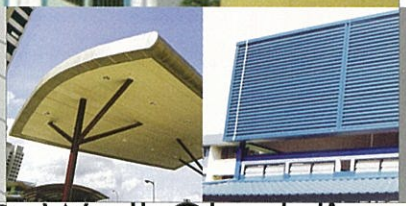
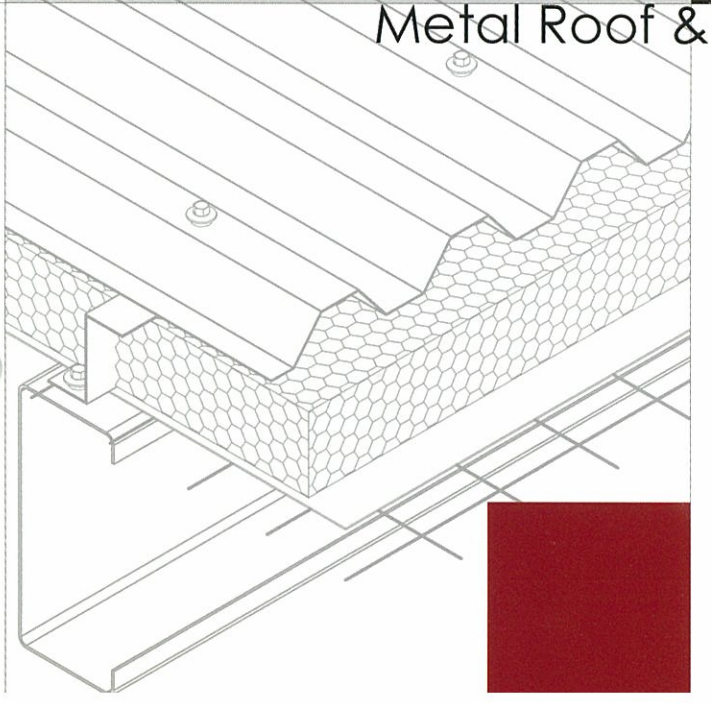
BUILDING PRODUCTS

LCP MULTIDECK™

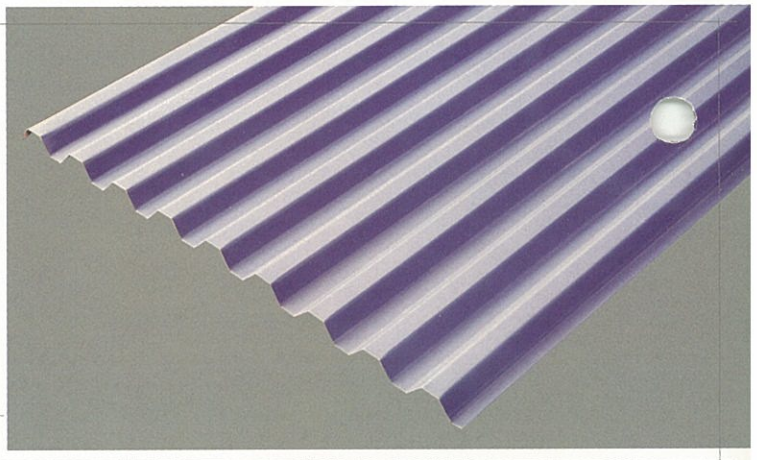


Metal Roof & Wall Cladding System



CERT NO. FM 59595
BS EN ISO 9001 : 2000

CERT NO. 01-2-8341
SS ISO 9001 : 2000



FEATURES

The striking linearity, strength, wide cover, light weight and weather resistance of **LCP MULTIDECK™** cladding make it perfect for all commercial roofing and walling applications. Its excellent strength and ease of assembly allow for long, economical span.

AESTHETICALLY PLEASING & COST EFFECTIVE

- 700mm Cover – quick installation and easy handling.
- Easy fixing – conventional through fixed screws maximize performance and installation.
- Hi-Tensile Steel – lightweight and high strength with improved damage resistance.
- 3° Minimum Roof Pitch – reduces support structure.
- Design Flexibility – long lengths and anti-capillary side laps enable **LCP MULTIDECK™** to be used effectively on applications from vertical wall cladding and fascias down to roof pitches as low as 3°
- Design Data – full range of load performances tables to suit most applications.
- Extended Spans – strength and rigidity of the profile allows for economical construction.
- Also Available Crimp Curved – to suit even more architectural applications.

MATERIALS

LCP MULTIDECK™ is a cold roll formed roof and wall cladding manufactured from G550 base material (550MPa minimum yield stress), in ZINCALUME® (AZ150) and COLORBOND® is available in a number of colours.

ADVERSE CONDITIONS

If it is intended to use **LCP Building Products Pte. Ltd.** range of roofing, walling or rainwater products within 1km of salt marine or industrial and unusually corrosive environments, please contact our Technical Department for advice.

COMPATIBILITY

Lead flashings should not be used in conjunction with ZINCALUME® steel or Clean COLORBOND® pre-painted steel sheeting. Drainage from ZINCALUME® or Clean COLORBOND® pre-painted steel roofing (inert materials) should not be allowed to discharge onto galvanised rainwater components. Drainage from copper roofing should not be allowed to discharge onto ZINCALUME® steel, galvanised, Clean COLORBOND® pre-painted steel or aluminium rainwater components. Each of these combinations may lead to premature corrosion.

ROOF PITCH

The water carrying capacity of a **LCP MULTIDECK™** roofing allows for a minimum recommended slope of 3° (1 in 19). It is imperative that this minimum is adhered to at all points of the roof to prevent ponding from occurring. The 3° minimum pitch may be used for roofing run lengths up to 30 metres for rainfall intensities of up to 250 mm/hr. Where alternative design rainfall intensities are known or required, or for greater run lengths contact your **LCP Building Products Pte. Ltd.** Technical Department for revised slope calculations. Please note however that in most locations, roofs with a slope of 5° or more generally have an improved life, as debris is more readily washed away. Where a primary roof or downpipe outlet discharges directly onto a secondary roof, damming, splashing or a standing wave may form which may need special design attention to prevent water intrusion. Care must also be taken for roofs with skylights, vents, etc where the water flow from several pans may be concentrated into just one or two pans, and standing waves may again occur.

ARCHITECTURAL SPECIFICATION

The roofing and/or wall cladding metal sheets shall be 0.42mm BMT (i.e. 0.47mm TCT) or 0.48mm BMT (i.e. 0.53mm TCT) **LCP MULTIDECK™** as produced by **LCP Building Products Pte Ltd,** with ribs of 24mm height spaced at 88mm centres. The effective cover width for the metal sheets shall be 700mm.

The sheeting material shall be ZINCALUME® protected steel sheet to Australian Standard AS1397 with a minimum yield stress of 550MPa (Grade G550), metallic hot-dip coated with ZINCALUME® zinc/ aluminium alloy- coated steel comprising 55% aluminium, 43.5% zinc and 1.5% silicon. The minimum coating mass for the ZINCALUME® zinc/aluminium alloy - coated steel shall be AZ150 (150 g/m2 minimum coating mass) as determined by Australian Standard AS1397.

Wherever applicable, the installation of the metal sheets shall be in accordance to the "Installation code for metal roofing and wall cladding; Standards Australia SAA HB39-1997". The sheets shall be installed in accordance to manufacturer's recommendations. The fasteners used to secure the metal sheets to the supports shall conform to Australian Standard AS3566 and be compatible with the roofing material used.

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 sheets shall be fixed in a workman like manner, leaving the job clean and weather-tight. All debris (nuts, screws, cuttings, filings etc.) shall be cleaned off daily.

COLOUR COATING OPTIONS

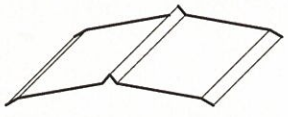
Clean COLORBOND® pre-painted steel is resistant to dirt pick-up and staining. The various categories of Clean COLORBOND® pre-painted steel finishes offers excellent gloss and long lasting life span to the roof and wall cladding.

The following Clean COLORBOND® pre-painted steel finishes are available:

1. **Clean COLORBOND® Steel** (Used for exterior applications in benign/moderate environments.)
2. **Clean Colorbond® XPD Steel** (Used for moderate/severe applications that require premium durability.)
3. **Clean Colorbond® Ultra Steel** (Used for severe applications that require premium durability.)
4. **Clean Colorbond® XPD Pearlescent Steel** (Used for moderate/severe applications that require premium durability and a decorative alternative.)

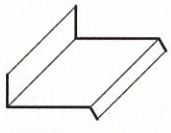
FLASHING DETAIL

When designing the flashing, the rib needs to be taken into account. The shape of the rib affects how the flashing interface is designed and installed.

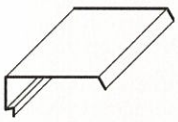


Hip/Ridge Capping

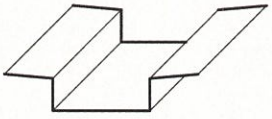
Eaves Flashing



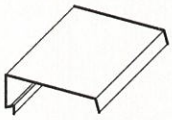
Apron Flashing



Barge Flashing



Valley Gutter



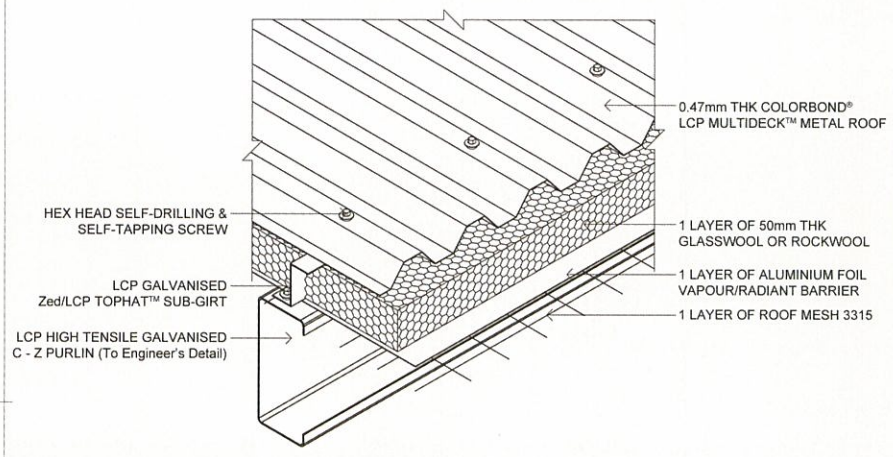
High End Flashing

Typical common flashing used. Full range of flashings is available.

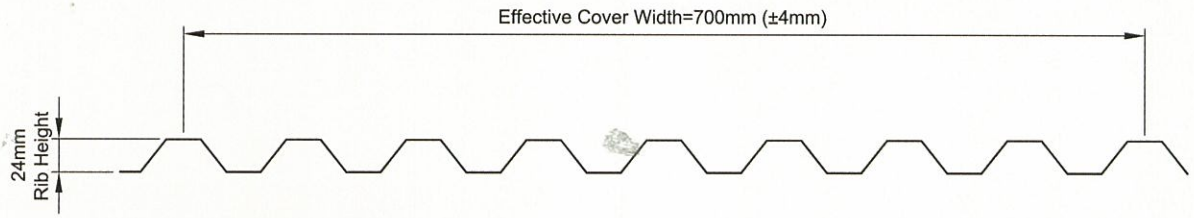
TYPICAL ROOF

Note: For other types of roof build-up, please contact **LCP Building Products Pte. Ltd.**, Technical Department.

Applications requiring acoustic performance are also available upon request.



TYPICAL LCP MULTIDECK™ INSTALLATION DETAIL



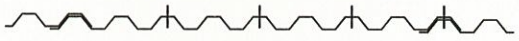
INSTALLATION

All roof slopes require a turn up at the top of the sheet, and also need to be turned down at the low end. This is best achieved using an adjustable wrench or shifter. For maximum protection from weather intrusion the sheets should be laid with the exposed edge of the overlaps away from the direction of the prevailing weather.
For detailed installation instructions please call **LCP Building Products Pte. Ltd.** Technical Department.

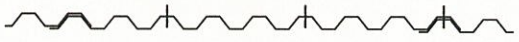
Fastener Locations:
LCP MULTIDECK™ can be fixed with either 3 or 4 fasteners per sheet at each batten/purlin to meet the required performance values, as shown below:

CREST FASTENER LOCATION (ROOF)

4 fasteners per sheet - end support & end laps

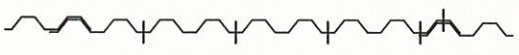


3 fasteners per sheet - internal supports

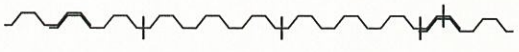


VALLEY FASTENER LOCATION (WALL)

4 fasteners per sheet - end support & end laps



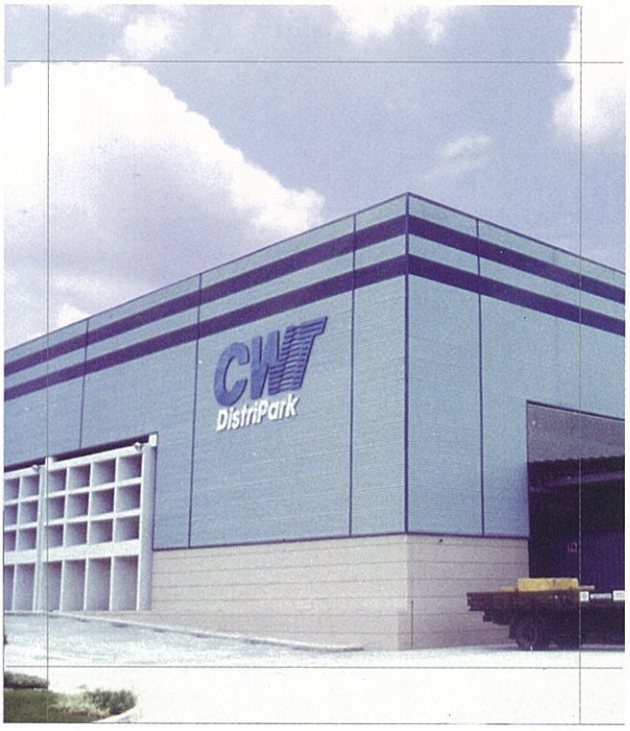
3 fasteners per sheet - internal supports



Ensure sheets sit correctly before fixing so that the integral anticapillary space is effective. Side laps should be fastened at mid span for roof spans exceeding 900mm and wall spans exceeding 1200mm.

FOOT TRAFFIC

When walking on **LCP MULTIDECK™** always wear clean, non-marking and flat rubber soled shoes. Avoid unnecessary foot traffic and walk on the flat of the panel at or near the supporting roof structural members as much as possible. Do not use the roof panel as a working platform.



STRUCTURAL SPECIFICATION

PROPERTIES

LCP MULTIDECK™ Mass/Thickness Chart

Product	Thickness		Material Mass kg/m² of Roof Cover		
	BMT (mm)	TCT* (mm)	Zincalume®	Galvanised	Colorbond®
LCP MULTIDECK™	0.42	0.47	4.66	5.06	4.73
	0.48	0.53	5.29	5.69	5.37

* : TCT (Total Coated Thickness) value are based on ZINCALUME® coating and are nominal only.

MAXIMUM SPAN CHART

LCP MULTIDECK™ - Sheltered Suburban and other conditions as noted below

Thickness		Fixing	Roof Spans (mm)			Wall Spans (mm)			Overhang(Roof & Wall)	
BMT (mm)	TCT (mm)	per sheet	Double Span	Equal Span	Internal (End Span) * Combination	Double Span	Equal Span	Internal (End Span) * Combination	Unstiffened	Stiffened
0.42	0.47	3	1650	1650	2100 (1650)	2300	2150	2900 (2300)	200	500
		4	1900	1900	2400 (1900)	2600	2350	3000 (2400)	200	500
0.48	0.53	3	2150	2050	2700 (2150)	2400	2250	3000 (2400)	250	500
		4	2150	2150	2700 (2150)	2700	2500	3000 (2400)	250	500
- Expose Suburban and other conditions as noted below										
0.42	0.47	3	1550	1650	1950 (1650)	1900	1850	2350 (1900)	150	450
		4	1850	1900	2300 (1800)	2150	2050	2600 (2100)	200	500
0.48	0.53	3	1750	1750	2150 (1750)	2050	1950	2500 (2000)	200	500
		4	2000	2000	2450 (1950)	2300	2150	2800 (2250)	250	500

CONDITIONS

The maximum span charts apply to buildings no more than 10m in height, and less than 1000m² in plan area. The spans listed are based on the testing requirements of AS1562 for both foot traffic and wind loadings, and assume both the end and first internal span to be subject to local pressure zone factors. Assumed wind loads are: Sheltered suburban -0.93kPa and 0.72 kPa; exposed suburban -1.43 kPa and 1.10 kPa, for roof and walls respectively.

* : For optimum spanning capacity, end spans are shorter than internal spans in a fixed ratio, (End Span = 0.8 × Internal Span). The Internal/End Span combinations shown must only be used in this specific ratio, rounded to the nearest 50mm.

PERFORMANCE

LCP MULTIDECK™ Permissible Wind Pressure (kPa)

LCP MULTIDECK™					Internal Span (End Span) Combination (mm) *							
BMT (mm)	TCT (mm)	Fixing per sheet	Span Type	Foot Traffic Limitation	(750) 900	(1000) 1200	(1250) 1500	(1500) 1800	(1750) 2100	(2000) 2400	(2250) 2700	(2500) 3000
0.42	0.47	3	Internal (External)	2100 (1750)	3.11	2.33	1.87	1.56	1.33	1.08	0.86	0.68
			Equal	1700	2.73	2.05	1.64	1.23	0.78	0.52		
			Double	1700	2.49	1.87	1.49	1.24	0.94	0.66	0.47	
			Single	1000	5.13	2.20	1.13	0.65	0.41			
		4	Internal (External)	2400 (2000)	3.89	2.92	2.33	1.94	1.67	1.33	1.05	0.85
			Equal	1900	3.41	2.56	2.05	1.70	1.07	0.72	0.50	
			Double	1900	3.11	2.33	1.87	1.56	1.16	0.89	0.64	0.47
			Single	1150	6.31	3.04	1.56	0.90	0.57			
0.48	0.53	3	Internal (External)	2700 (2250)	3.56	2.67	2.13	1.78	1.52	1.22	0.96	0.77
			Equal	2150	3.12	2.34	1.87	1.39	0.88	0.59	0.41	
			Double	2150	2.84	2.13	1.71	1.42	1.06	0.75	0.53	
			Single	1300	5.78	2.49	1.27	0.74	0.46			
		4	Internal (External)	2700 (2250)	4.44	3.33	2.67	2.22	1.90	1.50	1.19	0.96
			Equal	2150	3.90	2.92	2.34	1.92	1.21	0.81	0.57	0.41
			Double	2150	3.56	2.67	2.13	1.78	1.31	1.00	0.73	0.53
			Single	1300	7.11	3.43	1.75	1.02	0.64	0.43		

Loads have been determined from testing to AS1562 – Design and Installation of Metal Roofing. *Spans shown in brackets are the end spans to be used in conjunction with the internal spans shown.

NOTE: Spans shown in shaded area are not suitable for trafficable roofs.

BUILDING PRODUCTS

clean Colorbond® ULTRA

Extend your imagination further with the technology of Clean COLORBOND® Ultra steel in a wide range of vibrant and exciting colours. Clean COLORBOND® Ultra prepainted steel combines the superior strength of zinc/aluminium alloy-coated steel with proprietary paint system technology exclusive to BlueScope Steel.

Clean COLORBOND® Ultra steel offers superior corrosion resistance, color retention, dirt resistance and reduction in surface tempetature with Thermatech® solar reflectance technology..

THERMATECH® Offering you a vibrant selection to match your most prestigious designs.

new! Nexus Blue (82*)	*new!* Wasabi Green (82*)	*new!* Solaris Yellow (80*)	*new!* Urban Beige (83*)	*new!* Cosmic Grey (81*)
Enduring White (85*) (Off White)	Ultimate Grey (69*) (Gull Grey)	Livid Grey (47*) (Armour Grey)	Gracious Grey (43*) (Marine Grey)	Breathless Beige (69*) (Almond Beige)
Forever Beige (55*) (Beige)	Inspiring Ocean (40*) (Aquamarine)	Intimate Green (46*) (Mist Green)	Ever Green (23*) (Cauflied Green)	Titan Blue (27*) (Regal Blue)
Constant Blue (30*) (Torres Blue)	Smashing Blue (30*) (Lazurite Blue)	Eternal Red (41*) (Autumn Red)	Mesmerizing Brown (30*) (Copperstone)	Luxury Gold (64*) (Gold)

***SOLAR REFLECTANCE INDEX** (SRI) - ASTM E1980

The Clean COLORBOND® Ultra steel colours shown in the leaflet have been reproduced to represent actual product colours as accurately as possible. However, we recommend you check the chosen colour against actual samples of the product before purchasing as varying light conditions and limitations of the printing process affect colour tones.