

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.

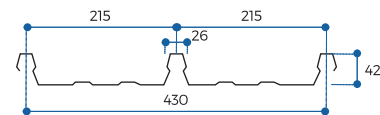
Our sense of responsibility extends to workplace safety. We strongly believe that good safety equates good business. Through regular training sessions, we make sure that our workers, and also those of our contractors, are able to do a good job safely.

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.

Profiles - the specifications

M-Clipp 430

Standard Thickness	0.54mm	Non-Standard	0.66mm
Profile Height	42mm	Effective Cover	430mm
Steel Grade	G550	Coating Class	AZ 200



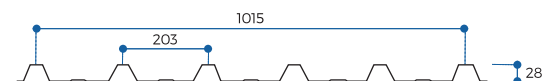
M-Span 925

Standard Thickness	0.48mm	Non-Standard	0.54mm
Profile Height	26mm	Effective Cover	925mm
Steel Grade	G550	Coating Class	AZ 200



M-Clad 1015

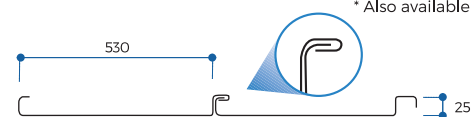
Standard Thickness	0.48mm	Non-Standard	0.54mm
Profile Height	28mm	Effective Cover	1015mm
Steel Grade	G550	Coating Class	AZ 200



* E-Clad 1025 is available for hoarding

M-Seam 530

Standard Thickness	0.61mm	Non-Standard	N.A.
Profile Height	25/50mm	Effective Cover	530mm
Steel Grade	G300	Coating Class	AZ 200

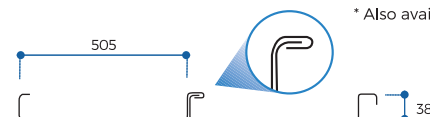


* Cover width 320mm is now available

* Also available in Aluminium

M-Seam 505

Standard Thickness	0.61mm	Non-Standard	N.A.
Profile Height	38/50mm	Effective Cover	505mm
Steel Grade	G300	Coating Class	AZ 200

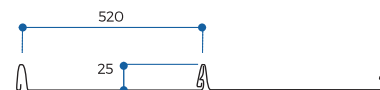


* Cover width 300mm is now available

* Also available in Aluminium

M-Snap 520

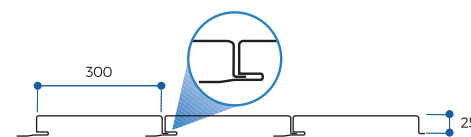
Standard Thickness	0.61mm	Non-Standard	N.A.
Profile Height	25mm	Effective Cover	520mm
Steel Grade	G300	Coating Class	AZ 200



* Cover width 315mm is now available

M-Panel 300

Standard Thickness	0.61mm	Non-Standard	N.A.
Profile Height	25mm	Effective Cover	300mm
Steel Grade	G300	Coating Class	AZ 200

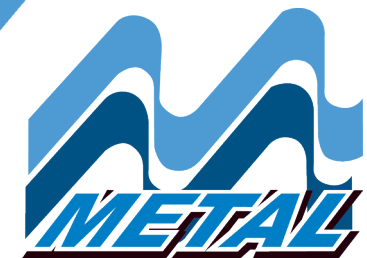


* E-Panel 300 is available for hoarding



You Inspire, We Deliver.

MODERN ROOFING & WALLING SYSTEMS



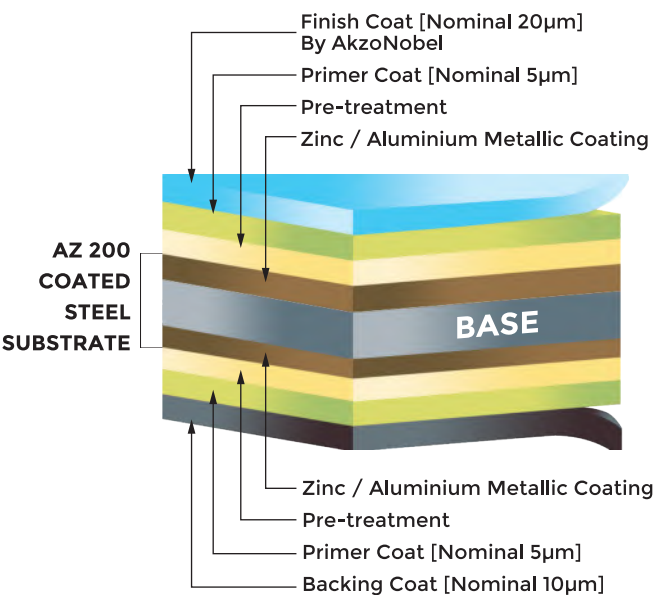
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Our Substrate - the underlying difference



The substrate is made from AZ 200 alloy coated steel sheets. AZ is an alloy comprising 55% Aluminium, 43.5% Zinc and 1.5% Silicon. AZ 200 refers to the coating mass in g/m² on both sides.

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
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.
* Fire Classification A1 in accordance to EN 13501-1 and Class 0 in BS 476 Part 6 & 7.
* Warranty is available upon request, subject to standard terms and conditions.

Certificate of Conformity obtained for Regulated Fire Safety Product			
Test Desc	Brand	Test Result	Certificate Reference
BS 476 Part 6 & 7	ColorLume® SMP	BS 476 Part 7 : Class 1 BS 476 Part 6 : Achieved the requirement	CLS2 17 10 02539 001 CLS2 17 10 02539 002
BS 476 Part 6 & 7	ColorLume® PVDF (70/30)	BS 476 Part 7 : Class 1 BS 476 Part 6 : Achieved the requirement	CLS2 17 10 02539 007 CLS2 17 10 02539 008
BS 476 Part 4	55% Al-Zn Alloy Coated Steel Sheets (Galvalume)	Non-combustible	CLS2 17 10 02539 003 CLS2 17 10 02539 004

ColorLume® paint systems

- Finish Coat***
- ColorLume® PVDF** : High performance Polyvinylidene Fluoride (abbreviated PVDF or called Fluorocarbon) with full strength 70% of TRINAR® 5000 premium resin is used 20µm nominal dry film thickness.
 - ColorLume® SMP** : Custom formulated Silicon Modified Polyester (SMP) paint system. 20µm nominal dry film thickness.

Primer
Anti-corrosion inhibitive polyurethane primer. 5µm nominal dry film thickness.

Pre-treatment
With proprietary conversion film to achieve excellent adhesion between the steel surface and paint finish.

Substrate
AZ 200 alloy coated steel. AZ comprises 55% Aluminium, 43.5% Zinc and 1.5% Silicon (by weight) in accordance to ASTM A792M. Minimum coating mass, 200 g/m² on both sides.

Pre-treatment
With proprietary conversion film to achieve excellent adhesion between the steel surface and paint finish.

Primer
Anti-corrosion inhibitive polyurethane primer. 5µm nominal dry film thickness.

Backing Coat
Custom formulated polyester coating, Light Grey for PVDF and Egret White for SMP. 10µm nominal dry film thickness.

* For colour selection, please refer to our colour chart on the opposite page. Specular gloss to finish is 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.

ColorLume® Silicone Modified Polyester (SMP) (SILKSTAR™ 500*)

It is a silicone-protected polyester coating specially designed for coated steel roofs and walls. It is an industry- standard that is superior to older polyester, acrylic and other paint technologies.

ColorLume® SMP is an economical long lasting and versatile paint solution for use in a wide variety of applications. It is resistance to the elements while maintaining its distinctive colours.

ColorLume® VF-20L PVDF 70/30** (Fluorocarbon) (TRINAR® 5000 PVDF*)

A reliable 2-coat, 2-bake Fluorocarbon (PVDF) process with full strength 70% of premium resin as the top coat.

ColorLume® PVDF can resist city grime, solarisation, dirt staining and acid rain. Under these severe conditions in this region, ColorLume® VF-20L steel sheets are able to preserve its pleasing appearance and have excellent colour and gloss retention together with chalk resistance properties.

* SILKSTAR™ 500 / TRINAR® 5000 PVDF — A Trademark of AkzoNobel
** MOQ applied. Please contact M Metal Pte Ltd.

Recommended application

ColorLume® is suitable for use in industrial environments, and is highly recommended for prestigious projects where demand for distinctive colour schemes (corporate colour) are desired. Other applications include large electronic factories, logistics buildings, airports, hospitals, warehouses, residential buildings and others.

Handling and Forming

In order not to damage the surface of the steel, it must be carefully handled during processing, forming, transportation and packaging. Any improper lubricants used will affect the function of the steel sheets and pollute their surfaces. It is therefore strongly recommended not to use such lubricants.

Colour Palette

Standard Colours

Luxury Blue TDR: 9.70% TE: 0.85 SRI: 29.10	Toffee Brown TDR: 18.00% TE: 0.85 SRI: 35.30	Graphite Grey TDR: 11.50% TE: 0.85 SRI: 28.10	Patina Green TDR: 16.90% TE: 0.85 SRI: 34.00
Ocean Blue TDR: 13.30% TE: 0.85 SRI: 14.60	Chocolate Brown TDR: 9.80% TE: 0.86 SRI: 28.40	Imperial Grey TDR: 17.50% TE: 0.85 SRI: 17.20	Victorian Green TDR: 9.20% TE: 0.85 SRI: 11.30
Shale Beige TDR: 32.70% TE: 0.85 SRI: 52.60	Cranberry Red TDR: 13.90% TE: 0.86 SRI: 42.10	Milky White TDR: 67.00% TE: 0.84 SRI: 75.00	City Grey TDR: 49.30% TE: 0.85 SRI: 56.00

Non Standard Colours

* For non standard color, please contact M Metal Pte Ltd for more information.

Slate Grey TDR: 21.70% TE: 0.86 SRI: 23.30	London Grey TDR: 23.40% TE: 0.85 SRI: 28.60	Black TDR: 5.40% TE: 0.87 SRI: 7.10

• All colours shown are printed as close as possible to ColorLume® prepainted steel. Please contact M Metal Pte Ltd for actual colour plate sample.
• TDR (Today Daylight Reflectance) values are determined in accordance with ASTM E903-12.
• SRI (Solar Reflectance Index) values are derived from calculation in accordance with ASTM E-1980-11.
• TE (Thermal Emittance) values are determined in accordance with ASTM C-1371-15.
• Test conducted by Singapore Accredited Independent Laboratory.
• Standard Warranty Terms and Conditions apply.