

Low-Carbon Steel: Electro-zinc plated

Chemical Composition

Classification of symbols	Numerical classification	European Standard (EN)	Chemical composition (heat analysis, max. %.)			
			C	P	S	Mn
DC01+ZE	1.0330	EN 10152	0.12	0.045	0.045	0.60
DC03+ZE	1.0347	EN 10152	0.10	0.035	0.035	0.45
DC04+ZE	1.0338	EN 10152	0.08	0.030	0.030	0.40

Equivalents

Classification of symbols	Numerical classification	European Standard (EN)	Approximate international equivalents				
			US (AISI)		Japan (JIS)		China (GB)
DC01+ZE	1.0330	EN 10152	1008	A366	SPCC	G3141	
DC03+ZE	1.0347	EN 10152	1006	A619	SPCD	G3141	
DC04+ZE	1.0338	EN 10152	1006	A620	SPCE	G3141	

Mechanical properties

MECHANICAL PROPERTIES OF FLAT STEEL ELECTROLYTICALLY ZINC-COATED PRODUCTS

Type of steel			Yield strength	Tensile strength	Elongation
Symbolic designation	Numerical designation	European Standard (EN)	Rp _{0.2} N/mm ²	Rm N/mm ²	A ₈₀ % min.
DC01+ZE	1.0330	EN 10152	-/280	270/410	28
DC03+ZE	1.0347	EN 10152	-/240	270/370	34
DC04+ZE	1.0338	EN 10152	-/220	270/350	37

Finishes

SURFACE APPEARANCE

Surface appearance	Description
A	Some defects are allowed such as pores, slight indentations, small marks, minor scratches and slight discolouration that do not affect the formability or adhesion of subsequent surface coatings.
B	The best side should have no imperfections that could potentially jeopardise the even appearance of a high-quality paint finish. If only one side is coated, this requirement will be applicable to the uncoated side, unless otherwise agreed. The other side must at least meet the requirements of the side with appearance A.

SURFACE TREATMENTS EN 10152

SURFACE TREATMENTS	Type of treatment
Symbol	According to EN 10152
P	Phosphated
PC	Phosphated and chemically sealed
C	Chemically passivated
PCO	Phosphated, chemically sealed and oiled
CO	Chemically phosphated and oiled
PO	Phosphated and oiled
O	Oiled
U	Uncoated, untreated

ELECTROLYTIC ZINC COATING

Coating designation	Nominal values of the zinc coating density for each side ¹⁾		Minimum values of the zinc coating density for each side	
	Thickness μm	Density g/m^2	Thickness μm	Density g/m^2
ZE25/25	2.5	18	1.7	12
ZE50/50	5	36	4.1	29

1) A coating density of 50 g/m^2 corresponds to a coating thickness of approximately 7.1 μm .

Tolerances

THICKNESS TOLERANCES

Thickness tolerances according to EN 10131 for nominal widths

Nominal thickness t	DC01		DC 03, DC04	
	Normal tolerances for a nominal width w	Close tolerances (S) for a nominal width w	Normal tolerances for a nominal width w	Close tolerances (S) for a nominal width w
	1200 < w ≤ 1500	1200 < w ≤ 1500	1200 < w ≤ 1500	1200 < w ≤ 1500
0,35 ≤ t ≤ 0,40	± 0,05	± 0,030	± 0,04	± 0,025
0,40 < t ≤ 0,60	± 0,05	± 0,035	± 0,04	± 0,030
0,60 < t ≤ 0,80	± 0,06	± 0,040	± 0,05	± 0,035
0,80 < t ≤ 1,00	± 0,07	± 0,050	± 0,06	± 0,040
1,00 < t ≤ 1,20	± 0,08	± 0,060	± 0,07	± 0,050
1,20 < t ≤ 1,60	± 0,11	± 0,070	± 0,09	± 0,060
1,60 < t ≤ 2,00	± 0,13	± 0,080	± 0,11	± 0,070
2,00 < t ≤ 2,50	± 0,15	± 0,110	± 0,13	± 0,090
2,50 < t ≤ 3,00	± 0,18	± 0,130	± 0,15	± 0,110

Measurements in mm.

WIDTH TOLERANCES

Tolerance class	Nominal thickness t	Standard slitting tolerances for Metalle Schmidt ¹⁾				Nominal width according to EN 10131			
		3-15	15-50	50-150	>150	w < 125	125 ≤ w < 250	250 ≤ w < 400	400 ≤ w < 600
Normal	t < 0,60	-	-	-	-	0;+0,4	0;+0,5	0;+0,7	0;+1,0
	0,60 ≤ t < 1,00	-	-	-	-	0;+0,5	0;+0,6	0;+0,9	0;+1,2
	1,00 ≤ t < 2,00	-	-	-	-	0;+0,6	0;+0,8	0;+1,1	0;+1,4
	2,00 ≤ t ≤ 3,00	-	-	-	-	0;+0,7	0;+1,0	0;+1,3	0;+1,6
Close (S)	0,20 ≤ t < 0,40	0;+0,15	0;+0,15	0;+0,15	0;+0,2	0;+0,2	0;+0,2	0;+0,3	0;+0,5
	0,40 ≤ t < 0,60	0;+0,17	0;+0,18	0;+0,2	0;+0,24	0;+0,2	0;+0,2	0;+0,3	0;+0,5
	0,60 ≤ t < 1,00	0;+0,17	0;+0,18	0;+0,2	0;+0,24	0;+0,2	0;+0,3	0;+0,4	0;+0,6
	1,00 ≤ t < 1,50	0;+0,2	0;+0,2	0;+0,2	0;+0,3	0;+0,3	0;+0,4	0;+0,5	0;+0,7
	1,50 ≤ t < 2,00	bajo consulta	0;+0,26	0;+0,3	0;+0,32	0;+0,3	0;+0,4	0;+0,5	0;+0,7
	2,00 ≤ t < 2,50	bajo consulta	0;+0,26	0;+0,3	0;+0,32	0;+0,4	0;+0,5	0;+0,6	0;+0,8
	2,50 ≤ t ≤ 3,00	bajo consulta	bajo consulta	0;+0,32	0;+0,35	0;+0,4	0;+0,5	0;+0,6	0;+0,8
	3,00 ≤ t ≤ 5,00	bajo consulta	bajo consulta	0;+0,32	0;+0,35	-	-	-	-

Measurements in mm.

EDGE CAMBER TOLERANCES

Nominal width (W)	Edge curve tolerances under commercial agreement	
	Maximum deviation 2000 mm Thickness (t)	
	t ≤ 1.20 mm	t > 1.20 mm
3 ≤ W < 6	10.00	15.00
6 < W ≤ 10	8.00	12.00

* The data contained in this catalogue are for information purposes only and are not under any circumstances, contractual supply conditions. Errors and omissions excepted.

Nominal width (W)	Edge curve tolerances under commercial agreement	
	Maximum deviation 2000 mm Thickness (t)	
	t ≤ 1.20 mm	t > 1.20 mm
10 < W ≤ 20	4.00	6.00
20 < W ≤ 350	2.00	4.00

Measurements in mm.