Hot-dip galvanised products

Corus manufactures Galvatite with either a pure zinc coating or an iron-zinc alloy coating, offering corrosion resistance and a variety of characteristics for fabrication and performance.

General

The hot-dip galvanised strip steel products offered in this section are listed below.

Grades

This section of the catalogue shows the standard grades of hot-dip galvanised steels offered by Corus.

Typical applications

- automotive components and body panels
- steel framing
- roof and wall cladding (when painted or pre-finished)
- components for building and construction
- rainwater goods (when painted/coated)
- tubes and sections
- engineering components
- domestic appliances
- electrical goods
- components for agricultural machinery

Zinc and iron-zinc coatings

Galvatite is available in the coating finishes shown in table 1 and with the coating masses shown in table 2, both on page 51.

Coating masses up to and including 600g/m^2 are available in the finish and quality designations NA and MA. Consult Corus about your requirements.

Overall thickness and width limits

The overall thickness and width limits for Galvatite are shown in table 3 on page 52. The limits for specific Galvatite products are shown under the individual headings for each product.

Coil diameters

The coil diameters that apply to Galvatite coils are shown in table 4 on page 52.

Coil weights

The maximum weight of Galvatite coils offered by Corus is determined by three factors:

- Manufacturing limit: Maximum 21kg/mm of width up to 34 tonnes
- Maximum safe outside diameter of coil (mm): 10/7 x coil width (limit of 2500mm)
- Maximum weight allowed by road/rail transport

Corus will discuss these factors with the customer to ensure compatibility with the quantity ordered.

Particular products may have maximum coil weights that differ from the range as a whole (see individual product sections).

If a minimum coil weight has not been specified by the customer and agreed with Corus, then it will be 50% of the agreed maximum weight.

Tolerances on dimensions and shape

Thickness

The thickness tolerances shown on page 52 are from EN 10143 : 1993. Table 5 shows the thickness tolerances (including coating) for steel grades with a minimum yield strength <280N/mm^2. Table 6 is for structural steel grades with a minimum yield strength ≥280N/mm^2.

For the zinc coatings Z450 and Z600, the tolerances on thickness shown in the tables should be increased by 0.02mm.

Coil width

The coil width tolerances in table 7 on page 53 are from EN 10143 :1993.

Flatness

Flatness complies with EN 10143 : 1993. Table 8 on page 53 shows the flatness tolerances for steel grades with R_{eL}<280N/mm^2. Table 9 on page 53 shows the flatness tolerances for steel grades with R_{eL}≥280N/mm^2 and <360N/mm^2.

Edge camber

The deviation over a length of 2 metres will not exceed 6mm.

Table 1: Coating finish

Coating finish	Type	Description
NA	Zinc (Z)	Normal spangle, as coated surface
MA	Zinc (Z)	Minimised spangle, as coated surface
MB	Zinc (Z)	Minimised spangle improved surface
MC	Zinc (Z)	Minimised spangle best quality surface
RA	Iron-zinc (ZF)	Regular, as coated surface
RB	Iron-zinc (ZF)	Regular improved surface
RC	Iron-zinc (ZF)	Regular best quality surface

Table 2: Coating mass

Coating designation	Coating mass (g/m^2)	
	Min	Max
Z	30	600
ZF	30	140

Note: Coating mass shown in the table includes both surfaces.

Table 3: Thickness and width limits

Thickness		Width	
Min	Max	Min	Max
0.35	2.50	900	1850

Note: Dimensions are in millimetres.

Table 4: Diameter of Galvatite coil

Inside diameter	610mm standard, 508mm on request
Outside diameter	Max 10/7 x width (limit 2500mm)

Table 5: Thickness tolerances: EN 10143 : 1993 : R_{eL}<280N/mm²

Nominal thickness		Normal tolerances for a nominal width of			Special tolerances (S) for a nominal width of		
		≤1200	>1200 ≤1500	>1500	≤1200	>1200 ≤1500	>1500
>	≤	±	±	±	±	±	±
0.35	0.40	0.05	0.06	–	0.03	0.04	–
0.40	0.60	0.06	0.07	0.08	0.04	0.05	0.06
0.60	0.80	0.07	0.08	0.09	0.05	0.06	0.06
0.80	1.00	0.08	0.09	0.10	0.06	0.07	0.07
1.00	1.20	0.09	0.10	0.11	0.07	0.08	0.08
1.20	1.60	0.11	0.12	0.12	0.08	0.09	0.09
1.60	2.00	0.13	0.14	0.14	0.09	0.10	0.10
2.00	2.50	0.15	0.16	0.16	0.11	0.12	0.12

Note: Dimensions are in millimetres.

Table 6: Thickness tolerances: EN 10143 : 1993 : R_{eL}≥280N/mm²

Nominal thickness		Normal tolerances for a nominal width of			Special tolerances (S) for a nominal width of		
		≤1200	>1200 ≤1500	>1500	≤1200	>1200 ≤1500	>1500
>	≤	±	±	±	±	±	±
0.35	0.40	0.06	0.07	–	0.04	0.05	–
0.40	0.60	0.07	0.08	0.09	0.05	0.06	0.07
0.60	0.80	0.08	0.09	0.11	0.06	0.07	0.07
0.80	1.00	0.09	0.11	0.12	0.07	0.08	0.08
1.00	1.20	0.11	0.12	0.13	0.08	0.09	0.09
1.20	1.60	0.13	0.14	0.14	0.09	0.11	0.11
1.60	2.00	0.15	0.15	0.17	0.11	0.12	0.12
2.00	2.50	0.18	0.18	0.19	0.13	0.14	0.14

Note: Dimensions are in millimetres.

Table 7: Tolerances on coil width: EN 10143 : 1993

Nominal width		Normal tolerances		Special tolerances (S)	
		lower –	upper +	lower –	upper +
≥900	≤1200	0	5	0	2
>1200	≤1500	0	6	0	2
>1500	≤1850	0	7	0	3

Note: Dimensions are in millimetres.

Table 8: Flatness tolerances R_{eL}<280N/mm²

EN 10143 : 1993

Tolerance class	Nominal width		Nominal thickness		
			<0.7	≥0.7<1.2	≥1.2
Normal	≥900	<1200	12	10	8
	≥1200	<1500	15	12	10
	≥1500	–	19	17	15
Special (FS)	≥900	<1200	5	4	3
	≥1200	<1500	6	5	4
	≥1500	–	8	7	6

Notes:

1. The tolerances in this table represent maximum deviation from flatness.
2. Dimensions are in millimetres.

Table 9: Flatness tolerances R_{eL}≥280N/mm² <360N/mm²

EN 10143 : 1993

Tolerance class	Nominal width		Nominal thickness		
			< 0.7	≥0.7<1.2	≥1.2
Normal	≥900	<1200	15	13	10
	≥1200	<1500	18	15	13
	≥1500	–	22	20	19
Special (FS)	≥900	<1200	8	6	5
	≥1200	<1500	9	8	6
	≥1500	–	12	10	9

Notes:

1. The tolerances in this table represent maximum deviation from flatness.
2. Dimensions are in millimetres.

Surface

Surface quality

Galvatite is available in surface quality A, B or C to EN 10142 : 2000 and EN 10147 : 2000.

Surface quality A: As coated surface
Imperfections such as small pits, differences in spangle size, dark spots, stripes and light passivation from the chemical treatment are permissible.

Surface quality B: Improved surface
This surface quality is obtained by temper rolling. To a small extent, imperfections are permissible, such as stretch-levelling breaks, skin-pass marks, scratches, indentations, spangle structure, zinc run-off marks and light passivation from chemical treatment. The surface has no pits.

Surface quality C: Best quality surface
This surface quality is obtained by temper rolling. The better side is suitable for the uniform appearance of a high-quality paint finish. The other side must at least conform to surface quality B.

Inspected side
As a rule, the upper side of the strip is inspected; on request, the strip can be turned over so that the underside is the inspected side.

Surface texture

All Galvatite products except those with a normal spangle (NA) finish are available in several surface textures. Unless the customer specifies otherwise, Corus will supply a matt surface texture.

Table 10 below shows the range of surface textures available from Corus.

Surface treatment

Galvatite is available oiled, chemically passivated, or both.

Oiling (O)
The material surface can be oiled with preservative oil. Other kinds of oil may be available, depending upon your requirement.

Table 11 below shows the levels of oiling available. If no particular level of oiling is specified by the customer, a normal level will be applied.

Chemical passivation (C)
Chemical passivation protects against the effects of humidity and thereby reduces the risk of white rust formation during shipment and storage.

Chemical passivation and oiling (CO)
This combination of surface treatments increases the degree of protection against white rust.

Untreated (U)
Corus does not recommend that Galvatite be ordered in the untreated condition owing to the risk of white rust formation during shipment and storage. However, if untreated material is specified, it is supplied on the condition that the purchaser is responsible for any corrosion arising from material ordered in the untreated condition.

Table 10: Roughness

	R_a(µm) cut off 2.5mm	R_a(µm) cut off 0.8mm
Matt	0.9-1.5	0.75-1.25
Middle rough	1.2-1.8	1.00-1.55

Table 11: Levels of oiling

Level of oiling	Approximately g/m²/side
Extra light	0.25
Light	0.5
Normal	1.0