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Galvanized coils

SCOPE OF PREVISIONS - European standard UNI EN 10142 + A1 - Supply technical conditions
EUROPEAN STANDARD UNI EN 10143 - Froming and dimensional tolerances

Current standards specifies prescriptions for technical conditions of forming and dimensional tolerances of flat products (every width tapes and plates or tapes to be cut in lenghts / straps) with thickness ≤ 3,0 mm of steel with low carbon for steel cold forming for structural uses, with metallic coating for continuous cold immersion. Thickness is the final thickness of final product, comprehensive of metallic coating.

STEEL QUALITY

Formability steel quality are indicated in the following table.
This table comprise, in flair order for cold forming, the following steel quality:

Current designation (EN 10142 + A1)	Previuos designation
DX 51 D+Z	Fe P02 G: bending and sectioning quality
DX 52 D+Z	Fe P03 G: molding quality
DX 53 D+Z	Fe P05 G: deep molding quality
DX 54 D+Z	Fe P06 G: extra-deep molding quality

STEEL QUALITY AND TECHNICAL CHARACTERISTICS

Steel quality		Yeld point charging unit R_0 1) N/mm^2 max 2)	Breaking charging unit for traction R_m N/mm^2 max 2)	Lenghtening to breaking A_{80} % min. 3)
DX 51 D+Z	Fe P02 G	-	500	22
DX 52 D+Z	Fe P03 G	300 4)	420	26
DX 53 D+Z	Fe P05 G	260	380	30
DX 54 D+Z	Fe P06 G	220	350	336

1)Changing yeld point values are the unit charge gap of proportionally of 0,2% for products without apparent effects yeld point and at lower limit yeld point Ro for others.

2) For every steel quality, is calculated a minimun value of 140 Nmm^2 for yeld point charging unit (Ro) and a minimum value of 270 N/mm^2 for breaking charging unit for traction (Rm).

3) For products with thickness ≤ 0,7 mm (comprehensive of zinc coating), breaking lenghtening values (A80) must be reduced of 2 units.

4) This value is valid only for cold hardening products (B and C superficial aspect).

COATING MASS

Designation for coatings	Coating mass, g/m2 (comprehensive 2 surfaces) min.	
	Test on 3 points	Test on 1 point
Z 100, ZF 100	100	85
Z 140, ZF 140	140	120
Z 200	200	170
Z 225	225	195
Z 275	275	235
Z 350	350	300
Z 450	450	385
Z 600	600	510

THICKNESS TOLERANCES (mm)

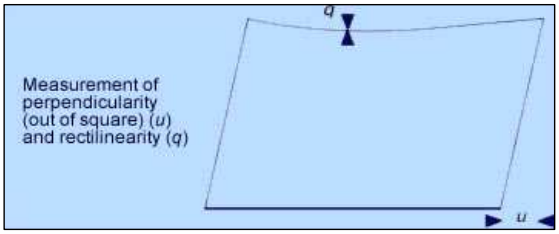
Thickness tolerances for flat products with metallic coating applied for hot immersioning, every steels with low carbon for cold forming (specified in EN 10142 + A1) and of steel for structural uses with minimun values of yeld point charging unit < 280 N/mm2 (comprehensive steel type Fe 550G or S 550GD).

Nominal thickness	Normal limit gap			Restricted tolerances (S) for a nominal lenght of		
	≤ 1200	> 1200 a ≤ 1500	> 1500	≤ 1200	> 1200 a ≤ 1500	> 1500
≤ 0,40	± 0,05	± 0,06	-	± 0,03	± 0,04	-
> 0,40 a ≤ 0,60	± 0,06	± 0,07	± 0,08	± 0,04	± 0,05	± 0,06
> 0,60 a ≤ 0,80	± 0,07	± 0,08	± 0,09	± 0,05	± 0,06	± 0,06
> 0,80 a ≤ 1,00	± 0,08	± 0,09	± 0,10	± 0,06	± 0,07	± 0,07
> 1,00 a ≤ 1,20	± 0,09	± 0,10	± 0,11	± 0,07	± 0,08	± 0,08
> 1,20 a ≤ 1,60	± 0,11	± 0,12	± 0,12	± 0,08	± 0,09	± 0,09
> 1,60 a ≤ 2,00	± 0,13	± 0,14	± 0,14	± 0,09	± 0,10	± 0,10
> 2,00 a ≤ 2,50	± 0,15	± 0,16	± 0,16	± 0,11	± 0,12	± 0,12
> 2,50 a ≤ 3,00	± 0,17	± 0,18	± 0,18	± 0,12	± 0,13	± 0,13

Flatness tolerance for thin plates for cold forming (specified in EN 10142) and of steels for structural uses with minimum values of yeld point charging unit < 280 N/mm^2

Tolerance class	Nominal lenght	Nominal thickness		
		<0,7	≥0,7 <1,2	≥1,2
	≥ 600	12	10	8
	≥ 1200 < 1500	15	12	10
	≥ 1500	17	17	15
Ristricted (FS)	≥ 600	5	4	3
	≥ 1200 < 1500	6	6	4
	≥ 1500	8	8	6 <

PERPENDICULARITY (square off)



WIDTH - in mm

Tolerances on width for flat products ≥ 600 mm (wide tapes and thin plates)

Nominal width	Norman tolerances		Restr. tolerances (S)	
	Lower gap	Higher gap	Lower gap	Higher gap
≥ 600 < 1200	0	+5	0	+2
≥ 1200 < 1500	0	+6	0	+2
≥ 1500	0	+7	0	+3

LENGHT - in mm

Tolerances on width (for thin plates and cut tapes to strap)

Nominal lenght	Normal tolerances		Restr. tolerances (S)	
	Lower gap	Higher gap	Lower gap	Higher gap
> 2000	0	6	0	3
≥ 2000	0	0,003 x *l*	0	0,0015 x *l*

WIDTH - in mm									
Tolerances on nominal width < 600 (sheared tapes, cut tapes e lenght/strap)									
Tolerance class	Nominal thickness	Nominal width							
		< 125		≥ 125 < 250		≥ 250 < 400		≥ 400 < 600	
		Lower gap		Higher gap		Lower gap		Higher gap	
Normal	< 0,6	0	+0,4	0	+0,5	0	+0,7	0	+1,0
	≥ 0,6 a < 1,0	0	+0,5	0	+0,6	0	+0,9	0	+1,2
	≥ 1,0 a < 2,0	0	+0,6	0	+0,7	0	+1,1	0	+1,4
	≥ 2,0 a < 3,0	0	+0,7	0	+0,8	0	+1,3	0	+1,6
Restricted (S)	< 0,6	0	+0,2	0	+0,2	0	+0,3	0	+0,5
	≥ 0,6 a < 1,0	0	+0,2	0	+0,3	0	+0,4	0	+0,6
	≥ 1,0 a < 2,0	0	+0,3	0	+0,4	0	+0,5	0	+0,7
	≥ 2,0 a < 3,0	0	+0,4	0	+0,5	0	+0,6	0	+0,8