

GENERAL DESCRIPTION

Molawan Thermo-Cool is a cost effective pre-painted steel developed to provide durable material for exterior applications with High Thermal reflectivity. The paint is a thermal reflective paint, consisting of special ceramic pigments, applied on a Galvanized substrate of 90 GSM minimum zinc coating, with paint film thickness of 20 microns on weathering side. This product is designed to lower the surface temperature of buildings when used for roofing/wall applications and provides thermal comfort and energy savings.

SUBSTRATE

Galvanized steel, minimum G30(90 GSM).

TYPICAL USES

Roofing and Walling, Sandwich Panels, Cold Rooms etc.

DIMENSIONS: (For normal supply products)

THICKNESS*(MM)(TCT-P)	WIDTH**(MM)	ZINC COATING (GSM)
0.25 to 1.20	700 to 1,300	90 (G30) minimum

* For grade SS50, minimum thickness is 0.46 mm
 ** For width less than 700 mm are supplied with slit edge
 For specific dimensions please contact Sales and Marketing Dept.

TCT-P – Total Coated Thickness with Paint Film (Steel thickness + Zinc coating thickness + Paint thickness)

ADVANTAGES:

- High Solar Reflection
- Reduces Steel Sheets' Heat Absorption
- Reduces Heat Inside the Building
- Less Air-Conditioning Usage in Pre-Engineered Buildings
- Reduces Thermal Stresses and Extends Product's Lifetime
- Allows using Dark Colors with Minimum Absorption of Heat
- Improves Thermal Comfort

Standards & Grades

Standard	Description	Sub-Strate Standard	Grades
SASO ASTM A755/ A755M	Standard Specification for Steel Sheet, Metallic Coated by the Hot-Dip Process and Pre-painted by the Coil-Coating Process for Exterior Exposed Building Products.	SASO ASTM A653/A653M	CS-Type A, B, C, FS Type A, B, SS33, SS37, SS40, SS50, SS55, SS60 & SS80
ASTM A755/ A755M	Standard Specification for Steel Sheet, Metallic Coated by the Hot-Dip Process and Pre-painted by the Coil-Coating Process for Exterior Exposed Building Products.	ASTM,A653/A653M, ASTM,A792/A792M, Aluminum Flat coils	
EN10169	Continuously organic coated (coil coated) steel flat products Technical delivery conditions	EN 10346	DX51D, DX52D, S220GD, S250GD, S280GD, S320GD, S350GD, S390GD, S420GD & S550GD
JIS G3312	Pre-Painted Hot Dip Zinc coated Steel Sheet and Strip	JIS G3302	SGCC, SGCD1,S-GC340, SGC400, SGC440 & SGC570
AS 2728	Prefinished/pre-painted sheet metal products for interior/exterior building, applications Performance requirements	AS 1397	S250, S300, S350, S450, S550



Paint System

Pretreatment	Corrosion resistance proprietary conversion coating each side
Primer Coat	Universal Corrosion inhibitive Primer Nominal Thickness: 5 µm each side
Finish Coat	Custom formulated system with Solar Reflective Pigments Nominal thickness 15 µm on the top or weather side.
Backing Coat	Polyester based custom formulated off white or Foam compatible epoxy coat Nominal thickness 5-7 µm. Back coat can be in the same topcoat color and DFT as required
Gloss (60°)	Medium Gloss. Other gloss levels may be available on request

GUARANTEED PAINT PROPERTIES

	TEST	TEST METHOD	DESCRIPTION	RESULTS
	Hardness (Pencil)	ASTM D 3363	Pencil	F or harder
	Adhesion -T bend	ASTM D 4145	T-bend	3T or less
	Flexibility	ASTM D 4145	T-bend	3T or less (no cracking)
	Adhesion - Reverse impact	ASTM D 2794	Reverse impact	>9 Joules
	Cross hatch	ASTM D 3359	Cross hatch	> No paint removal
	Gloss 60° (%)	ASTM D 523	Gloss	-30+/-5%

Expected Product Service Performance

	Test	Test Method	Description	Results
	Total Solar Reflectance	ASTM G159	Solar Reflectance	TSR values for different colors: RAL 9005 – 33% RAL 7035 – 60% RAL 1015 – 51%

NOTE

1. For most products, the metallurgical ageing process which is inherent in the paint stoving cycle will result in some loss of ductility compared with unpainted product. However, minimum strength levels designated by relevant standards will still be applicable.

2. Values quoted are for standard colors.

If it is intended to use pre painted metal in an exterior application within 1 km of salt marine location, or severe industrial or abnormally corrosive environment, or in areas not washed by rain or in applications where it will be wholly or partially buried in the ground, please contact UNICOIL for advice.

Improper storage or use of non approved roll forming lubricants may adversely affect color. Material which becomes wet while in stacks or bundles must be separated and dried.

3. prepainted metal has good resistance to accidental spillage of solvents such as methylated spirits, white spirits, mineral turpentine, toluene, trichloroethylene and diluted mineral acids & alkalis. However, all spillages should be immediately removed by water washing and drying.

4. Properties Guaranteed on G30 (90gsm) minimum zinc coating mass.