/hr	150 mm/hr
0.42	70*	132	105	177	259
0.48	60*	132	105	177	259

*At these radii a maximum support spacing of 1200mm applies, and limit state pressure capacities are reduced by 14% for serviceability and 7% for strength. These reductions apply proportionately up to the lowest neutral radius.

For more comprehensive information on spring curving **Stramit Monoclad**[®] cladding and other **Stramit**[®] roofing profiles refer to the Stramit Spring Curving Guide.

Thermal Expansion

All metal roof sheeting is subject to thermal expansion and, where there is a temperature difference between the sheeting and the structure, this needs to be accommodated. The colour of the sheeting will affect the amount of thermal expansion, and whether the sheet is flat or curved will affect its ability to resist without problems.

Sheet lengths should be limited to those shown below.

STRAMIT MONOCLAD[®] CLADDING – MAXIMUM SHEET LENGTH (m)

roof colour	light	dark
Flat	25	17
Spring-curved	20	17

Water Carrying

Stramit Monoclad[®] cladding has excellent water-carrying capacity enabling roof slopes to be as low as 2° for many applications. Roof run lengths are the combined lengths of all roof elements contributing to a single pan drainage path. This can include the roof length upstream of a roof penetration that concentrates flow into other pans. The table below gives slopes for 100 year return period rainfall intensity.

STRAMIT MONOCLAD[®] CLADDING – MINIMUM ROOF SLOPE (degrees)

rainfall intensity mm/hr	total roof run length (m)											max roof run length (m) at min slope	
	30	40	50	60	70	80	90	100	110	120	130		
150								2.0	2.3	2.9	3.6	105	
175	<i>Minimum</i>						2.0	2.0	2.7	3.5	4.3	5.2	90
200	<i>Slope 2°</i>						2.1	2.9	3.8	4.8	5.9	7.1	78
225				2.0	2.9	3.9	5.1	6.3	7.7	9.2		70	
250			2.0	2.7	3.8	5.1	6.5	8.0	9.7	12		63	
275			2.3	3.5	4.8	6.3	8.0	9.9	12	15		57	
300		2.0	2.9	4.3	5.9	7.7	9.7	12	15	17		52	
325		2.2	3.6	5.2	7.1	9.2	12	15	17	20		48	
350		2.7	4.3	6.2	8.3	11	14	17	20	24		45	
375		2.0	3.2	5.1	7.2	9.7	13	16	19	23		42	
400	2.0	2.1	3.8	5.9	8.3	12	15	18	22			39	

Exceeds the scope of this manual.

Note: Depth of flow in pan = 60% height of underlap (agreed industry standard)

For more information on water carrying performance of **Stramit Monoclad**[®] cladding and other Stramit roofing profiles refer to Stramit's Roof Slope Guide.

Darwin Area

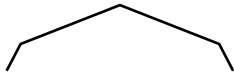
Information on the use of **Stramit Monoclad**[®] cladding in the Darwin area can be found in deemed-to-comply sheets in the Darwin Area Manual. These are available from Stramit.

Procurement

Prices

Prices on **Stramit Monoclad**[®] cladding and its accessories 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.

Related Products



Ridge Capping – standard or custom dimensions

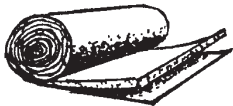


Flashings – a range of custom flashings

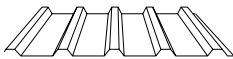


Filler Strips – top and bottom; for eaves, ridge and joint sealing

Use only where sealing is preferred to ventilation



Insulation & roofing mesh – a range of mesh, plain & foil backed blanket



Translucent sheeting – fibreglass sheeting in a range of shades and densities

Length

Stramit Monoclad[®] cladding is 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 Monoclad[®] cladding can be ordered directly, through distributors, or supplied and fixed from a roofing contractor.

Delivery/Unloading

Delivery can normally be made within 48 hours, subject to the delivery location, quantity and material availability, or can be at a pre-arranged date and time. Please ensure that suitable arrangements have been made for truck unloading, as this is the responsibility of the receiver. Pack mass may be up to one tonne. When lifting **Stramit Monoclad**[®] cladding, care should be taken to ensure that the load is spread to prevent damage.

Handling/Storage

Stramit Monoclad[®] cladding should be handled with care at all times to preserve the product capabilities and quality of the finish. Packs should always be kept dry and stored above ground level while on site. If the sheets have become wet, they should be separated, wiped and placed in the open to promote drying.

Installation

Fasteners

All fastening screws must conform to AS3566 – Class 3, are to be hexagon headed and for roofing must be used with sealing washers. For connecting to purlins or top hats use:



For steel (0.75bmt or greater)*
– No.12 x 45mm self-drilling and threading screws for crest fixing



– No.10 x 16mm self-drilling and threading screws for pan fixing to walls



For timber (F11 or better)
– No. 12 x 65mm type 17 screws for crest fixing



– No.10 x 25mm type 17 screws for pan fixing to walls



Side Laps

– No. 8 x 12mm 'S' point screws, or
– 3.2mm diameter sealed aluminium pop rivets



* For steel less than 0.75bmt thickness refer to **Stramit**[®] Top Hats & Battens Product Technical Manual.

Site Induction

Consideration should be given to handling and installation issues as part of site induction safety procedures. Specific consideration should be given to pack handling, avoidance of cuts, trips, slips and falls, long sheet handling particularly in windy conditions, sheet cutting procedures and surface temperature on sunny days. Personal Protection Equipment (PPE) should always be used.

Installation

Stramit Monoclad[®] cladding is readily installed with or without fibreglass insulation blanket. If practical lay sheets in the opposite direction to prevailing weather. Installation of **Stramit Monoclad**[®] cladding is a straightforward procedure using the following fixing sequence:

- 1) Ensure all purlins are in line and correctly installed and that mesh and blanket (if specified) are in place.
- 2) Position and fix the first sheet ensuring the correct sheet overhangs (minimum 50mm). Ensure that screws are not overtightened.
- 3) Continue to fix subsequent sheets checking that sheet ends at the lower edge are exactly aligned.

It is important that the underlap of one sheet does not protrude beyond the overlap of the next – if this is unavoidable, the underlap must be trimmed locally or water 'drawback' may occur.

- 4) Measure the overall cover width at top and bottom of the sheets from time to time to avoid 'fanning'.
- 5) For roof spans exceeding 900mm and wall spans exceeding 1200mm, stitch the sidelaps at midspan.
- 6) Turn up the pans at the upper roof edge and install flashings.
- 7) Clean up the roof after each days work, removing all screws, cuttings, swarf etc, and leave roof clean and watertight.

Insulation

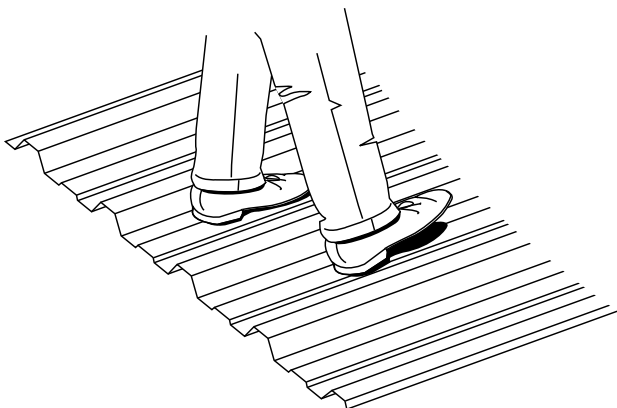
Stramit Monoclad[®] cladding is suitable for use with insulating blanket. Glasswool blanket up to 50mm thick can be readily used. Increased thicknesses require longer fasteners and greater care in installation.

Increased thicknesses up to 100mm require fasteners that are 20mm longer. However, care must be taken when fixing the sheet. Stand on pans either side of rib to compress the additional material and fix fasteners until seal is touching. Do not over tighten fasteners.

Walking

As with all roofing products, we recommend extra caution be taken when walking on the roof. When walking on **Stramit Monoclad**[®] cladding roofing always wear flat rubber soled shoes and place feet only in the pans, taking care to avoid the last pan or two near edges of the metal roof area.

Walk only in pans, or on ribs at purlin supports



Good Practice

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

Sheet Handling

Cut resistant or leather gloves should be worn when handling product. Foot protection should be worn when handling and transporting product.

Cutting

Stramit Monoclad[®] cladding can be easily cut, where required, using a power saw with a steel cutting blade or a power nibbler 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

Maintenance

Exterior surfaces of metal products unwashed by rain can benefit from occasional washing to remove build-up of corrosive salts. Walls beneath eaves or awnings are such a situation.

Further Information

As well as our standard range of Technical Manuals, Installation Leaflets, Case Studies and other promotional literature Stramit has a series of Guides to aid design. These include:

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

Please contact your nearest Stramit location or visit www.stramit.com.au to download Stramit 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

Details of many **Stramit**® products can also be seen on the RAI A site 'Product Selector' at:
www.selector.com.au

Building Products

		prices	availability	general	technical
contact numbers for information			products coating colours	other	advice product data
SYDNEY 33-83 Quarry Road, 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) 6297 3533 (02) 6297 8089		
COFFS HARBOUR 6 Mansbridge Drive, Coffs Harbour NSW 2450	phone fax		(02) 6652 6333 (02) 6651 3395		(02) 4954 5033 (02) 4954 5856
NEWCASTLE 17 Nelson Road, Cardiff NSW 2285	phone fax		(02) 4954 5033 (02) 4954 5856		
ORANGE 51 Leewood Drive, Orange NSW 2800	phone fax		(02) 6361 0444 (02) 6361 9814		
MELBOURNE 2/1464 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) 6041 7600 (02) 6041 7666		
BENDIGO Ramsay Court, Kangaroo Flat VIC 3555	phone fax		(03) 5447 8455 (03) 5447 9677		
HOBART 57 Crooked Billett Drive, Brighton TAS 7030	phone fax		(03) 6263 5536 (03) 6263 6950		(03) 6263 5536 (03) 6263 6950
LAUNCESTON 9 Richard Street, Western Junction TAS 7212	phone fax		(03) 6391 9293 (03) 6391 8774		
ADELAIDE 11 Stock Road, Cavan SA 5094	phone fax		(08) 8262 4444 (08) 8262 6333		(08) 8262 4444 (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) 4779 0844 (07) 4775 7155		
CAIRNS Vickers Street, Edmonton QLD 4869	phone fax		(07) 4045 3069 (07) 4045 4762		
MACKAY Brickworks Court, Glenella QLD 4740	phone fax		(07) 4942 3488 (07) 4942 2343		(07) 3803 9999 (07) 3803 1499
MARYBOROUGH 10 Activity St, Maryborough QLD 4650	phone fax		(07) 4121 2433 (07) 4123 3139		
ROCKHAMPTON 41 Johnson St, Parkhurst QLD 4702	phone fax		(07) 4936 2577 (07) 4936 4603		
SUNSHINE COAST Unit 1, 5 Kerry St, Kunda Park QLD 4556	phone fax		(07) 5456 4083 (07) 5456 4862		
MURWILLUMBAH 6 Kay Street, Murwillumbah NSW 2484	phone fax		(02) 6672 8542 (02) 6672 6798		
DARWIN 55 Albatross Street, Winnellie NT 0820	phone fax		(08) 8947 0780 (08) 8947 1577		
PERTH 605-615 Bickley Road, Maddington WA 6109	phone fax		(08) 9493 8800 (08) 9493 8899		
BUNBURY 25 Proffit Street, Bunbury WA 6230	phone fax		(08) 9721 8046 (08) 9721 8017		

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