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ColorLume® is a registered trade mark of
Yieh Phui Enterprise Co., Ltd



Formed with
ColorLume®
Galvalume®



Locally produced &
custom-cut using
modern machinery



Supply
and fix
service



FPC & ISO
9001-2015
Certified

We are aware of the importance of having shelter over our heads.
We also understand overheads.
Talk to us about our competitive pricing and services.
We are standing by to receive your call.

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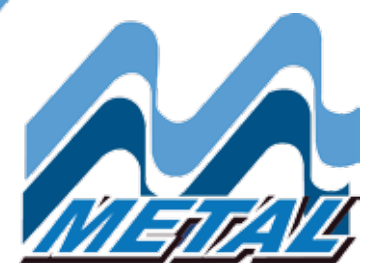


You Inspire, **We Deliver.**

**M - PANEL
300**



SGBP 2018-1368



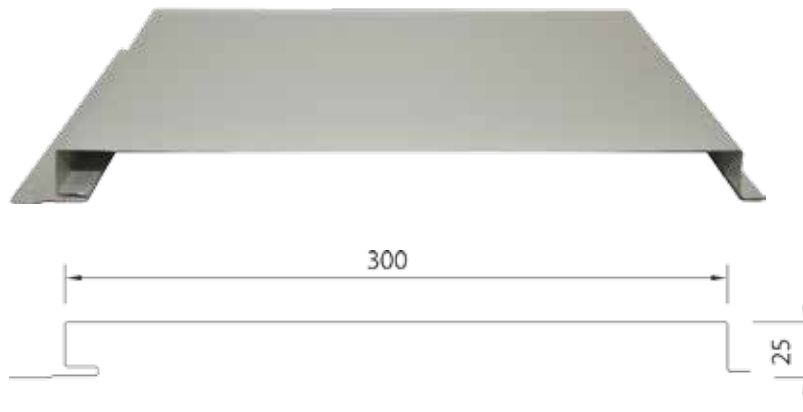
M Metal - a game changer

M Metal is a Singapore-based manufacturer of high quality steel and non-steel roofing and walling products.

We started the company in 2007 in response to what we saw was a growing industry need for a responsible supplier, which believes in the value of forging partnerships with stakeholders in order to deliver innovative, reliable and customized solutions. It is our breadth and depth of specialized knowledge, combined with our stakeholders' awareness of their client needs, which results in a win-win collaboration.

M-PANEL 300

Lightweight, easy and fast to install with concealed fixing



M-Panel 300 is a rigorously manufactured, light-weight and aesthetically-pleasing flat steel panel which is extremely versatile in its range of uses.

Our sense of responsibility extends to workplace safety. We strongly believe that good safety equates good business. Through regular training sessions, we make sure that our workers, and also those of our contractors, are able to do a good job safely.

Staffed by experienced professionals with an in-depth knowledge of the industry and who are motivated by the company's vision - to be the industry's preferred building solutions provider from concept to completion - we aim to be a game-changer in Singapore's building industry.

Benefits of M-PANEL 300

- It is extremely versatile – it can be laid vertically or horizontally depending on the architect's design - and can be used in ceilings, soffit, fascia, wall and hoarding applications.
- It is extremely strong and can be used for exterior and interior walls.
- It is fast and easy to install, using the concealed fixing method which is also aesthetically pleasing as the fasteners are invisible.
- It is rigorously made with machines built on German technology so that its profile, at 25mm height and 300mm width, is accurately manufactured.
- There is flexibility in paint choices. M-Panel 300 can be coated in superior long-lasting ColorLume® VF-20L PVDF and ColorLume® SMP (Silicone Modified Polyester) paint for internal and external applications requiring high gloss and colour retention, or PE (Polyester) for hoardings, showflats and temporary buildings.

Other choices of non-ferrous materials are also available on request. Please contact M Metal Pte Ltd for more information.

Material Specification

M-Panel 300 is manufactured from steel grade G300 with a minimum yield stress of 300MPa and paint coating of ColorLume® VF-20L PVDF 70/30 (Fluorocarbon), which offers superior gloss and colour retention. Optional paint system in ColorLume® SMP (Silicone Modified Polyester) is also available.

ColorLume® VF-20L top-coat is derived from a reliable 2-coat/ 2-bake Fluorocarbon (PVDF) process with full strength 70% of KYNAR® 500 or HYLAR® 5000 premium resin and AZ 200 (200g/m²) coating mass of zinc/ aluminium alloy substrate complying with ASTM A792M/ISO 9364:2011. AZ 200 comprises 55% aluminium, 43.5% zinc and 1.5% silicon, and is widely known as Galvalume* for long-term performance against corrosion as determined by Australian Standard AS1397-2011.

Thickness & Weight

| | Standard |
|------------------------|------------|
| Base Metal Thickness | 0.55mm |
| Total Coated Thickness | 0.61mm |
| Weight | 6.10 kg/m² |

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* For colour selection, please refer to our colour chart or the actual colour plate sample. Specular gloss to finish is 25-30 G.U. (Gloss Unit is measured at 60° reflection angle in accordance to ASTM D 523 : 2008 / SS 5 Part E1 : 2003 / BS EN 13523-2 Performance Standards)

Material Performance Test

| Typical Properties | Test Standard (Method) | Correspond to Singapore Standard SS631:2017* |
|---------------------|------------------------|--|
| T-Bend Test | ASTM D 4145-10 | AS/NZS 2728 |
| Pencil Hardness | ASTM D 3363-05 (2011) | ASTM D 3363 |
| Colour | ASTM D 2244-16 | SS Part E3 |
| Specular Gloss | ASTM D 523-14 | SS 5 Part E1 |
| Dry Film Thickness | ASTM D 7091-13 | SS 5 Part B1 |
| Impact Resistance | JIS K5600-5-3 | ISO 6272 |
| Humidity Resistance | JIS K5600-7-2 : 1999 | SS 5 Part G6 |
| Cross Cut Adhesion | JIS K5600-5-6 : 1999 | ISO 2409 |

| Corrosion and Weathering | Test Standard (Method) | Correspond to Singapore Standard SS631:2017* |
|------------------------------|------------------------|--|
| Salt Spray Test | ASTM B 117-16 | SS 5 Part G10 |
| Weathering Test | ASTM G 154-16 | SS 5 Part G9 |
| Acid Resistance (10%v/v HCL) | JIS K5600-6-1 : 2016 | ISO 2812 |

* Material performance for the manufacture of profiled roof and wall cladding conforms to Singapore Standard 631 : 2017 Specification for Metal Roofing.

Fixing

Fasteners

It is important that the correct fasteners are used so that it is compatible with the cladding material selected, and matches with the cladding's life expectancy.

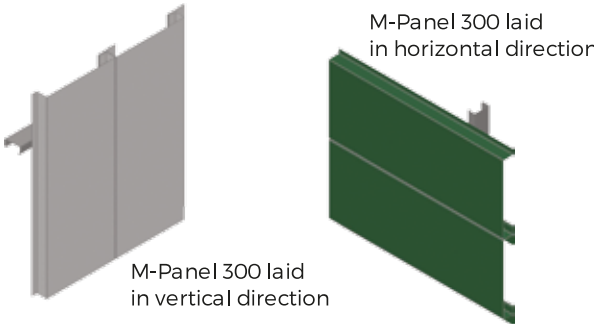
The fasteners used for installation of M-Panel 300 sheeting to the structural support shall conform to AS3566:2002 – Class 3 or Class 4, and should be self-drilling with a wafer head.

STEEL SUPPORT

| Thickness | Up to 4.5mm | Exceeds 4.5mm |
|---------------------|---|---|
| Directly to support | No. 10 - 24 x 16mm wafer-head self drilling and tapping screw | Teks 5 No. 12 - 24 x 32mm and tapping screw |

Hoarding Application**

It is perfect for hoarding and totally transforming the appearance of a building site.



Installation of panels for hoarding application is not recommended to be laid in direct contact with ground level.

** PE (Polyester) paint for hoardings application only.

Please contact M Metal Pte Ltd, Technical Department for all technical matters and assistance with your roof design

Compatibility

All products should be checked for compatibility with adjacent materials before installation. It is important to check the implications of direct contact between materials, and water runs from one material to another.

Galvalume®/ColorLume® SMP/ColorLume® VF-20L (70/30) PVDF / ColorLume iClean® coated steel sheets should not be placed in direct contact with copper, lead, green or treated timber, stainless steel, mortar or concrete.

Delivery / Unloading

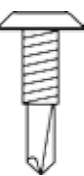
M Metal provides a shorter lead-time than other manufacturers because its manufacturing facility is located in Singapore. Delivery can be made within 3 working days subject to the delivery location, quantity and material availability.

Please ensure that suitable arrangements have been made for truck unloading. When lifting M-Panel 300, care should be taken to ensure that the load is spread evenly to prevent damage.

TIMBER SUPPORT

| Grade | Hardwood | Softwood |
|---------------------|---|--|
| Directly to support | No. 10 - 12 x 25mm wafer-head type 17 self drilling wood screw; 3.75mm x 50mm flat-head spiral threaded nail (on special orders). | No. 10 - 12 x 46mm wafer-head type 17 self drilling wood screw |

FEATURES OF FASTENER



- Forged drill point
- Strip out resistant
- Higher pullout load
- Zinc alloy proven corrosion protection



Length

M-Panel 300 roof and wall claddings are supplied cut-to-length requirement. Recommended length not exceeding 6 metres. Regulatory limits for transporting long products by the local transport authority should be verified. The manufacturing tolerance on the length of product supplied is ±0-15mm.

Handling / Storage

M-Panel 300 should be handled with care at all times to preserve the quality of its finish and product capabilities. M-Panel 300 packs should be stored above ground level while on-site and kept dry.

Oil Canning

Oil canning describes how flat surfaces tend to show variations in reflectivity (waviness). The level of oil canning depends on the ability of the metal sheet to distribute stresses caused by temperature change across the surface. Oil canning is inherent in flat sheets; it is a characteristic, not a defect, and it should not be used as the basis for panel rejection.