

SUGGESTED SPECIFICATION FOR M-SEAM 530 OR M-SEAM 505 ROOFING/WALLING PROFILE

Profile and Dimension

M-Seam 530/M-Seam 505



Physical Properties of M-Seam 530 and M-Seam 505

Steel Grade (MPa)	Cover Width (mm)	Rib Height (mm)	Total Coated Thickness (mm)		Minimum Recommended Pitch
			Standard	Non-Standard	
300	530	25	0.61	N.A.	5°
300	505	38	0.61	N.A.	3°

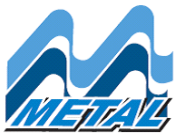
Note: Minimum roof pitch recommended above is for single length roof sheet without end-lap. For roofing sheet length requiring end-laps due to specific design factors, local regulatory limitation on transportation or others, the minimum recommended roof pitch is 7.5° and 5° for M-Seam 530 and M-Seam 505 respectively. For more information, please refer to M Metal – Marketing Department.

Option 1 – Using M-Seam 530/25

Material

Where shown in the Drawings, the metal roof shall be 0.55mm BMT (Base Metal Thickness) or 0.61mm TCT (Total Coated Thickness) ColorLume® VF-20L PVDF (70/30) factory coated steel M-Seam 530 conceal-fix standing seam roof system.

The lock and seam profile shall have ribs of 25mm height and an effective cover width of 530mm to be supplied complete with conceal fixing clips as manufactured by M Metal Pte Ltd. The sheets shall be installed using conceal fixing clips fixed to the Zed or Omega sub-girt at 600mm centre together with insulation and M-Span 925 zinc/aluminium (non-colour) substrate to form a complete build-up roof system. The M-Seam 530 ribs must be locked and seamed to complete the installation of the roof. The colour shall be for one side and be selected by the Architect/SO.



The base material shall be protected steel sheet with a minimum yield stress of 300MPa (Grade G300) and metallic hot-dipped zinc/aluminium alloy coating comprising 55% Aluminium, 43.5% Zinc and 1.5% Silicon. The minimum total coating mass for the zinc/aluminium alloy coated steel shall be AZ200 (200 g/m² minimum coating mass).

The material performance intended for the manufacture of the profiled roof and wall cladding for use in the building industry shall conform to Singapore Standard 370:1994 Specification for Metal Roofing.

Material Performance Test

Typical Properties	Test Standards (Method)	Correspond to Singapore Standard SS370:1994*
T-bend Test	ASTM D 4145-10	AS 2728
Pencil Hardness	ASTM D 336-09e2	ASTM D 3363
Colour	ASTM D 2244-11	SS Part E3
Specular Gloss	ASTM D 523-08	SS 5 Part E1
Dry Film Thickness	ASTM D 7091-05	SS 5 Part B1
Impact Resistance	JIS K5600-5-3	ISO 6272
Humidity Resistance	JIS K5600-7-2	SS 5 Part G6
Gross Cut Adhesion	JIS K5600-5-6	ISO 2409

Corrosion & Weathering	Test Standard (Method)	Correspond to Singapore Standard SS370:1994*
Salt Spray Test	ASTM B 117-090	SS 5 Part G1
Weathering Test	ASTM 154-06	SS Part G4
Acid Resistance (10% v/v HCL)	JIS K5600-6-1	ISO 2812

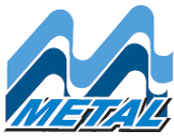
* Specification for Metal Roofing – Singapore Environment

All necessary related flashings, cappings and others as per shape and profile as shown in the Drawings shall be manufactured from 0.61mm thick ColorLume[®] VF-20L (70/30) factory pre-painted coils as per colour of roof selected by the Architect/SO.

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

Paint Finish

The top coat finish shall be ColorLume[®] VF-20L PVDF (Fluorocarbon) factory pre-painted 2-coat / 2-bake high performance Polyvinylidene Fluoride with more than 70% of KYNAR 500[®] or HYLAR 5000[®] paint system.



The coating composition is as follows:

- Top coat: Polyvinylidene Fluoride (PVDF) with more than 70% KYNAR 500[®] or HYLAR 5000[®] paint system of 20µm nominal dry film thickness on the top or weather side. The finish colour shall be selected by the Architect/SO.
- Primer coat: High anti-corrosion inhibitive polyurethane primer of 5µm dry film thickness each on both sides.
- Back coat: Light grey epoxy resin with anti-corrosion polyester coat of 10µm nominal dry film thickness.
- Gloss: Nominal gloss level of 25 - 30% at 60 degree reflection angle.

MISCELLANEOUS

Fasteners

Fasteners shall be selected to match the life expectancy and be compatible with the roof cladding material.

The fasteners used for installation of M-Seam 530 sheeting to the purlin/structural supports shall conform to AS3566 – Class 3 or Class 4 where relevant and shall be self-drilling type with flat head and washer.

Compatibility

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

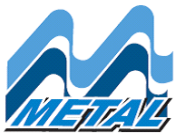
Zinc/Aluminium (non-colour)/ColorLume[®] VF-20L (70/30) PVDF coated steel sheet shall not have direct contact with copper, lead, green or treated timber, stainless steel and mortar or concrete.

Length

M-Seam 530 roof claddings are supplied cut-to-length. When designing, do keep in mind regulatory limits of local transport authority for transportation of long length products. The manufacturing tolerance on the length of product supplied is ± 0.15 mm.

Handling/Storage

M-Seam 530 roof cladding should be handled with care at all times to preserve quality of its finish and product capabilities. Packs should be stored above ground on site and be kept dry.



WARRANTY

10 years with terms and conditions specified in manufacturer's warranty specimen.

Note:

Where **M-Seam 530/25** is selected as the intended roof profile, **a substrate of either M-Span 925 or M-Clad 1015 have to be introduced to complete the build-up roof system.** Please refer to M Metal Pte Ltd - Marketing Department to discuss on the technical application where acoustic and thermal properties are required together with a detailed specification write-up and shop drawings of the build-up roof system will be prepared for the specific project.

Option 2 – M-Seam 505/38

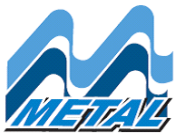
Material

Where shown in the Drawings, the metal roof shall be 0.55mm BMT (Base Metal Thickness) or 0.61mm TCT (Total Coated Thickness) ColorLume[®] VF-20L PVDF (70/30) factory pre-painted coated steel M-Seam 505 conceal-fix standing seam roof system.

The lock and seam profile shall have ribs of 38mm height and an effective cover width of 505mm to be supplied complete with conceal fixing clips as manufactured by M Metal Pte Ltd. The sheets shall be installed using conceal fixing clips fixed to the Zed or Omega sub-girt at 600mm centre together with insulation and M-Span 925 zinc/aluminium (non-colour) substrate to form a complete build-up roof system. The M-Seam 505 ribs must be locked and seamed to complete the installation of the roof. The colour shall be for one side and be selected by the Architect/SO.

The base material shall be protected steel sheet with a minimum yield stress of 300MPa (Grade G300) and metallic hot-dipped zinc/aluminium alloy coating comprising 55% Aluminium, 43.5% Zinc and 1.5% Silicon. The minimum total coating mass for the zinc/aluminium alloy coated steel shall be AZ200 (200 g/m² minimum coating mass).

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Material Performance Test

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Corrosion & Weathering	Test Standards (Method)	Correspond to Singapore Standard SS370:1994*
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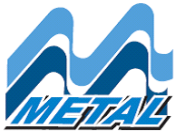
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Paint Finish

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- Back coat: Light grey epoxy resin with anti-corrosion polyester coat of 10µm nominal dry film thickness.
- Gloss: Nominal gloss level of 25 - 30% at 60 degree reflection angle.



MISCELLANEOUS

Fasteners

Fasteners shall be selected to match the life expectancy and be compatible with the roof cladding material.

The fasteners used for installation of M-Seam 505 sheeting to the purlin/structural supports shall conform to AS3566 – Class 3 or Class 4 where relevant and shall be self-drilling type with flat head and washer.

Compatibility

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

Zinc/Aluminium (non-colour)/ColorLume[®] VF-20L (70/30) PVDF coated steel sheet shall not have direct contact with copper, lead, green or treated timber, stainless steel and mortar or concrete.

Length

M-Seam 505 roof claddings are supplied cut-to-length. When designing, do keep in mind regulatory limits of local transport authority for transportation of long length products. The manufacturing tolerance on the length of product supplied is $\pm 0.15\text{mm}$.

Handling/Storage

M-Seam 505 cladding should be handled with care at all times to preserve quality of its finish and product capabilities. Packs should be stored above ground on site and be kept dry.

WARRANTY

10 years with terms and conditions specified in manufacturer's warranty specimen.

Note:

Where **M-Seam 505/38** is selected as the intended roof profile, **a substrate of either M-Span 925 or M-Clad 1015 have to be introduced to complete the build-up roof system.** Please refer to M Metal Pte Ltd - Marketing Department to discuss on the technical application where acoustic and thermal properties are required together with a detailed specification write-up and shop drawings of the build-up roof system will be prepared for the specific project.