



SELECTION GUIDE



DESIGN
FLEXIBILITY



DURABILITY/
SECURITY



HI-TECH
PRODUCTION



RECYCLING



COLOUR
CHOICES



THERMAL
EFFICIENCY



WARRANTY



LYSAGHT



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BlueScope Lysaght is one of Asia's largest rollformers that is dedicated to manufacture, supply and installation of top quality and intensive processed steel building products with a legacy of more than 135 years worldwide and 40 years in Asia.

The company comes under the umbrella of BlueScope Steel, one of the world's leading steel solutions providers with offices and operations in 20 countries and strength of more than 16,000 employees.

BlueScope Lysaght offers an extensive range of building solutions for roofing and walling, structural decking, rainwater goods, pre-engineered building systems and steel framing systems under its LYSAGHT® brand.

The LYSAGHT® brand is synonymous with producing high quality steel building components that are part of Asia's built environment. BlueScope Lysaght's portfolio, ranging from cutting-edge architecture, landmark projects, utility buildings for industrial, commercial and residential applications is a testament of its enduring reputation as a building solutions provider.

Products backed by Research & Development in world-class laboratory

Behind every solution, lies a commitment of continuous research and development as well as innovation to ensure that LYSAGHT® products stay at the forefront of technology

through stringent quality control and testing procedures.

With a LYSAGHT® solution, there is an assurance that they are stringently tested in BlueScope Lysaght Technology Centre, the company's world class National Association of Testing Authorities (NATA) registered laboratory.

LYSAGHT® products are manufactured under strict process governed by ISO9001:2000 Quality Management System and ISO14001 Environment Management System.

Solutions based on Partnership

With decades of experience, BlueScope Lysaght possesses the competence and expertise to assist customers with the design and construction of projects.

The company has an advantageous position of tapping on the resources from its network all over the region to tailor-fit or trouble shoot customers' building requirements.

With quality and services being the focus, BlueScope Lysaght will maintain its market leadership, giving confidence to its customers and partners in an increasingly competitive market.

YOUR TOTAL BUILDING SOLUTIONS PROVIDER

STRUCTURAL DECKING SOLUTIONS

LYSAGHT® BONDEK® II

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ENGINEERING SOLUTIONS

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QUALITY MATERIALS

COATED STEEL PRODUCTS:

ZINCALUME® steel AND CLEAN COLORBOND® steel

PG 41

LYSAGHT® KLIP-LOK® 406

Concealed fix, fluted pan profile

LYSAGHT® KLIP-LOK® 406 IS A STRONG, DURABLE AND VERSATILE LONG LENGTH ROOFING AND WALLING PROFILE. IT COMBINES THE STRENGTH OF STEEL, SMART FLUTED PANS AND A LOCK-ACTION RIB DESIGN AND CONCEALED FASTENING TO ALLOW APPLICATION ON LOW PITCHED ROOFS. IT IS ALSO SUITABLE FOR WALLING BOTH HORIZONTAL AND VERTICAL INSTALLATION.

The profile has an effective cover width of 406mm and a rib height of 41mm.

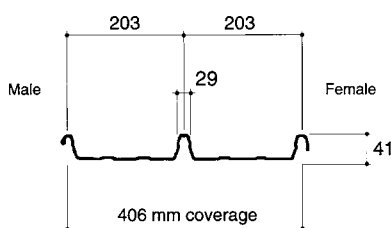
APPLICATIONS

The profile can be used for any roofing and walling, fascia and soffit. The straight lines of the roof remain clean and smooth with its positive concealed clip fixing with no exposed fasteners.



Singapore Expo Hall, Singapore

	0.53mm TCT STANDARD	0.65mm TCT NON STANDARD
THICKNESS		
Base Metal Thickness (BMT) in mm	0.48	0.60
Total Coated Thickness (TCT) in mm	0.53	0.65
Effective coverage width (mm)	406	406
Rib Depth (mm)	41	41
	ZINCALUME® steel	Clean COLORBOND® steel
MASS		
Mass per unit area kg/m ²	5.62	5.71
Mass per unit length kg/m	2.28	2.32
Coverage m ² /tonne	178	175
	ZINCALUME® steel	Clean COLORBOND® steel
MAXIMUM ALLOWABLE SUPPORT SPACINGS (NON-CYCLONIC AREA)		
Roof application		
Single span (mm)	1800	2300
End span (mm)	2400	2700
Internal span (mm)	3000	3600
Overhang (mm)	- Unstiffened - Stiffened	300 900
Wall application		
Single span (mm)	2900	3000
End span (mm)	3000	3400
Internal span (mm)	3600	3600
Overhang (mm)	400	600
ROOF PITCH		
Sheet length without end lap	1° (1 in 50 approx.)	
Sheet length with end lap	3° (1 in 20 approx.)	
Grade of steel	G550 (550N/mm ² yield strength)	
Coating class (min.)	AZ150	



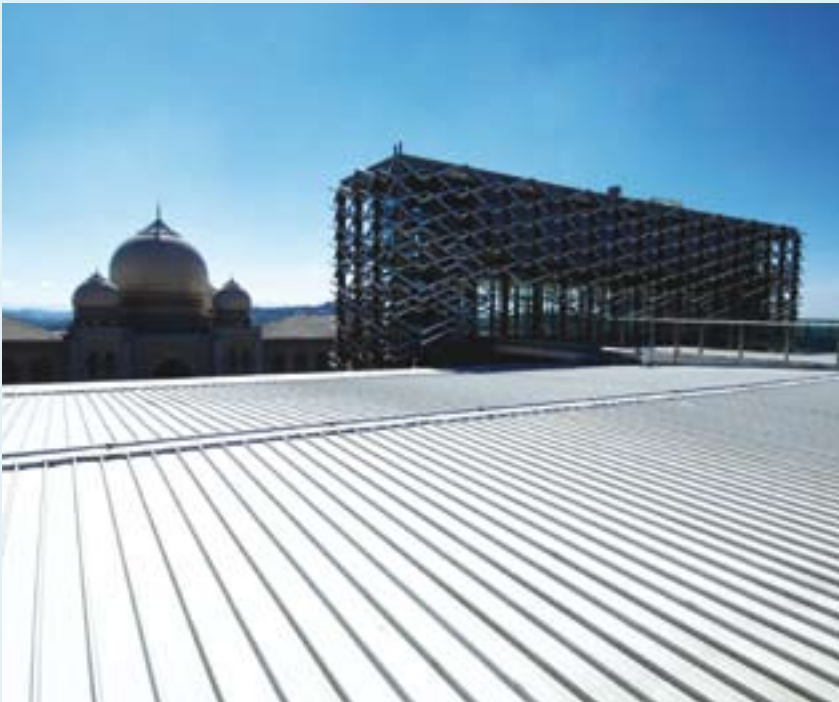
LYSAGHT® KLIP-LOK® 406

Concealed fix, fluted pan profile

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PRODUCT BENEFITS

- CONCEALED FIXING METHOD (NO VISIBLE SCREW HEADS, NO PIERCING OF SHEETING REDUCING POSSIBILITY OF LEAKS).
- TOTAL LEAK-PROOF AND AESTHETIC SOLUTION.
- CONFORMITY TO INTERNATIONAL BUILDING CODES AND STANDARDS.
- EXCELLENT WIND RESISTANCE.
- LIGHTWEIGHT YET EXCEPTIONAL STRENGTH.
- ALL WEATHER PERFORMANCE.
- GENUINE LYSAGHT® MATERIAL WARRANTY AND PRODUCT CERTIFICATION.



Perbandaran Putrajaya, Malaysia



7th Avenue, Sarawak



House, Kuching



Smart School, Kota Damansara

LYSAGHT® SPANDEK®

Trapezoidal steel cladding

LYSAGHT® SPANDEK® IS A TOUGH, SYMMETRICAL TRAPEZOIDAL RIBBED ROOFING AND WALL CLADDING PROFILE, IDEAL WHERE A STRONGER, BOLDER AND MORE MODERN CORRUGATED APPEARANCE IS REQUIRED.

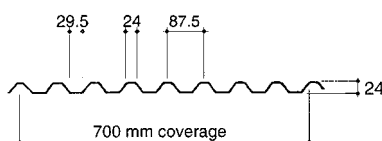
LYSAGHT® SPANDEK® capitalizes on buildings requiring long spans as it permits wider purlin spacings and utilizes fewer fasteners. Its rigid trapezoidal ribs make it an excellent choice among designers for contemporary roof and wall cladding designs.

It can be *sprung curved if the curvature falls between 20m and 60m. When used for wall cladding, the trapezoidal ribs can run vertically or horizontally. Available in long lengths, it is governed only by transportation considerations.

This profile combines strength with lightness, rigidity and economy.

TYPICAL APPLICATIONS

- Fascia
- Feature wall
- Internal ceiling
- Soffit



	0.47mm TCT STANDARD	0.53mm TCT NON STANDARD
THICKNESS		
Base Metal Thickness (BMT) in mm	0.42	0.48
Total Coated Thickness (TCT) in mm	0.47	0.53
Effective coverage width (mm)	700	700
Rib Depth (mm)	24	24
MASS		
	ZINCALUME® steel	Clean COLORBOND® steel
Mass per unit area kg/m ²	4.66	4.74
Mass per unit length kg/m	3.26	3.32
Coverage m ² /tonne	215	211
MAXIMUM ALLOWABLE SUPPORT SPACINGS (NON-CYCLONIC AREA)		
Roof application		
Single span (mm)	1300	2000
End span (mm)	1800	2200
Internal span (mm)	2400	3000
Overhang (mm)	- Unstiffened 300 - Stiffened 600	400 700
Wall application		
Single span (mm)	2500	3000
End span (mm)	3000	3000
Internal span (mm)	3300	3300
Overhang (mm)	300	400
ROOF PITCH		
Sheet length without end lap	3° (1 in 20 approx.)	
Sheet length with end lap	5° (1 in 12 approx.)	
Grade of steel	G550 (550N/mm ² yield strength)	
Coating class (min.)	AZ150	

CRIMP CURVED CONVEX ROOF

*Crimp curved LYSAGHT® SPANDEK® steel cladding is designed to provide versatility and creativity to bring new and refreshing designs to commercial, industrial and domestic buildings.

The combination of curves and contours in convex shapes with flats and angles in LYSAGHT® SPANDEK® have produced many aesthetically pleasing buildings.

This design freedom has resulted in significant cost savings in construction, mainly due to:-

- Less supporting framework required for fascias, parapets and roofs.
- Simplified and reduced work involved in installation of fascia cladding.
- Reduction or elimination of many flashings and cappings.
- Less cladding material required to cover a given curve.



* Check your nearest BlueScope Lysaght office for availability.

PRODUCT BENEFITS

- COMBINES STRENGTH WITH LIGHTNESS, RIGIDITY AND ECONOMY.
- TRAPEZOIDAL RIBS CAN BE RUN VERTICALLY OR HORIZONTALLY.
- SNUG RESTING OF RIBS ENSURES NEAT SIDE LAP.
- CONFORMITY TO INTERNATIONAL BUILDING CODES AND STANDARDS.
- EXCELLENT WIND RESISTANCE.
- LIGHTWEIGHT YET STRONG.
- GENUINE LYSAGHT® MATERIAL WARRANTY AND PRODUCT CERTIFICATION.



Guest House, Perak



Aman Kiara, Mont Kiara, Kuala Lumpur



Singapore Science Centre, Singapore

LYSAGHT® TRIMDEK®

Subtle square fluted steel cladding

LYSAGHT® TRIMDEK® IS A SUBTLE SQUARE FLUTED ROOFING AND WALLING PROFILE. THE FLUTING IN THE PANS PROVIDES STRENGTH AND LONG SPANNING CAPABILITIES, MAKING IT ONE OF THE MORE ECONOMICAL LYSAGHT® PROFILES.

LYSAGHT® TRIMDEK® has bold, widely spaced ribs and is available in long lengths, governed only by transportation considerations.

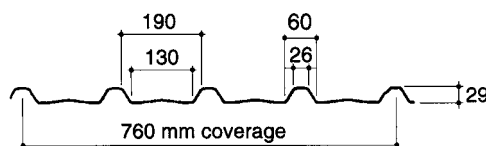
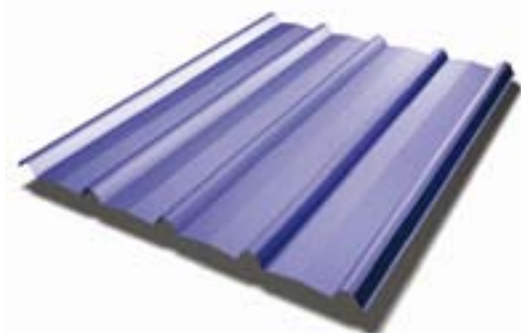
LYSAGHT® TRIMDEK® can be curved by crimp curving process. It is available in both convex and concave shapes to provide versatility and creativity to building designs. The minimum radius of curvature must be at least 450mm for convex and 550mm for concave to underside or pan of sheet.

Custom-cut lengths are available at any measurement to a maximum transportable length.

TYPICAL APPLICATIONS

- Roof
- Wall
- Fascia
- Feature wall
- Fencing
- Internal ceiling
- Soffit

	0.47mm TCT STANDARD	0.53mm TCT NON STANDARD
THICKNESS		
Base Metal Thickness (BMT) in mm	0.42	0.48
Total Coated Thickness (TCT) in mm	0.47	0.53
Effective coverage width (mm)	760	760
Rib Depth (mm)	29	29
	ZINCALUME® steel	Clean COLORBOND® steel
MASS		
Mass per unit area kg/m ²	4.28	4.35
Mass per unit length kg/m	3.26	3.32
Coverage m ² /tonne	232	229
	ZINCALUME® steel	Clean COLORBOND® steel
MAXIMUM ALLOWABLE SUPPORT SPACINGS (NON-CYCLONIC AREA)		
Roof application		
Single span (mm)	1100	1600
End span (mm)	1300	1850
Internal span (mm)	1900	2600
Overhang (mm)	- Unstiffened - Stiffened	200 350
Wall application		
Single span (mm)	2400	2700
End span (mm)	3000	3000
Internal span (mm)	3000	3000
Overhang (mm)	150	200
ROOF PITCH		
Sheet length without end lap	2° (1 in 30 approx.)	
Sheet length with end lap	5° (1 in 12 approx.)	
Grade of steel	G550 (550N/mm ² yield strength)	
Coating class (min.)	AZ150	



LYSAGHT® TRIMDEK®

Subtle square fluted steel cladding

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PRODUCT BENEFITS

- EXCELLENT WIND RESISTANCE.
- FIX WITH EASE AND SPEED.
- DUE TO ITS STRENGTH, SPANNING ABILITY, LIGHTNESS AND RIGIDITY, WIDE SUPPORT SPACINGS CAN BE USED WITH SAFETY.
- SUPERIOR AGAINST SEVERE RAINFALL INTENSITY.
- GENUINE LYSAGHT® MATERIAL WARRANTY AND PRODUCT CERTIFICATION.



Muara Tourist Hub, Brunei



Choa Chu Kang Sports Complex, Singapore



Curtin University, Sarawak



Linkway at Bishan Stadium, Singapore

LYSAGHT® HR-29™

Pierce-fastened roofing & walling system

LYSAGHT® HR-29™ PROFILE IS A PIERCE-FASTENED ROOFING AND WALLING SYSTEM THAT IS SUITABLE FOR BOTH CLASSICAL AND CONTEMPORARY ARCHITECTURE. IT CAN BE ROLLFORMED TO FIT BUILDING DESIGNS THAT ARE EITHER PITCHED OR SPRUNG CURVED.

LYSAGHT® HR-29™ can also be sprung curved to accommodate large span roofs as an added feature.

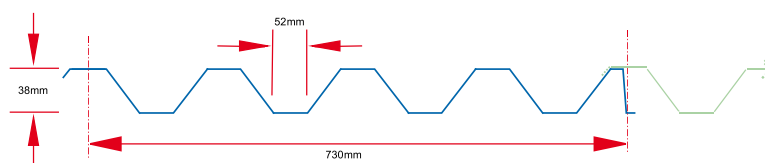
Due to its pierce-fastened system, LYSAGHT® HR-29™ profile is fast and easy to install providing savings in construction time and installation cost. Its on-site rollforming option enables ease of installation and allows longer lengths to be produced.

The high rib depth of LYSAGHT® HR-29™ provides excellent stiffness that optimises the purlins spanning capacity while reducing the amount of purlins used.



Factory, Selangor, Malaysia

	STANDARD	NON STANDARD	
THICKNESS			
Base Metal Thickness (BMT) in mm	0.420.55	0.75	
Total Coated Thickness (TCT) in mm	0.470.60	0.80	
Effective coverage width (mm)	730	730	730
Rib Depth (mm)	38	38	38
MASS			
Mass per unit area kg/m ²	4.545.86	7.88	
MAXIMUM ALLOWABLE SUPPORT SPACINGS			
Roof application			
Single span (mm)	-	500	2100
End span (mm)	1700	2100	3800
Internal span (mm)	2200	3100	4600
Overhang (mm)	- Unstiffened	200	250
	- Stiffened	350	400
Wall application			
Single span (mm)	3600	3600	3600
End span (mm)	3900	3900	3900
Internal span (mm)	4500	4500	4500
MIN ROOF PITCH			
(Roof without end lap)	2°		
Grade of Steel	G550 (550N/mm ² yield strength)		
Coating Class (min.)	AZ150		



PRODUCT BENEFITS

- FAST AND EASY INSTALLATION.
- HIGH RIBS PROVIDE EXCELLENT STIFFNESS.
- GREATER SPANNING CAPABILITY.
- EXCELLENT RAINWATER DRAINAGE CAPABILITY.
- A RANGE OF STEEL FINISHES, THICKNESS AND COLORS TO ACCOMMODATE DIFFERENT APPLICATION AND NEEDS.
- GENUINE LYSAGHT® PRODUCT WARRANTY.



Rakan Muda Sports Complex, Puchong



Underwater World, Langkawi



Factory, Selangor

LYSAGHT® SELECT SEAM®

Concealed fastened roof system

THE DISTINCTIVELY GOOD LOOKING LYSAGHT® SELECT SEAM® IS A CONCEALED FASTENED ROOF SYSTEM THAT IS VERSATILE FOR BOTH VERTICAL AND INCLINE APPLICATIONS. IT IS ESPECIALLY FLEXIBLE FOR DIFFICULT HIP AND MANSARD ROOFS.

Continuous ribbed lines can be beautifully achieved over multiple changes in roof pitch. The recommended minimum roof pitch is 7.5°.

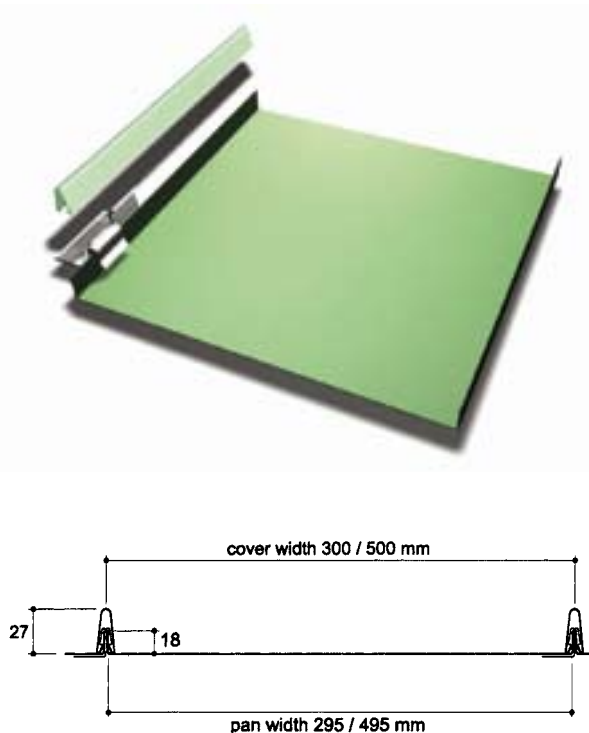
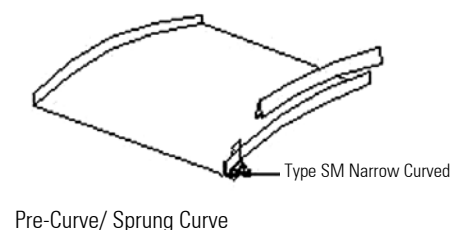
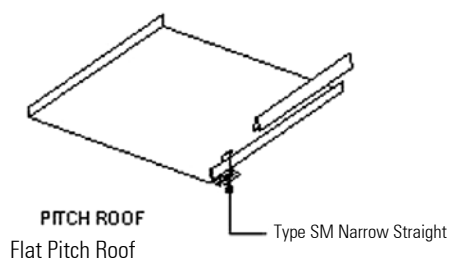
APPLICATIONS

LYSAGHT® SELECT SEAM® has a narrow snap on rib that simulates traditional standing seam profile suitable for non-industrial projects.

It is widely used as a roof and wall/fascia with its capability to form a sleek pitch and curved roof.

Maximum length available is 11.8m (export) and 14m (local).

	0.60mm TCT STANDARD	NON STANDARD
	Clean COLORBOND® steel	Clean COLORBOND® steel
THICKNESS		
Base Metal Thickness (BMT) in mm	0.55	-
Total Coated Thickness (TCT) in mm	0.60	-
Effective coverage width (mm)	300	500
Pan width (mm)	295	495
Seam Height (mm)	27	27
MASS		
Mass per unit area kg/m ²	6.090	5.481
Mass per unit length kg/m ²	1.827	2.741
Coverage m ² /tonne	164	182
RECOMMENDED RADIUS FOR LYSAGHT® SELECT SEAM® PROFILE		
Sheet Profile	Minimum Radius (mm)	Maximum Radius (mm)
Pre-curve	800	10000
Sprung curve	10000	60000
Batten		
Pre-curve	800	20000
Sprung curve	20000	30000
ROOF PITCH		
Minimum Roof Pitch	7.5°	
Grade of steel	G300 (300N/mm ² yield strength)	
Coating class (min.)	AZ150	



LYSAGHT® SELECT SEAM®

Concealed fastened roof system

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PRODUCT BENEFITS

- IDEAL FOR ARCHITECTURAL STEEL ROOFING.
- ECONOMICAL VERSION OF STANDING SEAM ROOF.
- EASY TO INSTALL WITH MINIMUM ACCESSORIES.
- CONCEAL-FIXED SYSTEM.



Underwater World, Langkawi



SKS Headquarters, Brunei



St. Theresa Church, Singapore



TUDM, Penang



Lakeside Primary School, Singapore

Note: Flat metal surfaces will display waviness commonly referred to as oil canning. This is caused by steel mill tolerances and is a characteristic, not a defect, of panels manufactured from light gauge metal. Oil canning will not be accepted as a cause for rejection.

LYSAGHT® LOCKED SEAM™

Flat pan, concealed-fix roofing

LYSAGHT® LOCKED SEAM™ IS A STANDING SEAM ROOF SYSTEM THAT CAN BE USED ON PITCHED, CURVED AND TAPERED ROOF FORMS.

The height of the seam is 32mm with a variable cover width from 300mm to 600mm*. Single or double flutes can be incorporated to accentuate the profile. The seams are mechanically field seamed in Single Lock (180°) or Double Lock (360°) producing a strong and rain proof joint.

LYSAGHT® LOCKED SEAM™ is available in Preweathered Titanium Zinc, Patinated Copper or Mill Finished Copper, Stainless Steel, Aluminium and Clean COLORBOND® steel.

LYSAGHT® LOCKED SEAM™ offers a watertight and good up lift wind resistance roofing solution that is ideal for areas with high rainfall intensity.

Maximum lengths are available as per on site rolling

Its specially-designed height of the standing seam contributes to the modernity, lightness and regularity of the roofing in its architectural function, particularly when used on more complex shapes, giving them a distinctive 'high-tech' appearance.

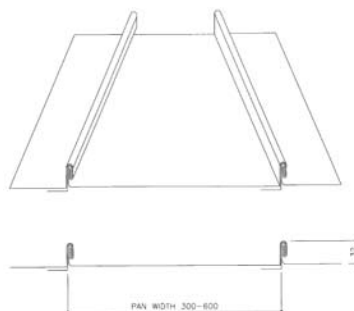
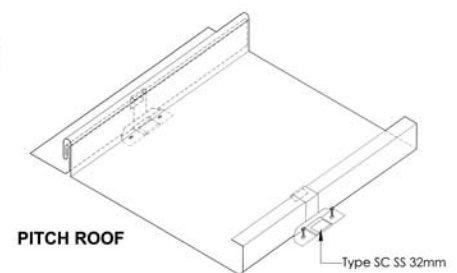
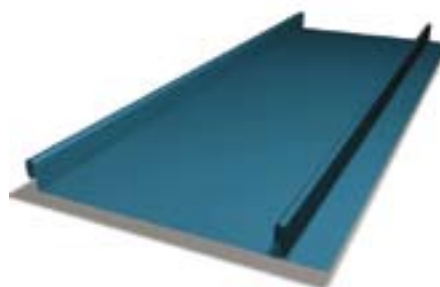


Woodleigh MRT Station, Singapore

	0.60mm TCT STANDARD	NON STANDARD
	Clean COLORBOND® steel	Clean COLORBOND® steel
THICKNESS		
Base Metal Thickness (BMT) in mm	0.50	-
Total Coated Thickness (TCT) in mm	0.60	-
Effective coverage width (mm)	310	510
Pan width (mm)	305	505
Seam Height (mm)	32	32
MASS		
Mass per unit area kg/m ²	5.37	-
RECOMMENDED RADIUS FOR LYSAGHT® LOCKED SEAM™ PROFILE		
Sheet Profile	Minimum Radius (mm)	Maximum Radius (mm)
Pre-curve	800	30000
Sprung curve	30000	60000
ROOF PITCH		
Minimum Roof Pitch	3°	
Grade of steel	G300 (300N/mm ² yield strength)	
Coating class (min.)	AZ150	

*Note :

Non-standard profiles such as zinc titanium and copper has a variable cover width from 300mm - 600mm. For non-standard widths, please refer to BlueScope Lysaght for special project specifications.



LYSAGHT® LOCKED SEAM™

Flat pan, concealed-fix roofing

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PRODUCT BENEFITS

- EXCELLENT WATER TIGHTNESS.
- DESIGNED TO WITHSTAND HIGH WIND CONDITIONS.
- OFFERS MULTIPLE DESIGN OPTIONS.
- EXCLUSIVE SEAMING PROCESS.
- WIDE CHOICE OF METALS WITH DIFFERENT FINISHES.



Outram MRT Station, Singapore



Esplanade Theatres by the Bay, Singapore



Bedok Green Primary School, Singapore

Note: Flat metal surfaces will display waviness commonly referred to as oil canning. This is caused by steel mill tolerances and is a characteristic, not a defect, of panels manufactured from light gauge metal. Oil canning will not be accepted as a cause for rejection.

LYSAGHT® ZIPDEK®

High-ribbed standing seam roofing & walling system

LYSAGHT® ZIPDEK® IS HIGH-RIBBED STANDING SEAM ROOFING PROFILE THAT IS SET TO MEET THE REQUIREMENTS AND SPECIFICATIONS OF ARCHITECTURALLY DEMANDING APPLICATIONS. ITS BOLD LINES AND UNCOMMON FLEXIBILITY ENABLE VIRTUALLY ANY ROOFING DESIGN TO BE CONSTRUCTED.

A concealed-fixed roofing profile, its versatility allows it to be used on straight, tapered, convex and concaved roof forms. Its high-ribbed profile provides excellent rain water drainage capacity.

LYSAGHT® ZIPDEK® can be used as a single or double skin roof depending on the acoustic requirements of the building. Its lightweight design is available in wide range of widths and lengths of up to 120 metres and can be rolled on site.

Maximum length are available as per on site rolling.

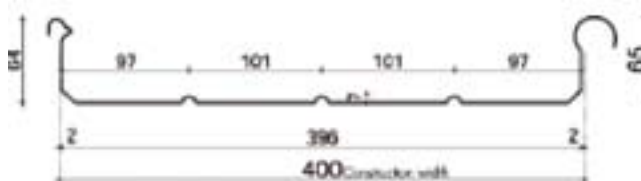
APPLICATIONS

Ideal for modern building facades and imaginative roof landscapes. It is suitable for large commercial, institutional and infrastructural roofing that require large roof spans.



Sports Arena, Budapest

STANDARD	
Clean COLORBOND® steel	
THICKNESS	
Base Metal Thickness (BMT) in mm	0.55
Total Coated Thickness (TCT) in mm	0.60
Effective coverage width (mm)	400
Rib Depth (mm)	65
MASS	
Mass per unit area kg/m ²	6.62
Coverage m ² /tonne	151
MAXIMUM ALLOWABLE SUPPORT SPACINGS	
Roof application	
End span (mm)	1800
Internal span (mm)	2050
Wall application	
End span (mm)	2050
Internal span (mm)	2500
ROOF PITCH	
Minimum Recommended Pitch	2°
Grade of steel	G300 (300N/mm ² yield strength)
Coating class (min.)	AZ150



PRODUCT BENEFITS

- LIGHTWEIGHT TO STRENGTH RATIO.
- STRUCTURAL ROOFING STRENGTH.
- EXCELLENT RAIN WATER DRAINAGE CAPACITY.
- LARGE SPANS CAN BE BRIDGED WITH A VARIETY OF SHAPES.
- CAN BE USED AS A SINGLE SKIN ROOF.



Naza Factory, Gurun, Penang



Jing Shan Primary School, Singapore



NUS High School, Singapore



Market/Food Center, Singapore



Jurong Secondary School, Singapore

LYSAGHT® CUSTOM ORB®

Tough and versatile corrugated profile

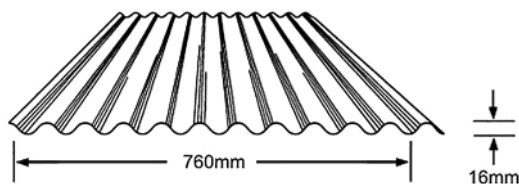
LYSAGHT® CUSTOM ORB® IS A TOUGH AND VERSATILE CORRUGATED PROFILE WHICH OFFERS FLEXIBILITY IN DESIGN FOR ROOFING AND WALLING APPLICATIONS FOR INDUSTRIAL, RURAL, COMMERCIAL AND RESIDENTIAL BUILDINGS. IT IS A FAMOUS AUSTRALIAN CORRUGATED PROFILE, EQUALLY AT HOME WITH TRADITIONAL AND CONTEMPORARY DESIGN.

LYSAGHT® CUSTOM ORB® can either be used as typical straight or pitched roof and can be sprung curved between the radius of 12m to 35m for convex curvature, and radius of 10m to 35m for concave curvature.

When used in wall cladding applications, LYSAGHT® CUSTOM ORB® can either run vertically or horizontally. Available in long lengths, it is governed only by transportation considerations.



STANDARD		NON STANDARD		
THICKNESS				
Base Metal Thickness (BMT) in mm	0.42	0.48		
Total Coated Thickness (TCT) in mm	0.48	0.54		
Effective coverage width (mm)		760		
Rib Height (mm)		16		
	ZINCALUME® steel	Clean COLORBOND® steel	ZINCALUME® steel	Clean COLORBOND® steel
MASS				
Mass per unit area kg/m²	4.29	4.36	4.87	4.95
Mass per unit length kg/m	3.26	3.31	3.70	3.76
Coverage m²/tonne	233	229	205	202
MAXIMUM ALLOWABLE SUPPORT SPACINGS				
Roof application				
Single span (mm)	700		8000	
End span (mm)	900		1300	
Internal span (mm)	1200		1700	
Overhang (mm)	- Unstiffened	200	250	
	- Stiffened	300	350	
Sprung Curve	800		800	
Wall application				
Single span (mm)	1800		1800	
End span (mm)	2500		2700	
Internal span (mm)	2700		2700	
Overhang (mm)	200		250	
ROOF PITCH				
Minimum Recommended Pitch		5° (1 in12 approx.)		
Convex Sprung Curve		Radius (12m to 35m)		
Concave Sprung Curve		Radius (10m to 35m)		
Grade of steel		G550 (550N/mm² yield strength)		
Coating class (min.)		AZ150		



LYSAGHT® CUSTOM ORB®

Tough and versatile corrugated profile

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PRODUCT BENEFITS

- LONG, WIDE, STRONG, LIGHTWEIGHT AND ECONOMICAL.
- CAN BE ALIGNED QUICKLY AND EASILY.
- TRADITIONALLY CORRUGATED PROFILE THAT OFFERS HIGH STRENGTH, LIGHTWEIGHT AND EXCELLENT DEFORMATION RESISTANCE.



LYSAGHT® CUSTOM BLUE ORB®

Corrugated roofing & walling, suitable for curving

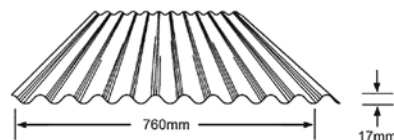
THE GENTLY CURVING SHAPE OF THE CLASSIC AUSTRALIAN CURVED ROOF IS REFLECTED IN SOME OF TODAY'S MOST ADVENTUROUS AND DRAMATIC DESIGNS. THE PROFILE THAT ALLOWS THE FINEST EXPRESSION OF THAT STYLE IS THE FAMOUS LYSAGHT® CUSTOM BLUE ORB®.

LYSAGHT® CUSTOM BLUE ORB® is the traditional corrugated roofing profile designed specifically for curving. It is equally at home with both traditional and contemporary designs. It is the perfect match to harmonise with LYSAGHT® CUSTOM ORB HI-TEN®.

Its extra ductility allows for easy curving (both sprung curve and pre-curved by factory machine) without distortion to the profile, and without damage to the finish ('crimp-less curvature').

LYSAGHT® CUSTOM BLUE ORB® is one of the most successful and well-liked roof profiles in the LYSAGHT® range, serving the building industry for more than 135 years now.

STANDARD			NON STANDARD	
THICKNESS				
Base Metal Thickness (BMT) in mm	0.48		0.60	
Total Coated Thickness (TCT) in mm	0.54		0.66	
Effective coverage width (mm)			760	
Rib Height (mm)			17	
	ZINCALUME® steel	Clean COLORBOND® steel	ZINCALUME® steel	Clean COLORBOND® steel
MASS				
Mass per unit area kg/m²	4.79	4.87	5.94	6.01
Mass per unit length kg/m	3.64	3.70	4.51	4.57
Coverage m²/tonne	209	205	168	166
MAXIMUM ALLOWABLE SUPPORT SPACINGS				
Roof application				
Single span (mm)	700		1600	
End span (mm)	900		1600	
Internal span (mm)	1200		1800	
Overhang (mm)	- Unstiffened	200	200	
	- Stiffened	300	300	
Sprung Curve	800		800	
Wall application				
Single span (mm)	1800		2400	
End span (mm)	2500		3000	
Internal span (mm)	2700		3300	
Overhang (mm)	200		200	
ROOF PITCH				
Minimum Recommended Pitch			5° (1 in12 approx.)	
Convex Sprung Curve	Radius (9m to 35m)			
Concave Sprung Curve	Radius (8m to 35m)			
Convex Pre-Curved	Radius (0.45m to 9m)			
Concave Pre-Curved	Radius(0.45m to 8m)			
Grade of steel	G300 (300N/mm² yield strength)			
Coating class (min.)	AZ150			



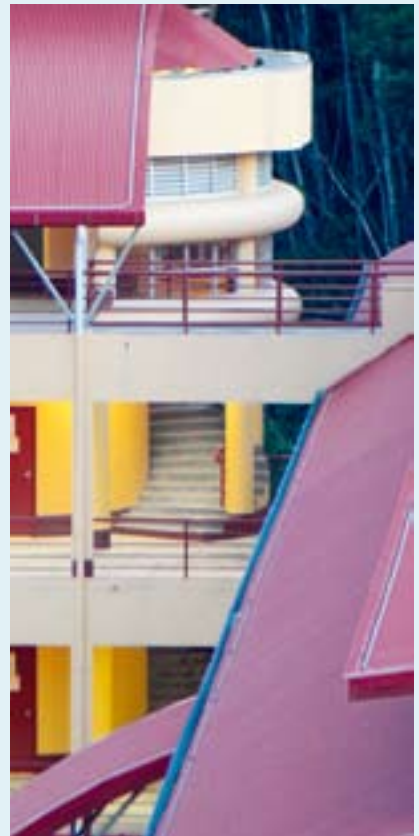
LYSAGHT® CUSTOM BLUE ORB®

Corrugated roofing & walling, suitable for curving

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PRODUCT BENEFITS

- LONG, WIDE, STRONG, LIGHTWEIGHT AND ECONOMICAL.
- COMPLICATED CURVE ROOF DESIGNS WITH SMOOTH AND 'CRIMPLESS' CURVATURE CAN BE ACHIEVED.
- CURVING QUALITY OF STEEL WHICH CAN BE CURVED INTO A VARIETY OF DESIGNS.
- CAN BE USED FOR BOTH ROOFING AND WALLING APPLICATIONS.



LYSAGHT® BORNEO TILE®

Concealed fix steel roof tiles

LYSAGHT® BORNEO TILE® LOOKS AS ELEGANT AS TERRACOTTA ROOF TILES, BUT MOST PEOPLE DO NOT REALISE IT IS MADE OUT OF STEEL! COMBINING ELEMENTS OF STYLE, QUALITY AND EFFICIENCY, THIS INTER-LOCKING CONCEALED-FIX STEEL ROOF TILE IS A RESULT OF YEARS OF RESEARCH AND DEVELOPMENT.

While resembling the aesthetic appearance of terracotta roof tiles, LYSAGHT® BORNEO TILE® is significantly lighter at one-tenth the weight of clay and concrete roof tiles. The lighter roof weight transforms into savings on roof structures as compared to conventional clay and concrete roof tiles.

APPLICATIONS

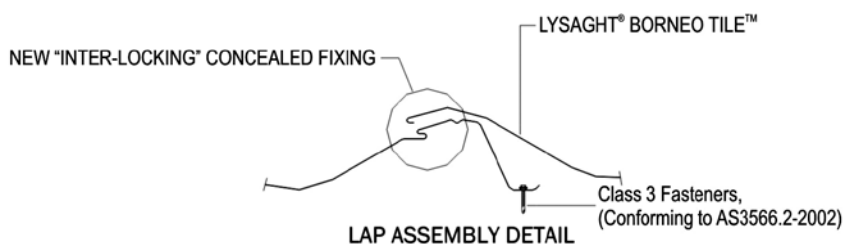
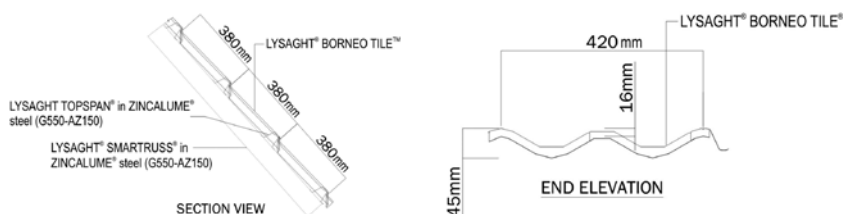
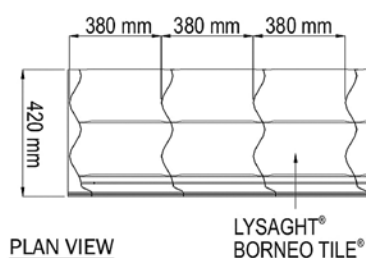
LYSAGHT® BORNEO TILE® steel roofing tile panels can be used for all types of projects, from bungalows, residential projects and schools, to hospital, institutions and commercial buildings.

The installer-friendly LYSAGHT® BORNEO TILE® makes it one of the more popular choices among contractors, installing LYSAGHT® BORNEO TILE® is proven to be faster and less time consuming than conventional clay and concrete tiles.



STANDARD	
THICKNESS	
Base Metal Thickness (BMT) in mm	0.42
Total Coated Thickness (TCT) in mm	0.48
Effective coverage width (mm)	420
Step Height (mm)	16
Modular Length (mm)	380
MASS	
Mass per unit area kg/m ²	5.04
MAXIMUM ALLOWABLE SUPPORT SPACINGS	
	380
ROOF PITCH	
Minimum Recommended Pitch	18°
Grade of steel	G300 (300N/mm ² yield strength)
Coating class (min.)	AZ150 and AZ200

* Available only in Sabah



PRODUCT BENEFITS

- SPECIALLY DESIGNED ANTI-CAPILLARY FEATURES AND STATE-OF-THE-ART CONCEALED FIXING SYSTEM.
- LEAK PROOF ROOFING SOLUTION.
- UNIQUE TERRACOTTA EMBOSSMENT RESEMBLING CLASSIC ROOF TILES.
- ENHANCED AESTHETICS WITH A SEAMLESS APPLICATIONS ACHIEVED WITH CONCEALED-FIXING.
- SUPERIOR PERFORMANCE AGAINST ALL WEATHER CONDITIONS.



LYSAGHT® MEWAH TILE™

Steel roofing tile panels

LYSAGHT® MEWAH TILE™ STEEL ROOFING TILE PANELS HAS THE AESTHETIC APPEARANCE OF CLASSIC ROOF TILES. IT IS CONSIDERABLY LIGHTER AT ONE TENTH THE WEIGHT OF CLAY TILES. COMBINED WITH THE HIGH STRENGTH OF STEEL, LYSAGHT® MEWAH TILE™ IS STRONGER, AS IT COMES IN STEEL PANELS FASTENED DOWN WITH STEEL FASTENERS, MAKING IT RESILIENT TO THE STRONGEST ELEMENTS OF NATURE.

The panel structure of LYSAGHT® MEWAH TILE™ equates to reduced ingress points for rainwater, resulting in a strong watertight tile roof. In addition, LYSAGHT® MEWAH TILE™ panels lowers the risks of roof entry burglaries as a result of reduced possible entry points and the high strength of steel.

LYSAGHT® MEWAH TILE™ steel roofing tile comes with an embossed finish, giving it the aesthetics of classic roof tiles.

LYSAGHT® MEWAH TILE™ steel panels are custom produced from a minimum length of tile modules (350mm per module length) to a maximum transportable length of 20 modules.

APPLICATIONS

LYSAGHT® MEWAH TILE™ steel roofing tile panels can be used for both residential and non-residential projects, from shopping centres to schools. Used in modern construction, light-weight LYSAGHT® MEWAH TILE™ allows designers to minimize substructure costs from the initial planning stages.

It is also used for as renovation and re-roofing jobs. LYSAGHT® MEWAH TILE™ allows building owners and developers to update to the popular look of tiles with a roof that goes up faster, holds up better and requires less maintenance.

0.47mm TCT
STANDARD

THICKNESS

Base Metal Thickness (BMT) in mm
Total Coated Thickness (TCT) in mm

0.42
0.47

Effective coverage width (mm)
Step Height (mm)

1035
18

MASS

Mass per unit area kg/m²

4.1

MAXIMUM ALLOWABLE SUPPORT SPACINGS (NON-CYCLONIC AREA)

End Span (mm)
Internal Span (mm)

350
700

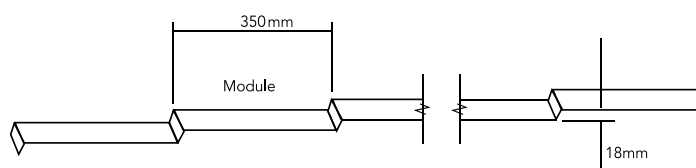
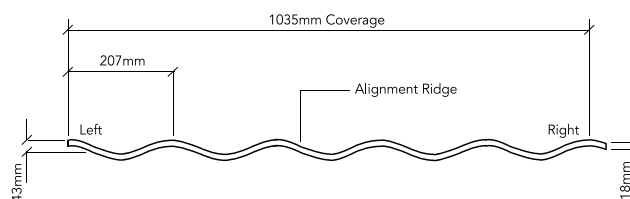
ROOF PITCH

Minimum Recommended Pitch

13°

Grade of steel
Coating class (min.)

G300 (300N/mm² yield strength)
AZ150





Universiti Teknologi Mara, Penang



Kindergarten, Kemaman, Terengganu



Residential House, Malaysia



Masjid Permatang, Penang



Universiti Sains Malaysia, Penang



Naza Surau, Penang

LYSAGHT® STYLEDEK™ II

Steel roofing tile panels

LYSAGHT® STYLEDEK™ II STEEL ROOFING TILE PANELS HAS THE AESTHETIC APPEARANCE OF CONVENTIONAL ROOFING TILES AT ONE TENTH THE WEIGHT OF CLAY TILES. DEVELOPED IN THE MID 1980s, LYSAGHT® STYLEDEK™ II HAS BEEN WIDELY ACCEPTED BY THE BUILDING AND CONSTRUCTION INDUSTRY TO BE A HIGHLY EFFICIENT, VERSATILE AND ROBUST PROFILE.

The panel structure of LYSAGHT® STYLEDEK™ II also equates to reduced ingress points for rainwater, resulting in a strong watertight tile roof. In addition, LYSAGHT® STYLEDEK™ II panels lowers the risks of roof entry burglaries as a result of the reduced possible entry points and the high strength of steel.

LYSAGHT® STYLEDEK™ II is roll-formed into panels of five pans widths in a range of exciting Clean COLORBOND® steel colours (please refer to our Clean COLORBOND® steel colour chart).



Kingwood Beach Resort, Mukah

STANDARD

Clean COLORBOND® steel

THICKNESS

Base Metal Thickness (BMT) in mm
Total Coated Thickness (TCT) in mm

0.42
0.47

Effective width coverage (mm)
Depth of Rib (mm)
Step Height (mm)

1020
40
15

MASS

Mass per unit area kg/m²

4.1

MAXIMUM ALLOWABLE SUPPORT SPACINGS

End Span (mm)
Internal Span (mm)

350
700

ROOF PITCH

Minimum Recommended Pitch

7.5°

TOLERANCES

Length
Width

+0, -15mm
+/- 2mm

PACKING

In strapped bundles of approximately 1 tonne.

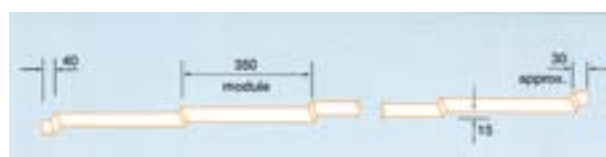
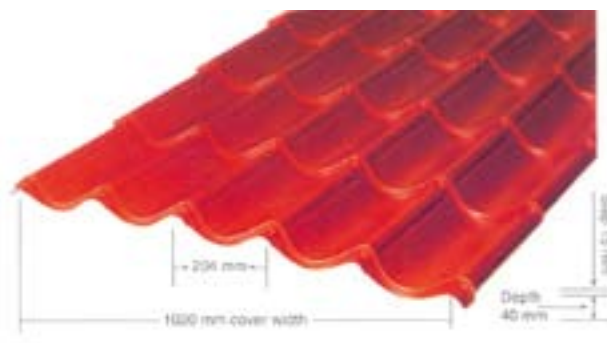
CUSTOM CUT LENGTH

Maximum length is 20 modules (7070mm). Length longer than 20 modules can be supplied, provided satisfactory and safe on site handling can be arranged. The minimum length is 3 modules (1120mm).

Grade of steel
Coating class (min.)

G300 (300N/mm² yield strength)
AZ150

* Available only in Sarawak





BDA Quarters, Bintulu



Kuching Polytechnic, Matang



Tabuan Laru Apartment, Kuching



Private House, Bintulu



Kingwood Beach Resort, Mukah

LYSAGHT® EASYCLAD® STEEL CLADDING IS WELL SUITED TO A VARIETY OF CONTEMPORARY NEEDS. ITS VERSATILITY AND ABILITY TO PROVIDE EXTERIOR AND INTERIOR TO PROVIDE WIDE DESIGN APPLICATIONS IN STYLISH CLEAN-LINED PANELS.

LYSAGHT® EASYCLAD® offers cost and time saving and also strength and lightness of steel for extra span ability, minimum framework and high compact resistance.

Typical applications include fascia, walling cladding, feature panels, screens, awning, soffit linings and non-acoustic ceilings.

Custom-cut lengths are available in between 300mm and 9000mm. Recommended length would be 6000mm.

0.60 TCT
STANDARD

Clean COLORBOND® steel

THICKNESS

Base Metal Thickness (BMT) in mm	0.55
Total Coated Thickness (TCT) in mm	0.60

Effective coverage width (mm)	300
Rib Height (mm)	14

MASS

Mass per unit area kg/m ²	6.10
Mass per unit length kg/m	1.80
Coverage m ² /tonne	169

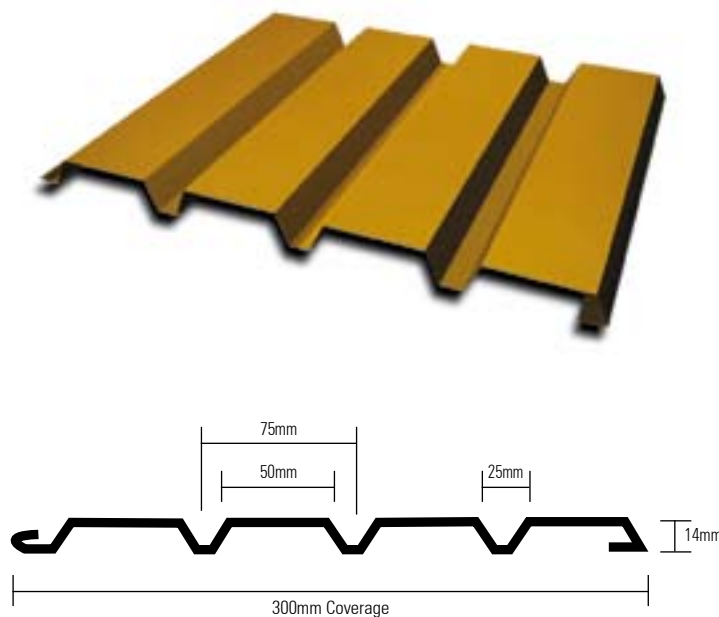
MAXIMUM ALLOWABLE SUPPORT SPACINGS

Wall application (mm)	1500
Ceiling application (mm) (for two or more spans)	1200

Grade of steel	G300 (300N/mm ² yield strength)
Coating class (min.)	AZ150



Harbour Front Taxi Stand, Singapore





Shell Petrol Kiosk, Singapore



Commonwealth Crescent Food Centre, Singapore



Bedok Sports Complex, Singapore



UNIMAS, Sarawak



Commonwealth Crescent Food Centre, Singapore

LYSAGHT® V-CRIMP® IS A TOUGH DOUBLE-V WALL AND FASCIA PROFILE THAT RESISTS DEFORMATION OVER LONG SPANS - WHICH MEANS IT CAN REALLY TAKE THE KNOCKS. IT CAN BE USED VERTICALLY AND HORIZONTALLY TO ALLOW CREATIVE AND FLEXIBLE DESIGNS.

Although used mainly for commercial or industrial walling, it does not take a lot of imagination to see how it could be used as an interesting feature in domestic applications.

LYSAGHT® V-CRIMP® is produced from high tensile coated steel.

Custom-cut lengths are available in continuous length (up to 1200mm).

APPLICATIONS

Suitable for use as wall cladding, fascias, feature wall, garage door cladding and fencing.



Industrial Factory, Singapore

STANDARD

THICKNESS

Base Metal Thickness (BMT) in mm	0.42
Total Coated Thickness (TCT) in mm	0.47

Effective coverage width (mm)	775
Rib Height (mm)	16
Rib Depth (mm)	58

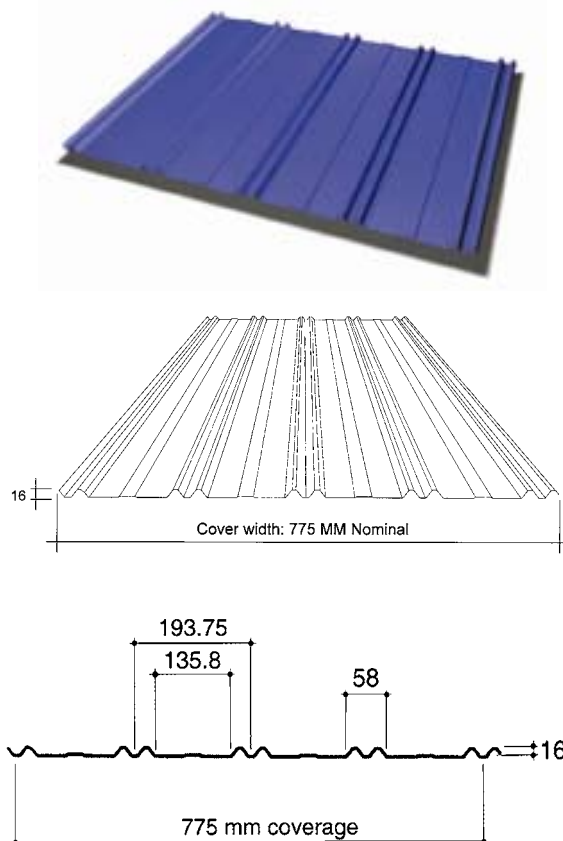
MASS

	ZINCALUME® steel	Clean COLORBOND® steel
Mass per unit area kg/m ²	4.21	4.29
Mass per unit length kg/m	3.26	3.32
Coverage m ² /tonne	237	233

MAXIMUM ALLOWABLE SUPPORT SPACINGS (NON-CYCLONIC AREA)

Wall application	
Single Span (mm)	800
End Span (mm)	1000

Grade of steel	G550 (550N/mm ² yield strength)
Coating class (min.)	AZ150





NH Techno Glass Factory, Singapore



BlueScope Lysaght Singapore Warehouse



BlueScope Lysaght Singapore Guardhouse



Fu Chun Primary School, Singapore



Industrial Factory, Singapore

LYSAGHT® PRESTIGE™ PANEL IS ANOTHER QUALITY PRODUCT WHICH PROVIDES WIDER CHOICES OF DURABLE AND FUNCTIONAL WALL CLADDINGS TO THE BUILDING DESIGNS IN THE REGION.

- Roll-formed from ZINCALUME® steel and is available in three Clean COLORBOND® prepainted steel systems with a wide range of colours to choose from.
- Three distinctive concealed-fastener profiles to choose from.
- Compatible trim and accessories readily available.
- High-strength design can be used for exterior and interior walls, as well as soffits.
- Panels are factory corrective-leveled during roll-forming to provide the flattest product possible.
- Available perforated for acoustical applications.

Custom-cut lengths are available in continuous length (up to 1200mm).

APPLICATIONS

- Vertical surface cladding
- Walling
- Fascias
- Feature wall, ceiling and fencing

Oil Canning

Flat metal surfaces (e.g. LYSAGHT® PRESTIGE™ Panel) will display waviness commonly referred to as oil canning. This is caused by steel mill tolerances. Oil canning is a characteristic, not a defect, resulting from panels manufactured from light gauge metal. Panels are to be factory corrective leveled to minimize oil canning. Oil canning is not a valid reason for panel rejection.

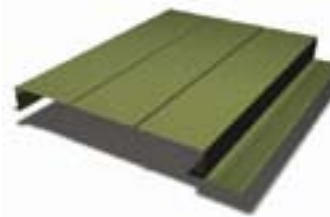
	0.60 TCT STANDARD	NON STANDARD	
THICKNESS			
Base Metal Thickness (BMT) in mm	0.55	0.75	1.00
Total Coated Thickness (TCT) in mm	0.60	0.80	1.05
Effective coverage width (mm)	300, 450		
Panel Depth (mm)	38		
MASS WIDTH (kg/m²)			
300mm	6.74	9.13	12.21
450mm	5.91	8.06	10.74
MAXIMUM ALLOWANCE SUPPORT SPACINGS			
[L/180]	300mm	400mm	
Single Span (mm)	1950	1800	-
Double Span (mm)	2650	2400	
Multiple Span (mm)	3250	3000	
Grade of steel	G300 (300N/mm² yield strength)		
Coating class (min.)	AZ150		



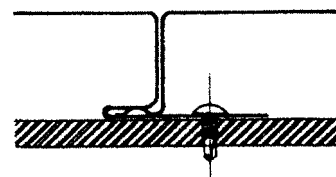
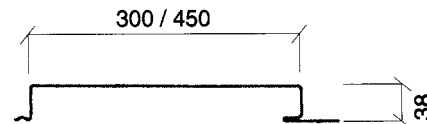
LYSAGHT® PRESTIGE™ PANEL Plain 300/450



LYSAGHT® PRESTIGE™ PANEL Single Flute 300/450



LYSAGHT® PRESTIGE™ PANEL Double Flute 300/450



LYSAGHT® PRESTIGE™ PANEL

Subtle square fluted steel cladding

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Singapore Management University Hoarding at Bras Basah



Industrial Factory, Singapore



Changi Hub Storage, Singapore



West Valley Vehicle Service Center, Singapore



Industrial Factory, Singapore



Harbour Front Mall Taxi Stand, Singapore

**LYSAGHT® BONDEK® II
STRUCTURAL DECKING IS
A HIGHLY EFFICIENT AND
ROBUST PROFILED ZINC
COATED STEEL SHEETING FOR
USE IN THE CONSTRUCTION
OF COMPOSITE FLOOR SLABS.
IT HAS BEEN TESTED TO
PERFORM AS FORMWORK
AND LONGITUDINAL
REINFORCEMENT IN ONE-
WAY COMPOSITE SLABS.**

It has an effective longitudinal tensile reinforcement and the top of the ribs has been embossed to bring about greater mechanical bonding between the steel sheet and concrete.

LYSAGHT® BONDEK® II is a complete structural steel decking system for concrete, masonry or steel frame construction. This decking is used in many prominent landmarks across Asia.

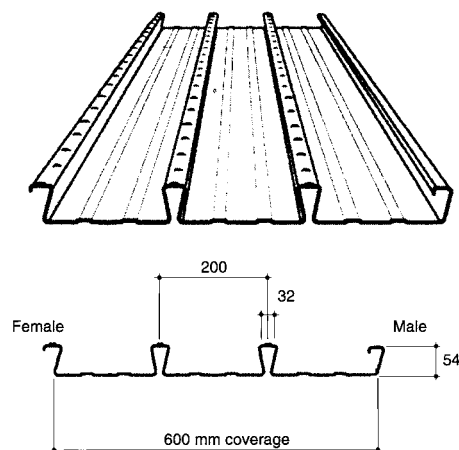
**LYSAGHT® BONDEK® II
Material Specifications**

Manufacture	Cold rolled-form
Yield strength	500 - 550MPa
Finish	Hot-Dipped Zinc Coated* 275g/m ² and Chromate Passivated
Base Metal Thickness (BMT) in mm	0.75 1.0 1.2
Effective coverage width (mm)	600
Rib Height (mm)	51
Mass (Unit Weight)	
0.75mm	10.3kg/m ²
1.00mm	13.6kg/m ²
1.20mm	16.02kg/m ²
Maximum Length	12,500mm, extra length available (subject to transportation constraints)
Grade of steel	G550 (0.75mm and 1.0mm) G500 (1.2mm)
Coating class (min.)	AZ275

* Conforms to BS EN 10147



Parkview Square, Singapore



LYSAGHT® BONDEK® II

Structural decking for concrete slab construction

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PRODUCT BENEFITS

- EXCELLENT SPANNING CAPACITIES FOR GREATER STRENGTH AND LESS DEFLECTION. UNPROPPED SPANS OF UP TO 3.6m.
- RELIABLE INTERLOCKING MECHANISM PROVIDES HORIZONTAL LAPPING FOR FASTER INSTALLATION.
- FAST AND EASY TO INSTALL. REDUCTION IN CONSTRUCTION TIME BY AS MUCH AS 10 DAYS PER SLAB.
- ONE-STEP ASSEMBLY OF STURDY WORKING PLATFORM, BOTTOM REINFORCEMENT AND PERMANENT FORMWORK.
- COMPOSITE SLAB'S FIRE PERFORMANCE IS IN ACCORDANCE TO BRITISH STANDARD BS 5950: PART 8.
- WORKS AS COMPOSITE SLAB SAVING ON CONCRETE AND REINFORCEMENT COSTS.
- RIBS AT 200mm CENTRES CREATING A SAFE WORKING PLATFORM WITH SLIP RESISTANT EMBOSSEMENTS.
- INSTALLATION OF SUSPENDED SERVICES AND CEILINGS WITHOUT DRILLING INTO THE CONCRETE SLAB.
- HIGH TENSILE STEEL 550MPa.
- DURABLE GALVANIZED COATING OF Z275.
- CAN BE USED IN CONCRETE FRAME CONSTRUCTION.



Performing Arts Center, Kuala Lumpur



Emirates Tower, Dubai



Imperium Plaza, Indonesia



National Library, Singapore



Republic Plaza, Singapore



Petronas Twin Towers, Malaysia

**LYSAGHT® POWERDEK™
IS A HIGH PERFORMANCE
PROFIED ZINC COATED
STEEL DECKING USED AS
A FORMWORK SYSTEM
DURING CONSTRUCTION
AND REINFORCEMENT IN
COMPOSITE SLABS.**

Two different depths of POWERDEK™ are available, namely POWERDEK™ 100 (100mm overall depth) and POWERDEK™ 120 (120mm overall depth).

Embossments on the top of flanges provide the mechanical connection between the steel and concrete. Punches on sides of embossments allow formation of air pockets under flanges to be avoided.

FEATURES & APPLICATIONS

- Spanning capacity – Significantly increased unpropped spans of up to 5.2m and 6.0m with POWERDEK™ 100 and POWERDEK™ 120 respectively with 1.5mm thickness of sheeting and increased load carrying capacities.
- Greater composite action – High shear bond capacity for imposed loads up to 30KPa without additional conventional reinforcements.
- Economical design for fire – Profiles are encased in concrete, providing exceptional fire performance, with no extra fire reinforcement required for up to a 4-hours fire rating.
- Quicker trouble-free installation – A positive interlocking rib requires minimal fixing or ribs during installation and provides a strong, secure working platform.
- Design efficiency – Range of gauges available (1.5m, 1.2mm and 1.0mm) allows a closer matching of design requirements and deck performance.
- Made from zinc coated (Z275), high tensile steel for strength and durability.
- Optional: Coating of high corrosion, resistant sheet is available on request.
- Tested to PSB Corporation Singapore standards and requirements.

**LYSAGHT® POWERDEK™
Material Specifications**

Manufacture	Cold rolled-form
Yield strength	450 - 550MPa
Finish	Hot-Dipped Zinc Coated*, high tensile ZINC HI-TEN® steel Z275g/m ²

Base Metal Thickness (BMT) in mm	1.0 1.2 1.5
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Grade	1.5mm BMT - G450 1.2mm BMT - G500 1.0mm BMT - G550
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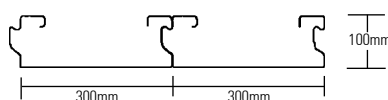
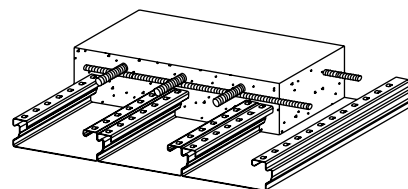
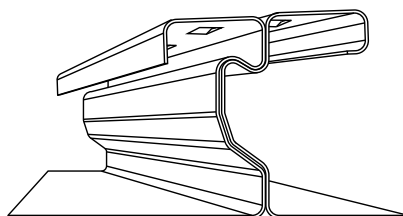
Effective coverage width (mm)	300
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	Rib Height (mm)	Unit Weight (kg/m ²)
POWERDEK™ 100		
1.0mm	100	19.03
1.2mm	100	22.62
1.5mm	100	28.00
POWERDEK™ 120		
1.2mm	120	24.2
1.5mm	120	29.6

Maximum Length	12,500mm (subject to transportation constraints)
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Grade of Steel	G550 (1.0 BMT) G500 (1.2 BMT) G450 (1.5 BMT)
Coating Class	AZ 275

* Conforms to AS 1397 and BS EN 10147



PRODUCT BENEFITS

- LONGER, UNPROPPED SPANS.
- BETTER APPEARANCE WITH EXPOSED CEILINGS.
- EXCEPTIONALLY SECURE WORKING PLATFORM.
- REDUCES CONSTRUCTION COSTS.
- SUPERIOR DURABILITY.



Raffles Junior College, Singapore



Institute of Technical Education, Simei, Singapore



One Raffles Quay, Singapore



Changi Storage Hub, Singapore

LYSAGHT® SMARTRUSS™ IS A ROOF TRUSS SYSTEM THAT OFFERS DURABILITY, AFFORDABILITY, STRENGTH AND STABILITY. THE SYSTEM IS CONVENIENT AND COST EFFECTIVE, AS WELL AS QUICK AND EASY TO DELIVER AND ASSEMBLE ON SITE.

LYSAGHT® SMARTRUSS™ system is manufactured from high tensile strength, long life TRUECORE™ steel that is backed by a material warranty* of up to 50 years. It provides a lightweight alternative to timber roof framing and is competitively priced as the system's structural integrity leads to lower lifetime costs.

Engineered for strength, LYSAGHT® SMARTRUSS™ roof truss system does not compromise on safety and quality. It is subjected to comprehensive and rigorous testing processes conducted in Lysaght Technology's world-class NATA-accredited structural testing laboratory. Full truss test rig and web compression, torsion bearing, and bottom chord tension tests are conducted to guarantee the system's structural integrity.

APPLICATIONS

Steel roof truss in general building applications for residential, commercial and institutional projects

Fast, Efficient and Well-Engineered Solution

- Fully designed and tested to Australian standards.
- Supported by LYSAGHT® SUPRACADD® detailing software which models the geometry, designs the roof trusses and facilitates manufacture by licensed fabricators.

*Warranty terms and conditions apply

- Will not warp, twist, shrink or rot, and no inherent weaknesses such as knots or cracks.
- Reduced builder call backs, no shrinkage, popping nails or rippled walls, ceiling or roofs.
- Termite and insect resistant.
- Fire resistant, non combustible.
- No roof sag, engineered pre-cambering ensures no more wavy roof lines.
- Easy frame erection, lightweight and accurate frames are safe and easy to handle and nail on-site.
- Design flexibility as high strength to weight provides larger spans, fewer supports for traditional building methods.
- Additions for renovation purposes can be made after construction. Original steel structure will be straight and true regardless of age, and the job of lining up the extension is easier. Timber framing could warp over its life, making the job of lining up more difficult.



Home for the Aged Sick, Hougang



Putrajaya, Malaysia



Nilai, Malaysia

GENERAL TECHNICAL SPECIFICATIONS

METAL ROOFING

Webs & Chords	C-Channel Sections Height : 100mm and 75mm	
Design Standard	Australian Standard AS4600 and prevailing wind loads of the region	
	Load Design (CP3)	
	<ul style="list-style-type: none"> Live load on roof Metal Roof (inclusive truss self-wt) Ceiling Board + Timber Joist/Batten General Wind Speed* 	0.5kPa 0.22kN/ m ² 0.13kN/ m ² 34m/sec
	Structure Design (AS4600)	
	<ul style="list-style-type: none"> Truss deflection (permanent loads only) Batten deflection 	Span/250 Span/150
Roof Battens	LYSAGHT® TOPSPAN®	Manufactured from same material as web and chord.
Base Steel Standard	Australian Standard AS 1397 – 1993	Min 550MPa for steel < 1mm Min 450MPa for steel > 1mm
Sections < 1mm thick	Protective metallic alloy coating Zinc (43.5%), aluminum (55%) and silicon (1.5%) applied by hot dip process.	Coating thickness on both sides 0.05mm (total) as in AS 1397 – 1993 for coating class Z275.
Sections > 1mm thick	Protective metallic alloy coating applied by hot dip process.	Coating thickness on both sides 0.05mm (total) as in AS 1397 – 1993 for coating class AZ150.
Fasteners	Comply with AS 3566 Class 2	All anchor bolts and connecting plates shall be either galvanized or manufactured from the same material as the trusses.
Batten Spacing	Metal roof, batten spacing of 1200mm shall be assumed.	

CONCRETE ROOF TILES

Webs & Chords	C-Channel Sections Height : 75mm and 100mm	
Design Standard	Australian Standard AS4600 and prevailing wind loads of the region	
	Load Design (CP3)	
	<ul style="list-style-type: none"> Live load on roof Roof Tile load (inclusive truss self-wt) Ceiling Board + Timber Joist/Batten General Wind Speed* 	0.5kPa 0.70kN/ m ² 0.13kN/ m ² 34m/sec
	Structure Design (AS4600)	
	<ul style="list-style-type: none"> Truss deflection (permanent loads only) Batten deflection 	Span/250 Span/150
Roof Battens	LYSAGHT® TOPSPAN®	Manufactured from same material as web and chord.
Base Steel Standard	Australian Standard AS 1397 – 1993	Min 550MPa for steel < 1mm Min 450MPa for steel > 1mm
Sections < 1mm thick	Protective metallic alloy coating Zinc (43.5%), aluminum (55%) and silicon (1.5%) applied by hot dip process.	Coating thickness on both sides 0.05mm (total) as in AS 1397 – 1993 for coating class AZ150.
Sections > 1mm thick	Protective metallic alloy coating applied by hot dip process.	Coating thickness on both sides 0.05mm (total) as in AS 1397 – 1993 for coating class Z275.
Fasteners	Comply with AS 3566 Class 2	All anchor bolts and connecting plates shall be either galvanized or manufactured from the same material as the trusses.
Batten Spacing	Concrete tiles, batten spacing of 330mm shall be assumed.	

This is a general technical specification and may vary in accordance to roof design, and design requirements and variations. Please contact BlueScope Lysaght for reference.

** Design for General Wind Speed can be customised to specific project requirements.*

LYSAGHT® SMARTSPAN™ IS A PRE-ENGINEERED BUILDING SYSTEM THAT OFFERS A 'ONE STOP SHOP' SOLUTION PACKAGE WHICH SEES THE BUILDING THROUGH COMPLETION FROM PROFESSIONAL ENGINEERING CONSULTATION, ENGINEERING DESIGN, SUPPLY OF ROOFING AND WALLING MATERIALS AND ACCESSORIES, FABRICATION WORKS AS WELL AS INSTALLATION SERVICES TO THE DELIVERY OF THE WHOLE SYSTEM ON SITE.

ADVANTAGES

- Cost effective as a result of optimized steel usage (up to 25% savings on steel).
- All members including purlins, girts, roofing, cladding, connection plates, skylights, thermal and acoustic insulation and other accessories delivered as a solution package.
- Structural steel members are fabricated, welded, cut and punched in the factory to enable quick and easy installation on-site, providing greater quality control and cost savings.
- Roof and wall cladding are manufactured from high quality ZINCALUME® steel and Clean COLORBOND® steel and are available in a range of tried and tested LYSAGHT® profiles.
- LYSAGHT® purlins and girts used in the system are all manufactured from G450 high tensile ZINC HI-TEN® steel.
- One complete system warranty for the entire building solution encompassing design, product material and workmanship.

APPLICATIONS

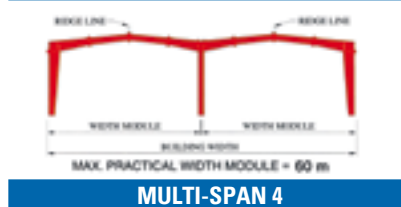
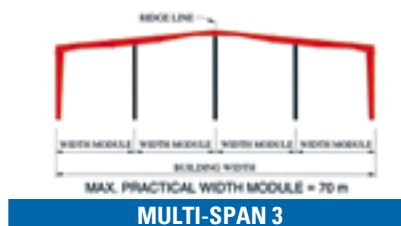
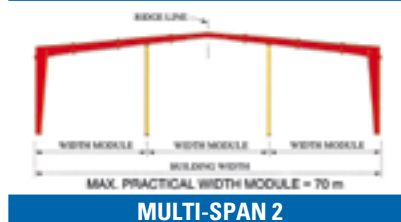
LYSAGHT® SMARTSPAN™ pre-engineered building system offers the advantage of customised flexibility.

LYSAGHT® SMARTSPAN™ can be applied to different types or buildings:

- | | |
|--------------------|--------------------|
| • Cold Storages | • Warehouses |
| • Showrooms | • Aircraft Hangars |
| • Stadiums | • Hypermarkets |
| • Convention Halls | • Animal Sheds |
| • Factories | • Site Offices |
| | • Workshops |

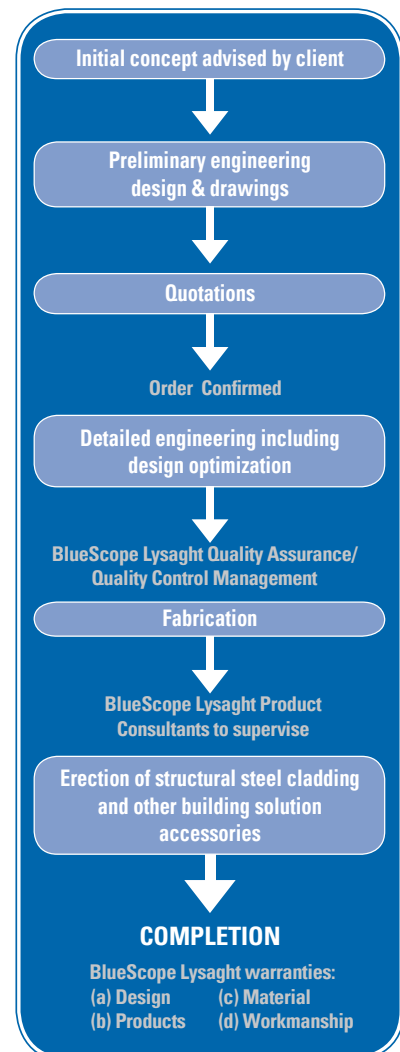


Factory, China



LYSAGHT® SMARTSPAN™ 'One Stop Shop' solution package process:

The improved efficiencies in the delivery process ensure increased quality, accuracy and precision in materials and design.





Industrial Factory, Malaysia

LYSAGHT® PURLINS

Structural steel members

LYSAGHT® PURLINS IN CEE AND ZED SECTIONS ARE ACCURATELY ROLL-FORMED FROM HIGH STRENGTH ZINC-COATED STEEL TO PROVIDE AN EFFICIENT, LIGHTWEIGHT, ECONOMICAL ROOFING AND CLADDING SUPPORT SYSTEM FOR FRAMED STRUCTURES.

It is roll-formed from ZINC HI-TEN® steel complying with AS 1397 – 1993. both are made from G450 steel with galvanised coating Z275 to give excellent corrosion protection.

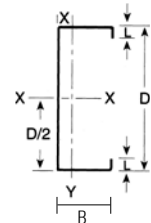
Coating Z275 and thickness 1.6mm, 2.0mm and 2.5mm are also available for local use.

PROFILE & APPLICATIONS

LYSAGHT® Cee sections

LYSAGHT® Cee sections may be used in single

spans and unlapped continuous spans in construction with the purlins butted at internal support. It is ideal as eave purlins or where compact sections are required for detailing.



CEE SECTIONS - DIMENSIONS & PROPERTIES

Catalogue	Dimensions					Area	Mass per Unit length	Second Moment of Area		Section Modulus		Radius of Gyration		Column Properties		
	D	B	L	t	x			I _x	I _y	Z _x	Z _y	r _x	r _y	B _y	J	I _w
Number	mm	mm	mm	mm	mm	mm ²	kg/m	10 ⁶ mm ⁴	10 ⁶ mm ⁴	10 ³ mm ³	10 ³ mm ³	mm	mm	mm	mm ⁴	10 ⁶ mm ⁶
C10015	102	51	13.5	1.5	16.1	323	2.58	0.537	0.112	10.5	3.29	40.8	18.7	122	242	241
C10019	102	51	14.5	1.9	16.2	409	3.25	0.673	0.142	13.2	4.21	40.6	18.7	122	492	311
C15015	152	64	15.5	1.5	18.4	443	3.54	1.61	0.237	21.1	5.29	60.2	23.1	171	332	1070
C15019	152	64	16.5	1.9	18.5	561	4.46	2.02	0.300	26.6	6.74	60.0	23.1	170	675	1370
C15024	152	64	18.5	2.4	18.9	712	5.62	2.54	0.386	33.5	8.79	59.8	23.3	169	1370	1810
C20015	203	76	15.5	1.5	19.9	555	4.44	3.53	0.396	34.7	7.17	79.7	26.7	223	416	3060
C20019	203	76	19.0	1.9	20.8	713	5.68	4.51	0.531	44.4	9.77	79.6	27.3	221	858	4240
C20024	203	76	21.0	2.4	21.1	904	7.15	5.69	0.681	56.0	12.7	79.3	27.4	219	1740	5540
C25019	254	76	18.5	1.9	18.1	808	6.43	7.62	0.561	60.0	9.86	97.1	26.4	276	972	6860
C25024	254	76	20.5	2.4	18.4	1020	8.10	9.62	0.721	75.7	12.8	96.9	26.5	274	1970	8920

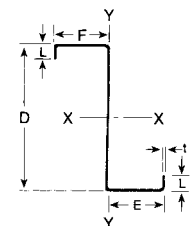
* Non-standard size available only upon request.

PROFILE & APPLICATIONS

LYSAGHT® Zed sections

LYSAGHT® Zed sections with one broad and one narrow flange are designed to nest neatly and are intended for lapping at internal supports. It may be used over single spans, unlapped and

lapped continuous spans in construction. Lapped continuous spans result in a considerable capacity increase in the system.



ZED SECTION - DIMENSIONS & PROPERTIES

Catalogue	Dimensions					Area	Mass per Unit length	Second Moment of Area		Section Modulus		Radius of Gyration		Column Properties	
	D	E	F	L	t			I _x	I _y	Z _x	Z _y	r _x	r _y	J	I _w
Number	mm	mm	mm	mm	mm	mm ²	kg/m	10 ⁶ mm ⁴	10 ⁶ mm ⁴	10 ³ mm ³	10 ³ mm ³	mm	mm	mm ⁴	10 ⁶ mm ⁶
Z10015	102	53	49	13.5	1.5	323	2.58	0.537	0.197	10.3	3.84	40.8	24.7	242	321
Z10019	102	53	49	14.5	1.9	409	3.25	0.673	0.25	13.0	4.92	40.6	24.7	492	409
Z15015	152	65	61	16.5	1.5	443	3.54	1.60	0.383	20.8	6.06	60.1	29.4	332	1460
Z15019	152	65	61	17.5	1.9	561	4.46	2.01	0.487	26.1	7.73	59.9	29.5	675	1860
Z15024	152	66	60	19.5	2.4	712	5.62	2.53	0.632	32.6	10.0	59.6	29.8	1370	2410
Z20015	203	79	74	15.0	1.5	555	4.44	3.53	0.621	34.3	8.05	79.7	33.4	416	4260
Z20019	203	79	74	18.5	1.9	713	5.68	4.52	0.843	43.9	11.0	79.6	34.4	858	5830
Z20024	203	79	73	21.5	2.4	907	7.15	5.70	1.10	55.3	14.4	79.3	34.8	1740	7630
Z25019	254	79	74	18.0	1.9	808	6.43	7.62	0.833	59.3	10.8	97.1	32.1	972	9480
Z25024	254	79	73	21.0	2.4	1030	8.10	9.64	1.08	74.9	14.2	96.9	32.5	1970	12400
Z30024	300	100	93	27.0	2.4	1260	10.01	17.0	2.32	112	23.8	116	42.8	2430	36600
Z30030	300	100	93	31.0	3.0	1600	12.60	21.30	3.04	140	31.4	116	43.6	4790	48200

* Non-standard size available only upon request.

Common Uses: Structural supports, single bay buildings, recessed roofs of walls, tower structures, end walls and buildings with odd shaped ground plans, lapping of interior supports of multi-bay buildings.

LYSAGHT® PURLINS

Structural steel members

40



Industrial Factory, Malaysia

ZINCALUME® steel & CLEAN COLORBOND® steel

Strong brands, quality materials

LYSAGHT® PRODUCTS ARE MANUFACTURED FROM HIGH QUALITY ZINCALUME® STEEL AND CLEAN COLORBOND® STEEL, WHICH ARE LEADING BRANDS WITH A WIDE RANGE OF APPLICATIONS. THESE PRODUCTS HAVE BEEN USED WITH STRIKING EFFECT BY LEADING ARCHITECTS TO CREATE THE LATEST IN MODERN BUILDING DESIGNS, THROUGH TO CLASSIC ROOFING STYLES FOR RESIDENTIAL PROJECTS.

Zincalume®

ZINCALUME® steel is a premium metallic coated steel product that is composed of 55% aluminium, 43.5% zinc and 1.5% silicon. The zinc/aluminium alloy coating on ZINCALUME® steel imparts corrosion resistance of up to four times the life of galvanised steel.

ZINCALUME® steel is backed by a material warranty of up to 50 years*

Typical applications featuring ZINCALUME® steel include roofing, wall cladding and gutters.

Product Attributes

- Durable and strong.
- Superior corrosion resistance and has an excellent combination of physical and cut edge protection.
- Lightweight for easy handling.
- Thermally efficient roofing.
- Excellent flexibility in design, can be curved, for truly individual designs.
- Weather tight and secure when installed to manufacturer's specifications.
- Resistance to termite attacks.
- Structural strength of steel allows for excellent spanning ability.
- Non-combustible.
- Clear resin coating resists scuffing and handling marks.

*Warranty terms and conditions apply

clean Colorbond®

Clean COLORBOND® pre-painted steel combines the superior strength of steel, the corrosion resistance and protection of a zinc/aluminium alloy (ZINCALUME® steel) coating that maintain its long lasting beauty with excellent colour retention.

It has been developed as a "Defence System Against Tropical Staining." Its unique oven-cured paint system prevents surface staining common to tropical environments caused mainly by temperature, moisture and air-borne contaminants.

Clean COLORBOND® steel is backed by a material warranty of up to 30 years*

Product Attributes

- Available in a range of attractive colours.
- The zinc/aluminium alloy coating on ZINCALUME® steel, plus the oven-baked, prepainted finish on Clean COLORBOND® steel provide superior corrosion resistance for long life.
- Thermally efficient. Roofs made from Clean COLORBOND® steel absorb less heat, thus cools very quickly.
- Light weight compared to concrete and clay tiles (on a per area basis)- reduced load on supporting structures.
- Excellent flexibility in design, can be curved, for truly individual designs.
- Flexibility of design allows for both traditional straight roof sheeting as well as innovative curved roofing designs.
- Resists cracking, chipping and peeling.

Compatibility Notes

LEAD COPPER and stainless steel are not compatible with Clean COLORBOND® steel and ZINCALUME® steel. Direct contact should therefore, be avoided. Where inside condensation conditions are likely, coated steel girts should be used so that any ZINCALUME® steel to bare steel contact is avoided.

Stainless steel fasteners are not recommended for ZINCALUME® and Clean COLORBOND® steel.



Clean COLORBOND® steel



ZINCALUME® steel



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* Warranty terms and conditions apply.

