



HOT-DIP GALVANISED SHEET

The raw material we use is cold-rolled unannealed sheet, but we can also use pickled sheet (for rougher thicknesses). The sheet is coated with a thin layer of zinc, where the material is first heated (annealed gas) and then passes through a pot filled with liquid zinc. Hot-dip galvanised sheet is produced in thicknesses of approx. 0.35 to 4.0 mm.

STEEL GRADES

Mild steel: Used when forming and drawing properties are more important than tensile ones. Available in grades ranging from DX51D to DX56D.

Structural steel: Used in the construction industry. Suitable for roll forming as well as simpler bending. Guaranteed minimum yield and tensile strength values.

High-strength steel: Offers great opportunities for weight savings.

Micro-alloyed: Combines high strength and good plasticity. It has uniform tensile properties and is intended for simpler forms of drawing and forming.

Dual phase steel: Designated as DP (Dual Phase) and characterised by very good plasticity in combination with high strength. The material has good work and bake hardenability, which means that its yield strength is given a major boost in connection with drawing as well as varnishing, where the varnish burns.

Rephos steel: This is a phosphorus alloy (P) high-strength steel grade with very good deep drawing properties. The ultimate strength of the finished detail is obtained by means of work hardening during drawing.

MECHANICAL PROPERTIES – SOFT STEELS			
EN 10 346	Yield strength R_e (N/mm ²)	Tensile strength R_m (N/mm ²)	Elongation A_{80} min. (%)*
DX 51 D	Min. 140	270-500	22
DX 52 D	140-300	270-420	26
DX 53 D	140-260	270-380	30
DX 54 D	120-220	260-350	36
DX 56 D	120-180	260-350	39

Values are based on samples taken transversely to the direction of rolling.
*) For $t \leq 0.70$ mm, two units of a lower value apply.

MECHANICAL PROPERTIES – STRUCTURAL STEELS			
EN 10 346	Yield strength R_e min.(N/mm ²)	Tensile strength R_m min. (N/mm ²)	Elongation A_{80} min. (%)*
S 220 GD	220	300	20
S 250 GD	250	330	19
S 280 GD	280	360	18
S 320 GD	320	390	17
S 350 GD	350	420	16
S 550 GD	550	560	–

Values are based on samples taken along the direction of rolling.
*) For $t \leq 0.70$ mm, two units of a lower value apply.

MECHANICAL PROPERTIES – HIGH-STRENGTH MICRO-ALLOYED STEELS			
EN 10 346	Yield strength $R_{p0,2}$ min.-max. (N/mm ²)	Tensile strength R_m min.-max. (N/mm ²)	Elongation A_{g0} min. (%)
HX 260 LAD	260-330	350-430	26
HX 300 LAD	300-380	380-480	23
HX 340 LAD	340-420	410-510	21
HX 380 LAD	380-480	440-560	19
HX 430 LAD	420-520	470-590	17

Values are based on samples taken transversely to the direction of rolling.

ZINC COATING

The amount of zinc on the sheet is stated in weight grades, the most common one being Z 275. The figure of 275 refers to the total weight of the coating in g/m² on both sides of the sheet, e.g., in connection with a so-called triple test. (A somewhat lower weight is permissible in connection with a so-called single test.)

Weight class	Zinc layer, incl. both sides (g/m ²)		Zinc layer thickness per side* (μ m)
	Triple spot test, min.	Single Spot Test min	
Z 100	100	85	7
Z 140	140	120	10
Z 200	200	170	14
Z 275	275	235	20
Z 350	350	300	25

*) Layer thickness is calculated based on min. triple spot test values (1 μ m = 7.14 g/m²)

SURFACE

Surface appearance:	
N	Normal rose pattern (found rarely in recent times)
M	Reduced rose pattern (has become standard)

Surface quality:	
A (Normal surface)	Small pores, rose pattern variations, dark spots, stripe marks and light passivation stains are permissible. Stretch levelling breaks and zinc run-off marks may appear.
B (Improved Surface)	Skin-passed material. Small defects such as stretch levelling breaks, skin passing marks, scratches, indentations, rose patterns, zinc run-off marks as well as light passivation marks may appear. The surface exhibits no pores.
C (Superior surface)	Skin-passed material. One of the sides must be free from defects that can affect the appearance of a first-class varnished surface. The other side must fulfil, as a minimum, the requirements for surface quality B.

Surface treatment:	
C	Chemical passivation
O	Oiling
CO	Chemical passivation + oiling

We offer by default surface M A C and fulfil the requirements in accordance with the RoHS Directive.

THICKNESS TOLERANCES, ACCORDING TO EN 10 143

For steel grades with a specified min. yield strength <260.

Nominal thickness (mm)	Thickness tolerances for nominal width (mm)		
	≤ 1200	$> 1200 \leq 1500$	> 1500
$\geq 0,35 \leq 0,40$	$\pm 0,04$	$\pm 0,05$	–
$> 0,40 \leq 0,60$	$\pm 0,04$	$\pm 0,05$	$\pm 0,06$
$> 0,60 \leq 0,80$	$\pm 0,05$	$\pm 0,06$	$\pm 0,07$
$> 0,80 \leq 1,00$	$\pm 0,06$	$\pm 0,07$	$\pm 0,08$
$> 1,00 \leq 1,20$	$\pm 0,07$	$\pm 0,08$	$\pm 0,09$
$> 1,20 \leq 1,60$	$\pm 0,10$	$\pm 0,11$	$\pm 0,12$
$> 1,60 \leq 2,00$	$\pm 0,12$	$\pm 0,13$	$\pm 0,14$
$> 2,00 \leq 2,50$	$\pm 0,14$	$\pm 0,15$	$\pm 0,16$
$> 2,50 \leq 3,00$	$\pm 0,17$	$\pm 0,17$	$\pm 0,18$

For min. yield strength $\geq 260 < 360$ N/mm², tolerances are raised by 15-20 %.
 For min. yield strength $\geq 360 \leq 420$ N/mm², tolerances are raised by 30-40 %.
 Narrower tolerances are available at extra charge.