

Prepainting section :



- Prepainting is a continuous surface treatment through the application of one or two layers of organic coating of several microns (ranging from 5 to 200 microns) on each side of a galvanized sheet. The prepainted sheet metal may be profiled, bent and buckled without interfering with the original qualities of the coating, which is characterized firstly by a full and irreversible adherence on the backup metal. The liquid paints used by Maghreb Steel are of Polyester, Polyurethane, PVDF (polyvinylidene difluoride), Plastisol ... types, according to the different situations. Among other qualities and advantages offered by these paints are durability, bending ability, resistance to solvents and other chemical agents.

a - Definition and applications

Steel Envers Back The prepainted sheets manufactured by Maghreb Steel are commercialized under the name of "Colorel" and are subject to:

Hot coating with a zinc layer

Surface preparation

Deposit of a liquid organic substance

Heating in a furnace

This organic coating is adapted to all atmospheres according to the nature of coating. Prepainting gives an aesthetic aspect to the sheet and brings a supplementary protection against rust. The prepainted sheets of Maghreb Steel are specially used in the building sector for barding, partitions and as coverage elements, etc.

Below are the standards of the line:

	Thickness	Width	Inner diameter	Max weight
Entrance	0.27 - 1.5 mm	650 - 1250 mm	508 - 610 mm	25 T
Exit	0.27 - 1.5 mm	650 - 1250 mm	508 - 610 mm	12T L 1000 13T L 1250

b- Maghreb Steel references

Maghreb Steel references	Corresponding to the standard
COLOREL 3.000	P 34-301 (= EN 10 169) category III
COLOREL 3.200	Maghreb Steel specification

For further details, please contact Maghreb Steel for a feasibility study.

Properties

The purchaser must imperatively indicate in his order the desired specifications, failing that, Maghreb Steel shall make the delivery according to its standard manufacturing: MS Standard.

	Protective film	Skin - Passed	Chromate	Painting quality		RAL face Back	RAL fac efinishing	Brightn ess %	Zincwei ght
				Finishing	back				
Imperatively specified at the order	-	-	-	-	-	-	Yes	-	-
Maghreb Steel standard	None	Yes	Yes	Polyester	Polyester	Gray 7042 Polyester Gray 5003 Epoxy	-	40For standard color	Z 225
If specified by the customer	With	-	-	Plastisol Polyuréthane PVDF	Plastisol or Epoxy	Yes	-	Yes	Yes

c - Basic steel

Basic materials used for the manufacturing of sheets and bands are construction steel sheets in coils of hot continuous galvanized destined for building. The actual manufacturing of Maghreb Steel is based upon MS2.132 for Colorel 3000 and MS2.200 for Colorel 3200.

d -Coating

1 - Coating thickness

Thickness is nominal on one or two sides with the possibility to obtain different colorations. The tolerances on the total paint thickness are specified in the table below.

Thickness of the painting system (microns)		3 to 5	6 to 10	11 to 20	21 to 25	26 to 35	36 to 60	61 to 100	101 to 150	151 to 200
Trial tolerance in three points (a) (b)	COLOREL 3.000	-2	-3	-3	-4	-6	-8	-15	-20	-30
	COLOREL 3.200	-2	-4	-4	-5	-7	-10	-20	-25	-35
Trial tolerance in one point (a)	COLOREL 3.000	-2	-3	-4	-5	-7	-12	-20	-25	-- 35
	COLOREL 3.200	-2	-3	-5	-6	-8	-15	-25	-35	-50

(a) No other tolerance is imposed

(b) The retained value for tests in three points is the arithmetic average of three tests results.

In conformity with the order, it may be convened to deliver steel sheets and bands with an organic coating over one side. For certain paint qualities, a primary layer of paint is put before the finishing layer. It is generally of 5µm.

2 - Paint quality

Polyester : is a finishing mainly destined for barding and coverage. It enjoys an excellent flexibility as well as a holding toul traviolet.

Plastisol : Is a polyvalent finishing composed of PVC and plasticizers specially formulated for a better holding to fire. It enjoys a very good holding outside in the industrial or sea atmosphere, as well as an excellent flexibility in application to 100 to 200 microns. It is stabilized to give the best resistance toul traviolet and temperature. Furthermore, it facilitates forming at a temperature inferior to 15°C.

Polyurethane : is a new generation of polyester lacquer applied upon a thick primary coating. It's a long-lasting finishing, particularly recommended for sea side installations and in aggressive atmospheres.

PVDF : is a fluorine thermoplastic resin presenting a very good resistance to chemical and ultraviolet agents, recommended for luxury buildings.

3 - Color

The german RAL is an international identification of paint color. Maghreb Steel is prepared to provide its customers with the color catalogue to make their choice. Maghreb steel is also disposed to determine color from a sample that a customer submits at the ordermaking.

4 - Brightness

Specular brilliant (also called specular reflection or brightness) is measured with a brightness meter at 60°.

Nominal brilliance at the order (in brilliance unity)	Tolerance on normal brilliance (in brilliance unity)		Usual designation
	COLOREL 3.000	COLOREL 3.200	
≤ 10	± 3	± 4	Matt
11 à 20	± 4	± 5	
21 à 40	± 6	± 8	Satin-finish
41 à 60	± 8	± 10	
61 à 791	± 10	± 12	Brillant
≥ 80	-0	± 12	Satin-finish

5 - Places of use

A : Coating recommended

S : Conditions wich require a detailed enquiry (please contact us)

N : Coating unsuitable

Galvanization	Organic coatings	Inside atmosphere					Outside atmosphere								
		Healthy		Damp		Aggressive	Rural nonpolluted	Urban and industrial		Maritim			Speciale		
		hygrometrye						Normal	Severe	20 to 100 km	10 to 30 km	Seaside <3K m	Mixed	Strong U.V	Particular
		Low	Medium	High	To high										
Z 225 ou Z 275	Polyester (inner) 10/10	A	A	N	N	N	N	N	N	N	N	N	N	N	N
	Polyester (outer) 25/10	A	A	S	N	N	A	A	N	A	S	N	N	S	N
	PVDF 25/10	A	A	S	N	N	A	A	N	A	S	N	N	S	N
	Plastisol 100/10	A	A	A	S	S	A	A	S	A	A	A	S	S	S
	Plastisol 200/10	A	A	A	S	S	A	A	S	A	A	A	S	S	S
	Polyuréthane 60/15	A	A	A	A	S	A	A	S	A	A	A	S	A	S
Z 225 ou Z 275	The otherside of strip 10 μ	A	A	N	N	N	N	N	N	N	N	N	N	N	N

e - Technical features

Characteristics		Tolerance of Colorel 3000	Tolerance of Colorel 3200
Color (CIELAB unity)	Difference between delivery and the standard	DE ≤ 1,5	DE ≤ 2
	Gap in the same lot (20T)	DE ≤ 1	DE ≤ 1,5
Paint film fissure, folding test (t: steel thickness)		No one for folding ≤ 5T	6 T
Folding adherence		No one for folding ≤ 2T	No one for folding ≤ 4T

N.B: Type tests (resistance to humidity, resistance to saline fog, resistance to combined action of U.V and condensation) are achieved by survey. Adherence and paint film fissure tests are achieved by sheetfolding (without chuck).

f- Production table and dimensional tolerances

Nominal thickness of galvanized steel(mm)	Normal tolerances for nominal width		Reduced tolerances for nominal width		Severe Tolerance
	≤ 1200	> 1200 ≤ 1500	≤ 1200	> 1200 ≤ 1500	
≥ 0,18 to ≤ 0,40	±0,05	±0,06	±0,03	±0,04	±0,02
≥ 0,40 to ≤ 0,60	±0,06	±0,07	±0,04	±0,05	±0,03
≥ 0,60 to ≤ 0,80	±0,07	±0,08	±0,05	±0,06	
≥ 0,80 to ≤ 1,00	±0,08	±0,09	±0,06	±0,07	±0,05
≥ 1,00 to ≤ 1,20	±0,09	±0,10	±0,07	±0,08	

Nominal width (mm)	Tolerances for ref. MS 2200 (mm)		Normal tolerances (mm)		Reduced tolerances (mm)	
	In less	Moreover	In less	Moreover	In less	Moreover
≤ 600 ≤ 1000	-3	+5	0	+5	0	+2
≤ 1000 ≤ 1250	-3	+6		+6		

Prepainted coils at Maghreb Steel may have an innerdiameter of 508mm or 610mm. Weight may be changed at the time of the order. All of these productions may be delivered:

In coils

In cut sheet loads

In strips and bands

Maghreb Steel plants are equipped in such a manner to meet the specific orders not listed in the production sheet.

g - Special conditions

Claims may be sent to Maghreb Steel within 30 days from delivery date. All deliveries presenting defects below 2% of the weight of the coil or load are considered normal and don't give rise to any claim. Zinc and paint coating shall be strictly observed, however a tolerance of -5% is considered as an exceptional anomaly that should not give rise to any claim.

h - Temporary protection

Prepainting steel sheets and bands may be provided with a temporary surface protection against smudges, stripes and tools marks through a peelable film. The generally used film by Maghreb Steel is a polyolefin film of 30 to 50 microns. It is recommended not to expose the products with peelable film to sun, inclemency

and high humidity. It is advisable that the duration of exposition be inferior to 15 days. The protection film must be removed within 6 months from installing date.