

MaXROOF



MaXCRESTTM

Profile with **Muscles**

MxCrest1000



Muscular Steel Profile

Ideal For Roofing & Wall Cladding

MxCrest1000 is a profile with muscles. The crest of **MxCrest1000** is large, i.e 35mm and it also has 2 parallel mini ribs between the main crest which makes **MxCrest1000** much stronger and this translates into long spanning capabilities.

MxCrest1000 can be used as roofing as well as walling applications for various industry segment like factories, warehouse, infrastructure project etc.

MxCrest1000 made of high strength steel and despite its lightness has remarkable recovery after deformation.

MxCrest1000 profile has been widely accepted as it serves two most important purposes, strength & aesthetics and hence it becomes architects first choice.

MxCrest1000 profile can be factory cranked, curved and bull nosed to a wide range of radii to suit architectural requirements.

MxCrest1000 side lap design makes it completely watertight (Ref fig. - 03). The unique feature of anti-capillary groove at side laps makes it totally weather proof. Any moisture drawn in by capillary action is trapped and dispersed by normal run - off.



MxCrest1000 Steel Profile - Mass Table

BMT*	TCT*	PRODUCT	kg/m	kg/m ²
0.35	0.40	Bare Galvalume Steel	3.56	3.56
0.35	0.40	Color Coated Galvalume Steel	3.63	3.63
0.42	0.47	Bare Galvalume Steel	4.24	4.24
0.40	0.45	Color Coated Galvalume Steel	4.11	4.11
0.45	0.50	Bare Galvalume Steel	4.52	4.52
0.45	0.50	Color Coated Galvalume Steel	4.59	4.59

*Dimensions are in millimeters

Table - 02

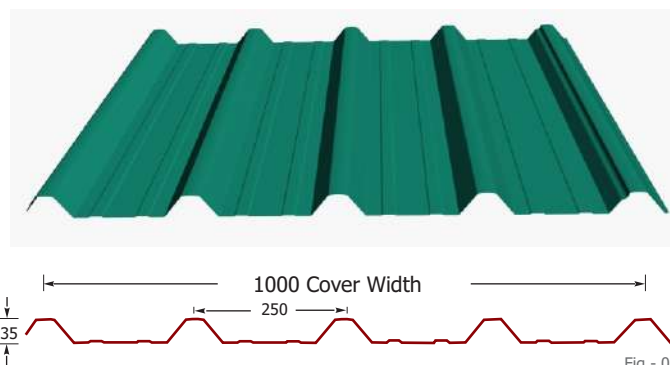


Fig - 01

DIMENSIONS

Profile	Cover Width	Crest	Pitch	Sheet Width
MxCrest	1000	35	250	1095

*Dimensions are in millimeters

Table - 01



Specification

MxCrest1000 is available in the following base materials -

- Galvalume high tensile cold rolled steel as per AS1397, coating class AZ150 (min. 150 gsm/m² zinc - aluminum alloy coating mass, total on both sides), 550 Mpa / 345 Mpa / 245 Mpa yield strength. We can also offer AZ70/100/200/275 gsm as per customer requirement, even though our standard offering is AZ150.
- Galvanized cold rolled steel as per IS:277 and IS:513 (min 120 gsm/m² zinc coating mass total of both sides) 240 Mpa yield strength.
- Aluminium alloy AA3105 or as per specification.

Color Coating - Oven baked paint system applied to substrates:

- Silicone Modified Polyester (SMP) or fluouopolymer (70% Kynar 500) 20 microns top coat over primer (finished side), neutral back coat over primer (back side) over Galvalume / Galvanized Steel.
- Fluoropolymer (70% Kynar 500) or polyester top coat 20 microns over primer (finished side) neutral back coat (back side) over aluminium.

Tolerance - Length : ±10 mm

Cover Width: ±6 mm

Packing - In bundles, as per Maxroof standard of packing.

Length - Available in customized lengths or maximum transportable length.

GALVALUME - Coating Layers

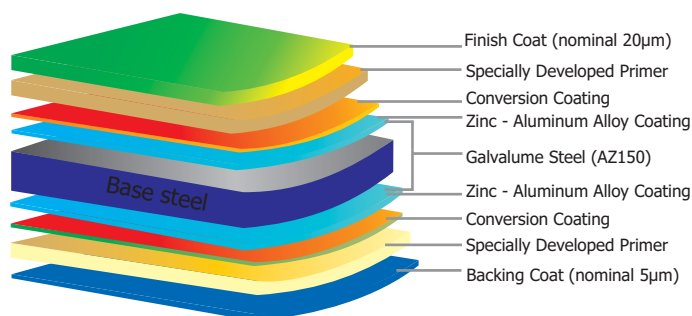


Fig - 02

GALVALUME is an internationally recognized trademark of BIEC International Inc.

Galvalume Technology is a Zinc Aluminum coated steel offering high corrosion resistance with clear resin coating.

The alloy coating comprises of 55% Aluminum, 43.5% Zinc and 1.5% Silicon. This coating combines the superior barrier protection of Aluminum and the sacrificial cut edge protection of Zinc.



Material Options

Galvanized / PPGI	Gauge (mm)
Z 120 245/345 Mpa	0.40 to 0.80
Z 180 245/345 Mpa	
Z 275 245/345 Mpa	

Galvalume / PPGL	Gauge (mm)
AZ 70 300 / 550 Mpa	0.40 to 0.80
AZ 100 300 / 550 Mpa	
AZ 150 300 / 550 Mpa	

Aluminium	Gauge (mm)
Mill Finish	0.70 to 1.20
Stucco Embossed	
Color Coated	

Table - 03

Installation

MxCrest1000 is pierce fixed to either timber or steel supports which are secondary support structure over the main structure. **MxCrest1000** is pierced by self-tapping, self-drilling screws which places it in position.

Screws should be placed through crest for roofing application and through valley for walling (Ref. fig - 03). Always drive the screws perpendicular to the sheeting.

Screws are always driven perpendicular to the roof sheets and in the center of the corrugation of ribs.

Fasteners should be atleast 25mm away from the edge of the sheet at the eaves and ridge end of the sheet.

All fasteners shall conform to AS 3566, class 3-4 (min) for external application. Refer installation manual for correct sizes of screws for various applications.

The side lapping of **MxCrest1000** profile is completely weatherproof by the provision of unique feature of anti-capillary groove provided along the length of sheets (Ref Fig - 03). It is generally considered good Practice to use fasteners along side laps if purlin spacings are beyond the recommended spacings.

Long lengths and weatherproof side lap design allow **MxCrest1000** to be used safely on roof pitches as low as 3° in single sheet length & 5° with end laps and for vertical cladding.

Minimum of 50mm should be overlapped into the gutter with necessary flashing details. Please refer Maxroof technical literature and standard drawing details.

When **MxCrest1000** is installed in roof slopes less than 5°, bend the edge of sheet to block capillary action. (refer installation manual)

If necessary to use two or more end lapped sheets to provide full length coverage of the roof run, lay each line of end lapped sheets complete from bottom to top of the roof before proceeding to the next line of sheets.

Before lifting sheets on to the roof, check that they are the correct way up and the female rib is towards the edge of the roof, from which the installation will start. Place bundles of the sheet over or near firm support, not at mid span of roof members.

MxCrest1000 - Technical


Maximum Roof Run (m)							
	Rainfall Intensity (mm/hr)	Roof Slope					
		1°	2°	3°	5°	7.5°	10°
	100	-	246	288	354	417	483
	150	-	268	198	240	275	325
	200	-	129	151	183	216	247
	250	-	106	122	149	175	200
	300	-	90	104	126	148	168
	400	-	72	81	99	140	129
	500	-	59	67	81	93	105

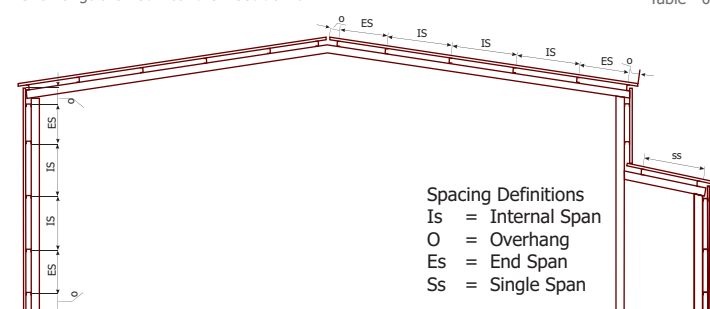
Table - 04



Maximum Support Spacings (mm)					
Yield Strength		550 MPa		245MPa	
Thickness		0.42 BMT	0.45 BMT	0.42 BMT	0.45 BMT
Application	Type of Span	Maximum Support Spacings (mm)			
Roof	Single span	1100	1450	1000	1050
	End span	1350	1550	1250	1350
	Internal span	1900	2000	1650	1750
	Stiffened overhang*	250	300	200	250
	Unstiffened overhang*	200	250	150	200
Wall	Single span	1550	1750	1750	1800
	End span	1800	2000	2450	2550
	Internal span	3000	3150	2850	2950
	Stiffened overhang*	300	350	250	300
	Unstiffened overhang*	250	300	200	250

*Overhangs are not meant for foot traffic.

Table - 05



Span Terminology (Reference for Table 05)

Distributed Load Capacity Over Continous Span Conditions (three or more supports)																			
Span Support (mm)		1000		1200		1400		1600		1800		2000		2200		2400		2600	
Thickness in mm (BMT)		0.42	0.45	0.42	0.45	0.42	0.45	0.42	0.45	0.42	0.45	0.42	0.45	0.42	0.45	0.42	0.45	0.42	0.45
Safe Distributed Load (kpa)	550MPa	7.93	9.00	5.71	6.50	4.29	4.86	3.36	3.79	2.71	3.00	2.21	2.43	1.86	2.07	1.57	1.71	1.36	1.50
	245MPa	4.96	5.03	3.48	3.56	2.56	2.63	2.02	2.06	1.60	1.65	1.32	1.35	1.12	1.21	0.92	0.94	0.80	0.83
Deflection Under Above Load (mm)	550MPa	1.69	1.79	2.52	2.68	3.49	3.70	4.65	4.90	6.00	6.20	7.42	7.61	9.06	9.45	10.78	11.01	12.74	13.19
	245MPa	0.86	0.99	1.27	1.45	1.70	1.97	2.26	2.63	2.85	3.34	3.55	4.12	4.37	4.80	5.01	5.80	5.92	6.95

Table - 06

Notes to Table 05 & 06

- 0.42mm BMT = 0.47mm TCT & 0.45mm BMT = 0.50mm TCT, BMT is Base Metal Thickness & TCT is Total Coated Thickness.
- Spans take into account safety factor of 1.6. A stress increase of 33-1/3% is permitted for wind loads as per IS875-III for a velocity of 47m/s, for a building height of 10meters with terrain category 3 & class C of the building. Please contact Maxroof before adopting design.
- The span table takes into account deflection limitation of span/150 for downward loading and span/90 for upward loading.
- Loads have been determined from tests in accordance with AS 1562-1980. This standard states that the maximum deflection between adjacent purlins shall not exceed span/90 and the residual deflection 5 min after removal of the force shall not exceed span/900.

Care & Handling during & after installation

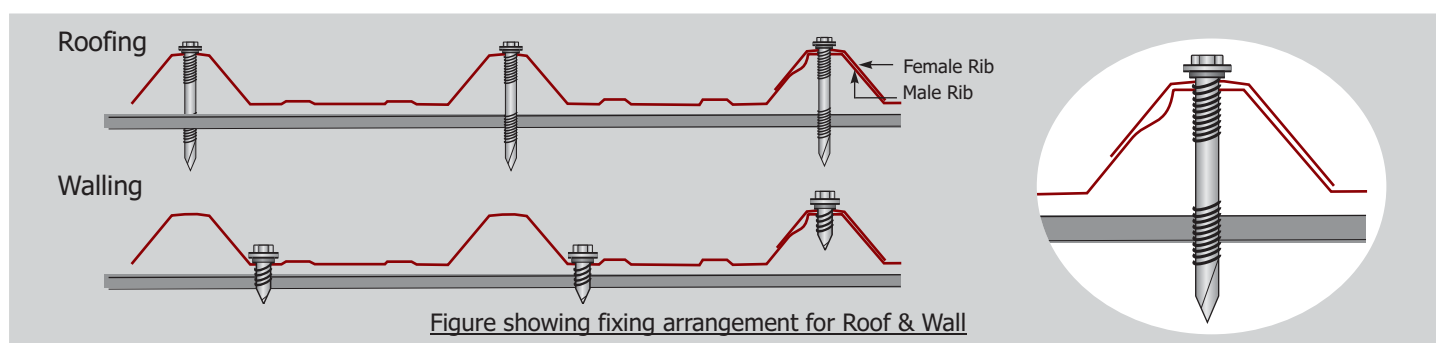


Fig - 03

Walking on Roof

Weight to be evenly distributed across both feet while walking on the roof. Soled shoes are ideal during installation. Avoid ribbed shoes. While walking on the roof always walk along the purlins and put your foot within the valley of the sheets.

Metal & Timber Compatibility

Lead, copper, bare steel and green or some chemically treated timbers are not compatible with these products. Also avoid rainwater discharge from these onto the product. Call our nearest office for advice.

Maintenance

For optimum product life, wash external surfaces regularly. Areas sheltered by eaves should be washed at least once in 6 months.

Storage and Handling

Keep the product dry and clear of the ground. If stacked or bundled and **MxCrest1000** becomes wet, separate it, wipe it and allow it to dry. Handle materials carefully, never drag it. If the sheets are stored for a longer period or during rainy season, always keep it inclined position, so that any water entering into the sheets are drained out.

Sealed Joints

Use screws or rivets and neutral-cure silicone sealant recommended as suitable for the use with Galvalume steel.

Cutting

For onsite cutting of thin metals, a circular saw with a circular blade or cutting tools as recommended. Cut metals over ground and not on other materials. Keep the roof surface clear of debris and all metallic swarf.

End Lapping

End laps are usually not necessary as **MxCrest1000** is available in longer lengths. If end-laps are required refer Maxroof technical manual.

End of Sheets

Allow roof sheets to overlap into gutters by about 50mm. If the pitch of roof is less than 5° or extreme weather is expected the valleys of sheets should be turned down at lower ends and turned up at upper ends by about 80°. The overhang of sheets are not meant for foot traffic.





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