

Painting human imagination in the colours of Steel & Aluminium



Triumph is the result of action. Action preceded by thought, that's in turn triggered off by compelling factors. We believe colour is one of them. Our coloured steel and aluminum products - that exude strength, display character and empower you to paint your imagination - have been designed to help you realise your vision. To stake your claim to a future that's rightfully yours!

Origin of Comprehensive Capabilities |

We challenge technological frontiers! From the point of 'Go', we were very clear about prioritising innovation over convention. The yearning to achieve the impossible, the zeal to push ourselves to the limit and then a little more, towards fulfilling our cherished vision of becoming a multi-division, multi-location conglomerate makes every endeavour sheer pleasure.

Experience Precision beyond Compare |

We touch many lives everyday - enough reason for us to focus hard on building well tuned partnerships. And then we are moving fast! To reach the trophy destination - where our customers experience the bliss of products built with utter precision.

Manaksia Limited, headquartered in Kolkata, operates through multiple manufacturing plants in India and Africa, and sales & services offices all over the Country and overseas. We specialise in the manufacture of packaging products - crown caps, roll-on pilfer-proof closures, expanded polyethylene liners as well as push-open and other metal containers, ferrous and non-ferrous metal products - sponge iron, MS alloy ingots and long products, aluminum alloys, aluminum rolled products, pre-coated sheets etc., household insecticides - mosquito repellent coils, and special purpose machinery among others.

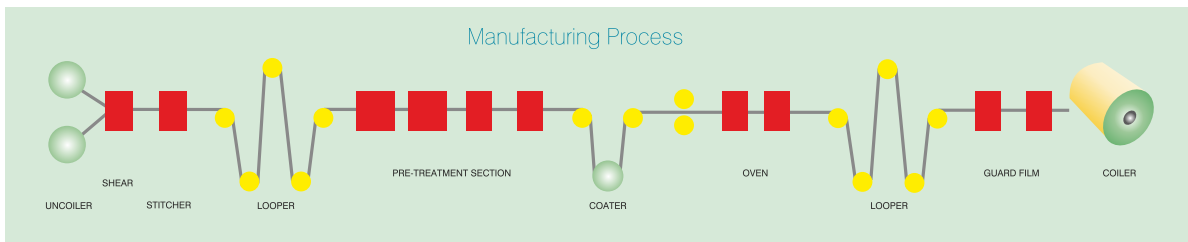
Truly Colourific |

Our aesthetic colour palette helps create specialised environments that are a unique blend of practicality and joy. Steel & Aluminum have thus far, been perceived as robust elements that symbolise strength. Seldom have they been associated with liveliness and style. Our pre-coated sheets are all set to usher in a new visual accent that will personify style and elegance and create a world that's truly colourific!

Our product range includes Colour-coated sheets - pre-painted sheets of various substrate material, zinc-coated CR, Al-Zn coated CR, aluminum sheets etc. We currently have an operational annual production capacity of approx 60,000 MT. The pre-coated sheets are available in a wide spectrum of attractive colours, styles, gloss or matte finishes, varying thicknesses of substrate and coatings. What's more, the pretreatment can be customised to customer requirement. These sheets meet the highest criteria for durability, functionality and aesthetic appeal as compared to conventional zinc coated CR sheets.

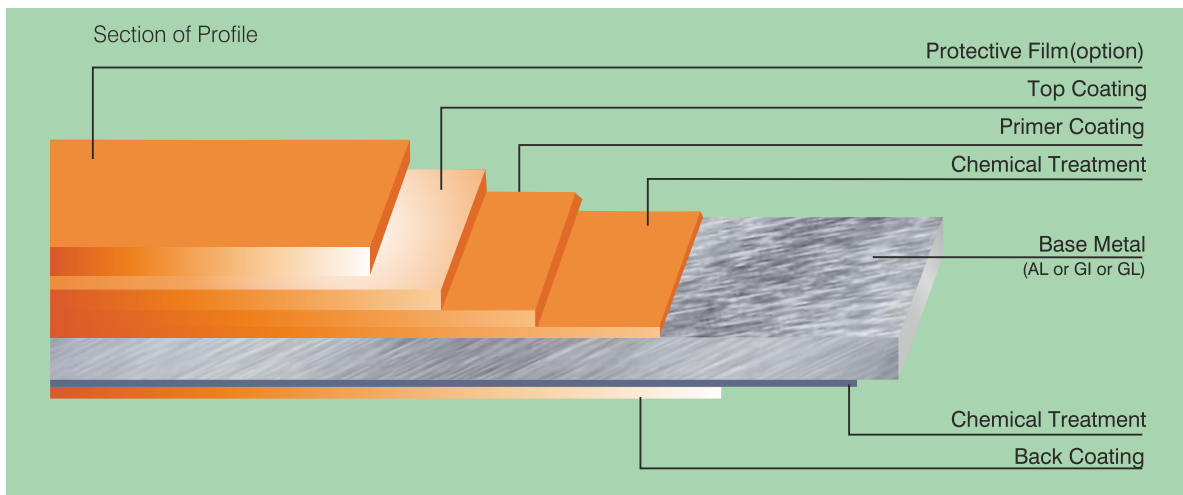
Typical Process of Colour Coating

Nobody captures design & dynamism in steel and aluminum like we do! This is typically achieved using a 'two coat-two bake' process that involves two steps of coating and baking after the sheet has undergone pretreatment. We employ advanced 'S' wrap coating system to ensure uniform coat thickness. A highly advanced processing and coating technique ensures that the coating adheres firmly to the base metal and does not peel off during roll forming, bending or any other process. After undergoing a high level of treatment, the base metal exhibits higher durability even in tough weathering conditions. Uniform thickness of the coat, extra smooth surfaces, availability in attractive colours and value for money make Manaksia's product range truly valuable in comparison with any conventional product.



Specifications of Pre - Painted Coils

- Substrate: Zinc-coated steel, Alu-Zinc coated steel and Aluminum.
- Steel: **Soft/Semi Hard/Full Hard**
- Standards followed
 - IS:14246
 - JIS: 3312
 - EN: 10169
 - ASTM: A755M
- Test methodologies for finished products
 - IS 14246:1995
- Coating Systems: **RMP/SMP/SDP/PVDF/PU/Epoxy etc.** capable of manufacturing in both uni-coat and multi-coat systems.



	Pre Painted Galvanised Steel	Pre Painted Galvalume	Pre Painted Aluminum
Tensile strength	240/350/550 MPa	240/350/550 MPa	As per alloy
Thickness range (TCT)	0.14 – 1.0 mm	0.2 - 0.8 mm	0.18 -1.2 mm
Width(mm)	750 -1250 mm (standard - 1220 mm)	900-1220 mm	750 - 1250 mm (standard - 1220 mm)
Coil weight (MT)	3 - 6 MT	3 - 6 MT	3 - 6 MT
COIL ID	508 mm	508 mm	508 mm
Metal Coating	120 GSM or higher as per customer specifications	AZ70-AZ150 or as per customer specifications	None needed
Primer (microns)	Upto 8 microns or as per customer specifications		
Back coat (microns)	Upto 8 microns or as per customer specifications		
Top coat (microns)	Upto 25 microns or as per customer specifications		
Profiled sheets/Cut to length sheets	Available in any transportable length, packed in crates of 3 - 5 tons each		
Guard film (optional)	40 microns or as per customer specifications		

Test	Results	Test Method
Resistance to Chemical corrosion (5% NaOH &5% H2SO4)	Good	ECCA-T-18
Solvent rub(MEK)	Min 100 double rub	AICC-23
Pencil hardness test	2H	ECCA-T-4 / IS 14246:1995
Scratch resistance	1500 gm	IS 101
Impact test	Min 40" Lb	ECCA-T-5 / IS 14246:1995
Erichsen cupping test	>6 mm	IS-10175 (82)
Bend test	2T	ECCA -T-7 / IS 14246:1995
Gloss at 60-degrees	80-85/25-30 (depending on finish)	ECCA-T-4
Adhesion/Cross hatch test	100%	ASTMD-3359
Salt spray test	Min 750 hrs	ECCA-T-8
Humidity test	Min 1000 hrs	ECCA-T-9
QUV weathering test	Min 1000 hrs	ECCA – T-10
Flatness test	Upto 18 mm	IS 14246:1995

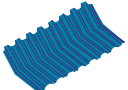
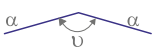

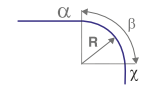

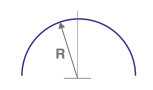
Test results on Zn coated steel sheets (340 MPa)

Standard tolerances & Conditions Apply. The above results are indicative.


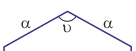
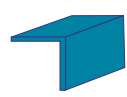
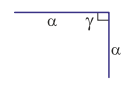
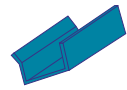
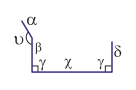


Accessories

Profiled Accessories (Coated Steel/Aluminum)

		RIDGE
		NORTH LIGHT CURVATURE
		CURVATURE

Plain Accessories (Coated Steel/Aluminum)

		PLAIN RIDGE
		BARGE BOARD
		END EAVE GUTTER

Salient features of Manaksia's Trapezoidal Profile | 1000

Sectional Properties (Zn / Al - Zn Coated Steel)

Thickness mm	Area (mm ²)	I _{xx} (mm ⁴)	Z _{top} (mm)	Z _{bottom} (mm)	Span for Deflection w/m ² = 70 kg		UDL (Kg/m ²) for Span		
					L / 100 (cm)	L / 200 (cm)	1 meter	1.4 meter	2 meter
0.30	337.32	42115.5	1740.59	5405.01	211.03	167.49	314.86	114.74	39.35
0.40	449.75	56156.14	2320.88	7206.95	232.27	184.35	373.08	135.96	46.63
0.45	505.97	63177.11	2611.05	8108.01	241.57	191.73	419.74	152.96	52.46
0.50	562.19	70198.60	2901.24	9009.13	250.21	198.59	466.38	169.96	58.29
0.55	618.41	77220.66	3191.46	9910.33	258.29	205.00	513.02	186.96	64.12
0.60	674.63	84243.36	3481.7	10811.60	265.89	211.04	559.66	203.95	69.95
0.70	787.07	98290.86	4062.27	12614.43	279.92	222.17	652.94	237.95	81.61
0.80	899.51	112341.56	4642.97	14417.66	292.66	232.29	746.24	271.95	93.98
0.90	1011.95	126395.93	5223.82	16221.37	304.39	241.60	839.51	305.94	104.93
1.00	1124.39	140454.41	5804.85	18025.60	315.28	250.24	932.77	339.93	116.59
1.20	1349.26	168585.57	6967.48	21635.89	335.07	265.94	1119.30	407.90	139.91

These tests were performed on Zn coated steel of 340 MPa. Test results tabulated are those obtained under standard conditions. The above figures are at a factor of safety of 2.

- Best balance between coverage and strength (1000 mm covered width, highest I_{xx} in the category)
- High ribbed profile for better support on longer spans

- 32 mm trapezoidal crest for adequate drainage and aesthetic appeal
- Hexagonal trapezoid for best load distribution
- Anti-capillary groove to ensure zero leakage as a result of capillary action
- Scientific design for usage in high wind load areas
- Suitable for roofing/cladding/barricading and other applications

Features of Colour Coated Aluminum

- Colour coated to enhance aesthetic value
- Very long service life (in excess of 50 years)
- Corrosion-resistant
- Fire-resistant
- High strength to weight ratio, giving almost three times the coverage of steel and savings in steel structures
- Maintenance-free
- Better thermal insulation (keeps temperature 5 - 6 degrees cooler inside)
- Wind and hail resistant
- Shiny appearance
- Environment-friendly (easily recyclable)
- Good resale value (estimated at 75% of current market value)
- Available in the form of Bare Al and Colour coated Aluminium
- Available in coil / cut to length sheet / profile sheets and roofing accessories.

Alloy	AA 8011	AA 3105
Tensile strength	165 MPa	175 MPa
Elongation	2%	2%
Hardness (HBS)	47	56
Bend test	2T	3T

* We use alloys AA 8011/3105 (temper H18/H16 comparison) of 0.18 mm – 1.20mm. Other alloys may be used as per customers' requirements. Test results are recorded for standard material under standard conditions. Results may vary subject to alteration in conditions.

Precautions while Storage

Proper storage ensures that the product delivers to its potential. Follow these simple guidelines for optimum performance.

- On arrival, ensure the coils/sheets are dry; if wet, open the pack immediately and separate the coils/sheets to allow them to dry
- Store packs of the material off the ground in a sheltered position; avoid water accumulation at all costs
- Cover packs with a loose fitting tarpaulin allowing air to circulate

- Use only dry, untreated timber fillets for block stacking
- Contact with wet concrete should be avoided
- Avoid storing the coils/sheets in a place with lot of foot movement

Note: Failure to follow these handling and storage precautions could result in spoiling the surface appearance of the products and severely reducing their service life.

Damage resulting from such failure invalidates the warranty and is not recoverable from Manaksia Limited.

Speciality Finishes



WOOD FINISH

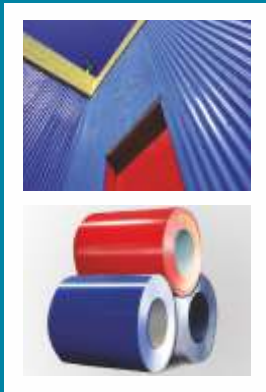


WRINKLE FINISH



PVDF METALLIC FINISH

Various Applications



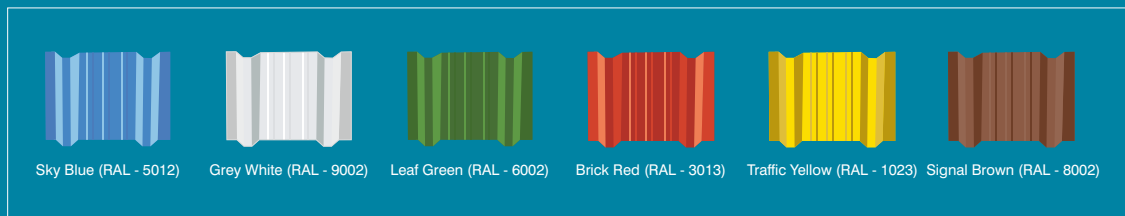
Pre-painted Steel & Aluminum are the future! We supply them in Coil form or Pre-formed in our Standard Profile as per customer requirement. Some typical applications could be:

Trapezoidal and Sinusoidal Profiles, Roofing and Cladding/Door/Window Frame and Shutter, Sandwich Panels, Airport Hangar, Architectural Roofing and Cladding, Compound Wall, appliances such as Washing Machine, Refrigerator, Microwave Oven, Toaster, Steel Cupboard, Wardrobe, Shelving, Steel Trunk, Kitchen Platform, Cabinet, Table Top, False Ceiling, Pigeon Hole Rack, Filing Cabinet, Rail and Luxury Coach Interiors, Truck Cab/Locomotive Interiors, Dash Board, Seat Back, Venetian Blinds, Name/Sign Board, Hoarding Board, Ventilation Louver, Electric Meter Casing, Dials, Electrical Control Panels, Cans & Containers etc.

Besides the obvious advantages of technology, these highly durable pre-coated sheets are available in a vast range of futuristic and attractive colours and finishes.

Find your creative self and let your imagination meet our technology. Let your designs look epic, truly reflecting your elegant style, taste and personality.

Given below are only some of the standard colour options for you to choose from.



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& Industries Limited**

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