

# Cold-forming and drawing steels

## Hot-coated

Flat-rolled carbon steel products can be coated with special metals or mixtures of metals, to completely avoid or postpone as much as possible the oxidation process of the steel.

These coatings may vary in type and thickness depending on the customer's needs and the impact that a given environmental context may have on the material.

Albasider is able to supply its customers with sheets, strips and strips of hot-coated materials, with thicknesses between 0.4 and 3 mm. Albasider also provides its customers with a wide range of coating types.

	Thickness	Width
Plates	0.40 - 3	≤ 2000
Tapes	0.40 - 3	≤ 2000
Straps	0.40 - 3	da 180 a 2000

### Coating grades (+ZF)

ZF	ZF 80	ZF 100	ZF 120	ZF 140
Thickness (µm)	6/6	7/7	8/8	10/10

## > Galvannealed coating (+ZF)

The galvannealed coating consists of a special zinc-iron mixture. Iron accounts for between 8 and 12%, the remainder being zinc.

Compared to a conventional galvannealed coating, this coating gives better weldability and better suitability for painting.

It is the ideal coating for spot welding and high-end painting applications.

Surface Finish		Surface Treatment	
Finish	Appearance	C	Passivated
A	Standard	O	Oiled
B	Enhanced	CO	Passivated + Oiled

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The coated drawing steels category provides users with excellent performance in terms of deep drawing, bendability and formability.

In addition to these mechanical characteristics, the chosen coating allows protection from oxidation even after the material has been processed.

The higher the grade chosen, DX51D → DX57D, the greater the material's propensity for deep drawing.

## Main fields of application:

HOUSEHOLD APPLIANCES

AUTOMOTIVE AND TRANSPORT

INDUSTRY

CIVIL AND INDUSTRIAL SUPPLIES

AIR CONDITIONING

PIPES

PROFILES

## Mechanical properties

Thickness (mm)	EN 10346	DX51D+ZF	DX52D+ZF	DX53D+ZF	DX54D+ZF	DX56D+ZF	DX57D+ZF
0.40 - 0.50	Re (Mpa)	-	140 - 360*	140 - 260	120 - 220	120 - 180	120 - 170
	Rm (Mpa)	270 - 500	270 - 420	270 - 380	260 - 350	260 - 350	260 - 350
	A 80 (%)	≥ 18	≥ 22	≥ 26	≥ 30	≥ 33	≥ 35
	r 90	-	-	-	≥ 1.40	≥ 1.30	≥ 1.50
	n 90	-	-	-	≥ 0.18	≥ 0.17	≥ 0.18
0.51 - 0.70	Re (Mpa)	-	140 - 360*	140 - 260	120 - 220	120 - 180	120 - 170
	Rm (Mpa)	270 - 500	270 - 420	270 - 380	260 - 350	260 - 350	260 - 350
	A 80 (%)	≥ 20	≥ 24	≥ 28	≥ 32	≥ 35	≥ 37
	r 90	-	-	-	≥ 1.40	≥ 1.50	≥ 1.70
	n 90	-	-	-	≥ 0.18	≥ 0.19	≥ 0.20
0.71 - 1.49	Re (Mpa)	-	140 - 360*	140 - 260	120 - 220	120 - 180	120 - 170
	Rm (Mpa)	270 - 500	270 - 420	270 - 380	260 - 350	260 - 350	260 - 350
	A 80 (%)	≥ 22	≥ 26	≥ 30	≥ 34	≥ 37	≥ 39
	r 90	-	-	-	≥ 1.40	≥ 1.70	≥ 1.90
	n 90	-	-	-	≥ 0.18	≥ 0.20	≥ 0.21
1.50 - 1.99	Re (Mpa)	-	140 - 360*	140 - 260	120 - 220	120 - 180	120 - 170
	Rm (Mpa)	270 - 500	270 - 420	270 - 380	260 - 350	260 - 350	260 - 350
	A 80 (%)	≥ 22	≥ 26	≥ 30	≥ 34	≥ 37	≥ 39
	r 90	-	-	-	≥ 1.20	≥ 1.50	≥ 1.70
	n 90	-	-	-	≥ 0.18	≥ 0.20	≥ 0.21
2 - 3	Re (Mpa)	-	140 - 360*	140 - 260	120 - 220	120 - 180	120 - 170
	Rm (Mpa)	270 - 500	270 - 420	270 - 380	260 - 350	260 - 350	260 - 350
	A 80 (%)	≥ 22	≥ 26	≥ 30	≥ 34	≥ 37	≥ 39
	r 90	-	-	-	≥ 1	≥ 1.30	≥ 1.50
	n 90	-	-	-	≥ 0.18	≥ 0.20	≥ 0.21

**Please note:** Tests carried out transversely to the rolling direction. \*Parameter valid for surface appearance A. Surface appearance B has a Re (Mpa) = 140 - 300.