

permalite



ALUMINIUM BUILDING SOLUTIONS

The stylish answer
for the toughest conditions



BlueScope PERMALITE®

BLUESCOPE IS AUSTRALIA'S LARGEST STEEL MANUFACTURER AND THE WORLD'S LEADING PROVIDER OF PRE-ENGINEERED BUILDINGS.

Drawing on a global network of expertise and experience BlueScope has the capability and resources to supply the Australian commercial and industrial building market with unique and innovative building systems and products.



PERMALITE® aluminium cladding is one such product. Australia's geography, lifestyles and industrial developments have created challenging environments which require building materials with a unique ability to perform.

PERMALITE® aluminium products are the BlueScope solution for aggressive environments where durability and stylish good looks must be delivered with cost effectiveness and without compromise.



PERMALITE® products are made from marine grade aluminium, roll-formed to produce high performance cladding or purlins with an exceptional combination of strength and light weight.

But there's even more to the PERMALITE® product story than just the performance of the product. The PERMALITE® building product range

is backed by strong warranties and the extensive product knowledge on which the BlueScope reputation is built.

Tackling the toughest building environments in Australia? It's good to know you can count on the know-how of BlueScope.

**PERMALITE®
aluminium products
are the BlueScope
solution for aggressive
environments.**



When to specify PERMALITE®

THE PERMALITE® RANGE FILLS AN IMPORTANT NICHE IN THE BLUESCOPE PORTFOLIO OF PRODUCTS WHICH INCLUDES CLADDINGS SUITABLE FOR TYPICAL REQUIREMENTS AS WELL AS OTHERS DESIGNED TO SUIT TOUGHER COASTAL AND INDUSTRIAL CONDITIONS.

For aggressive environments where durability, good looks and cost effectiveness are equally important, PERMALITE® aluminium is the product to specify.

Marine grade quality – durability guaranteed

All PERMALITE® aluminium cladding profiles, purlins and flashings are produced entirely from marine grade aluminium, an alloy specifically developed for its resistance to corrosion in marine or industrial environments.

Where corrosion protection is paramount, such as in chemical plants or industrial applications where sulphates, chlorides or other pollutants are likely to come in contact with the metal, PERMALITE® aluminium cladding delivers exceptional results.



PERMALITE® – the smart choice

IN AGGRESSIVE ENVIRONMENTS SUCH AS WATER FRONTAGES, INDUSTRIAL FACILITIES OR ANY APPLICATION WHERE CORROSION BECOMES A MAJOR CONCERN, PERMALITE® ALUMINIUM BUILDING PRODUCTS ARE THE STAND-OUT CHOICE FOR LONG TERM PERFORMANCE AND PEACE OF MIND.

Resistance to corrosion in the presence of salt spray and other airborne chemical agents has made PERMALITE® aluminium products an ongoing success on projects all over Australia for more than 40 years, but it's just one of the many benefits the PERMALITE® range delivers.



Natural protection from attack

Aluminium also does not absorb moisture, does not swell, shrink, split or crack making it the ideal building product in aggressive environments.

With PERMALITE® aluminium products, durability is more than skin deep. Natural oxidation of aluminium alloys creates an ever present barrier to

atmospheric attack. An integral part of the metal, this oxide layer slowly thickens with age and any damage or scratching to this oxide layer is spontaneously repaired.

In aggressive environments PERMALITE® aluminium products can offer technical benefits and warranties unrivalled by any other material.

Durability Plus

Durability plays a key role in decision making as part of the building design and construction process more than ever before. Through its steel building product research and development, BlueScope has demonstrated its commitment to durability. That commitment continues with the PERMALITE® range.

The PERMALITE® range offers the durability advantages of marine grade aluminium with the additional benefit of recyclability. Its corrosion resistance also helps keep building maintenance costs low.

Light weight

PERMALITE® products weigh as little as one third as much as their steel equivalents.

Figure PERMALITE® building solutions into your design calculations to take maximum advantage of the positive impact their weight saving ability can have on structural element design.

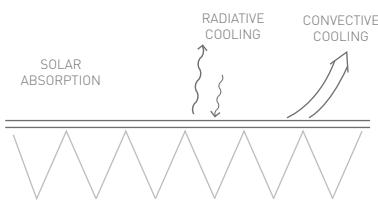
The light weight of PERMALITE® aluminium cladding or purlins also delivers significant material handling advantages, resulting in reduced craneage costs and potentially lower labour requirements for manual handling by installers.

Cool roofing and cladding

SOLAR REFLECTIVITY AND THERMAL PERFORMANCE PROVIDE A POWERFUL ARGUMENT FOR PERMALITE® ALUMINIUM CLADDING'S EFFICIENCY CREDENTIALS. TO BROADEN DESIGN OPTIONS, PERMALITE® ALUMINIUM CLADDING CAN BE SUPPLIED UNPAINTED OR IN REFLECTIVE PREPAINTED COLOURS.

Either way, the end result will impress. Want a fine example? Look closely at the roof of the Sydney International Aquatic Centre. It's a spectacular example of PERMALITE® aluminium cladding.

Roof heat flows



Reflectance and emittance properties of roofing materials

Specimen	Reflectances %				Far Infrared Emittance
	Solar	UV	VIS	NIR	
Unpainted aluminium	71.3	75.0	74.0	68.7	0.04
Unpainted galvanised	60.9	29.3	49.4	73.5	0.25
Granular surface bitumen	25.8	9.3	28.4	25.0	0.92
Red concrete tile	17.6	7.0	13.1	23.1	0.91
Unpainted cement tile	24.8	9.7	18.1	32.8	0.90

* As shown in the above table aluminium roofing out performs other roofing materials in this area. Reducing energy requirements for cooling further enhancing PERMALITE® aluminium's whole of life cost.

PERMALITE® aluminium the sustainable choice

WHAT IS SUSTAINABLE DEVELOPMENT? THE WORLD COMMISSION ON ENVIRONMENT AND DEVELOPMENT DESCRIBES IT THIS WAY: "DEVELOPMENT WHICH MEETS THE NEEDS OF THE PRESENT WITHOUT COMPROMISING THE ABILITY OF FUTURE GENERATIONS TO MEET THEIR OWN NEEDS"

Sustainable development is based on the belief that it is possible to build in the environment and for the environment. Using materials that offer both longevity and the ability to be recycled ensures that our finite resources are preserved for future generations.

PERMALITE® aluminium products are a prime example in sustainable building development. Most building materials do consume considerable energy in their manufacture however the energy required to manufacture aluminium

sheet products is approx 15% of that required to produce the primary metal ingots. Even bigger savings are available from recycling aluminium. Recycling can save 95% of that required in the production process.

All PERMALITE® aluminium sheeting products are manufactured from largely recycled material and can be again recycled at the end of its service life. PERMALITE® aluminium products are the active embodiment of sustainable development

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Finishes and colours for design flexibility

JUST BECAUSE YOUR PROJECT
DEMANDS A CLADDING SOLUTION
WHICH DELIVERS OUTSTANDING
DURABILITY IN AN AGGRESSIVE
ENVIRONMENT DOESN'T MEAN YOU
HAVE TO COMPROMISE ON
IMPORTANT AESTHETIC QUALITIES.

PERMALITE® aluminium cladding solutions are available in a variety of finishes, profiles and standard colours. For larger projects custom colours may be available by negotiation.

All PERMALITE® aluminium cladding profiles can be specified in a choice of three finishes.

Mill Finish – Gives a smooth, lustrous finish which will dull relatively quickly by a weathering process which enhances its natural corrosion resistance.

Stucco Embossed Finish – Modifies the Mill Finish to reduce reflectance in applications where this is required.

Painted Finish – Choose from a range of popular colours selected to suit every application from a seaside, five-star resort to a chemical plant or a coal loader.

Profiles styled for strength and performance

THE PERMALITE® RANGE CONSISTS OF FOUR STYLISH ALUMINIUM ROOFING AND WALLING SYSTEMS: PERMALITE V-RIB®, LT7®, ALSPLAN® AND WAVELINE®.

Four stylish aluminium roofing and walling systems

PERMALITE V-RIB® provides a wide (915mm) cover and a symmetry which makes it equally suitable for roof or wall cladding. A double capillary drain in the rib overlap ensures weather security.

PERMALITE V-RIB® is available in 0.70mm, 0.90mm and 1.2mm thicknesses. It has been widely used in conventional cladding applications as well as for insulation jacketing in power stations and chemical processing plants.

LT7® is the ultimate in cladding versatility, due to its strength, water carrying capacity, fixing economy and eave closing features.

LT7® is available in 0.70mm, 0.90mm and 1.2mm thicknesses and can be reversed to provide a bold wall effect.

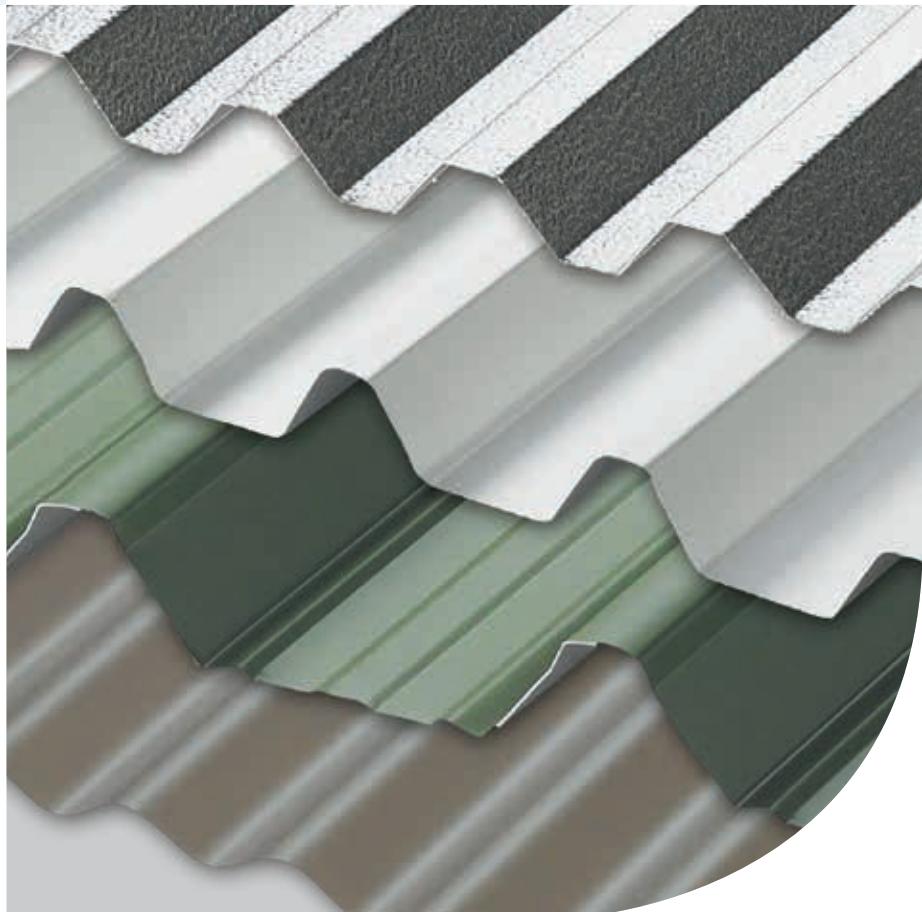
ALSPAN® is the PERMALITE® profile which highlights several of the material's

best advantages in the one sheet. It was designed specifically to provide a wide spanning capability, to have a high water-carrying capacity and to accommodate construction and maintenance foot traffic.

ALSPAN® is available in 0.70mm and 0.90mm thicknesses. Its distinctive ribs and wide pans make it a natural choice for well-defined presentation of large areas.

WAVELINE® is the Australian classic corrugated roofing profile proven for its style and versatility. With a coverage of 990mm it is quick to install and provides minimum wastage.

WAVELINE® is suitable for use as both a roof and wall cladding the universal appeal of this profile means it can be used to complement either a traditional or modern design on any building project.



PERMALITE® structural performance

IN EXTREMELY ADVERSE CONDITIONS OF MARINE OR SEVERE INDUSTRIAL CORROSIVE ENVIRONMENTS A COMPLETE PERMALITE® ALUMINIUM PRODUCT SOLUTION CAN DELIVER HIGH PERFORMANCE DURABILITY.



Engineered PERMALITE® aluminium purlins and bridging provide a lightweight, high strength option to extend the corrosion resistant qualities of marine grade aluminium beyond the external cladding and windows to include support framing as well.

Where volumes warrant it, we can design solutions based on C, Z and custom purlins and bridging to suit your project requirements.

PERMALITE® aluminium purlins and bridging are manufactured using high efficiency rollforming processes to create solid profile shapes with inherent strength and durability.

Purlin sections can be supplied cut to length and pre-punched if required. Accessories and complementary components are also available. For more details please see our comprehensive design manual at www.permalite.com.au

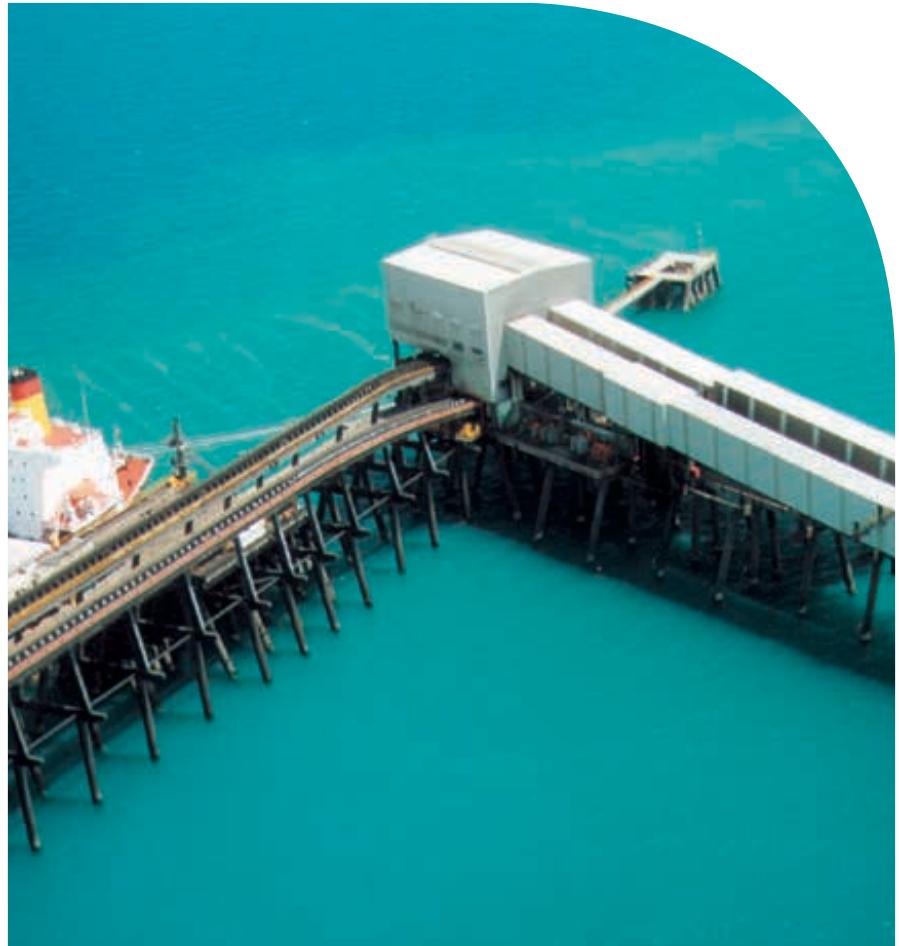
PERMALITE®
aluminium purlins
and bridging are
manufactured using
high efficiency
rollforming
processes

Proven on tough sites around Australia

PERMALITE® ALUMINIUM CLADDING AND PURLINS HAVE PROVIDED DURABLE AND ATTRACTIVE SOLUTIONS TO BUILDING CHALLENGES AT SOME OF THE MOST DEMANDING SITES IN AUSTRALIA FOR MORE THAN 40 YEARS.

For residential buildings, sports facilities, manufacturing and processing centres, storage complexes and bulk handling infrastructure in coastal or other aggressive environments, PERMALITE® aluminium cladding and purlins provide unmatched performance.

For examples of projects using PERMALITE® aluminium building products visit www.permalite.com.au and view our Permalite Project Profiles.



Technical support – we're here to help

There are PERMALITE® aluminium cladding solutions for cyclonic and non-cyclonic areas and many of the design aspects and construction methods involving PERMALITE® aluminium products are similar to those for steel cladding, but some are not.

To help make the most of any PERMALITE® aluminium solution you can call on the wealth of experience accumulated by the PERMALITE® team to assist with design advice, custom colours or even on-site

assistance. Our experienced staff have contributed to the success of numerous projects throughout Australia.

If you need assistance harnessing the potential of PERMALITE® aluminium cladding solutions, we can tailor a package of design skills, expertise, planning, project management, financial strength and innovation.

PERMALITE® ALUMINIUM BUILDING PRODUCTS

A summary of benefits of designing with PERMALITE® aluminium

Recyclable

All PERMALITE® aluminium sheeting is produced from largely recycled material. As recycling aluminium uses only 5% of the energy required to produce the material initially, this represents a considerable environmental advantage.

Energy efficient

When aluminium's complete life cycle is taken into consideration, from the production of the raw material to the recycling of used parts, PERMALITE® aluminium building products make efficient use of energy and resources.

Solar reflectivity and Infrared emittance

Offering between 70 to 90% solar reflectance and readily emitting infrared radiation, PERMALITE® aluminium is an ideal material to help reduce cooling loads. The reflectance of the material therefore offers valuable insulation advantage.

Lightweight

Weighing approximately one third the weight of steel, PERMALITE® aluminium offers designers significant weight advantages. The materials light weight results in low energy usage during machining, transportation and handling. The use of PERMALITE® aluminium products results in lighter construction and less material being used when building.

Corrosion resistant

When exposed to air PERMALITE® aluminium reacts with the oxygen and a thin oxide layer forms on the surface. This self protecting surface is durable and corrosion resistant. By using appropriate alloys and treatments PERMALITE® aluminium is able to withstand the effects of salt, water, and many other chemical and physical agents, reducing maintenance and dramatically extending the lifetime of the product. This can have a significant beneficial impact on the cost of the building over its life time.

Strength

PERMALITE® aluminium products can be as strong as steel. Aluminium sections will be generally thicker than the equivalent steel section to achieve the same strength. However when you consider the considerable weight differential between the two materials, aluminium has an excellent strength to weight ratio.

Experience

With over 40 years of experience PERMALITE® aluminium has the experience to assist with your project. As a division of BlueScope, we have the resources, depth, longevity and backing to provide and honour extensive technical advice and warranties to provide the specifier and his clients with peace of mind.



For more information visit www.permalite.com.au
Or call toll free 1300 850 389

*PERMALITE® warranties are project specific, based on analysis of environmental and other factors.
BLUESCOPE, LYSAGHT, PERMALITE, PERMALITE V-RIB, LT7 and ALSPAN are registered trade marks of
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