SLOVENSKI STANDARD
SIST EN 2590:2017

01-maj-2017

Aeronavtika - Jeklo - Vroče valjana pločevina in plošče - Mere

Aerospace series - Steel - Sheets and plates, hot rolled - Dimensions

Luft- und Raumfahrt - Stahl - Bleche und Platten, warmgewalzt - Maße

Série aérospatiale - Acier - Tôles et plaques laminées à chaud - Dimensions

Ta slovenski standard je istoveten z: **EN 2590:2017**

ICS:

49.025.10	Jekla	Steels

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EUROPEAN STANDARD

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EN 2590

February 2017

ICS 49.025.10

English Version

Aerospace series - Steel - Sheets and plates, hot rolled - Dimensions

Série aérospatiale - Acier - Tôles et plaques laminées à chaud - Dimensions

Luft- und Raumfahrt - Stahl - Bleche und Platten, warmgewalzt - Maße

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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Contents

Page

European foreword

This document (EN 2590:2017) has been prepared by the Aerospace and Defence Industries Association of Europe - Standardization (ASD-STAN).

After enquiries and votes carried out in accordance with the rules of this Association, this Standard has received the approval of the National Associations and the Official Services of the member countries of ASD, prior to its presentation to CEN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by August 2017, and conflicting national standards shall be withdrawn at the latest by August 2017.

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1 Scope

This European Standard defines the dimensions and tolerances of sheets and plates, hot rolled, in steel, used in aerospace constructions.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 2209, *Aerospace series — Steel FE-PL1502 (25CrMo4) — 900 MPa ≤ R_m ≤ 1100 MPa — Sheets, strips and plates — 0,5 mm ≤ a ≤ 20 mm*[1)]

EN 2212, *Aerospace — steel FE-PL 43 S, 670 MPa ≤ R_m ≤ 870 MPa, sheets, strips and plates 0,5 mm ≤ a ≤ 20 mm*[1)]

EN 2215, *Aerospace — steel FE-PL 52 S, 980 MPa ≤ R_m ≤ 1180 MPa, sheets 0,5 mm ≤ a ≤ 6 mm*[2)]

EN 2216, *Aerospace — steel FE-PL 52 S, 1050 MPa ≤ R_m ≤ 1250 MPa, sheets a ≤ 2 mm*[1)]

EN 2217, *Aerospace —steel FE-PL 52 S, 1080 MPa ≤ R_m ≤ 1250 MPa, sheets and plates 2 mm ≤ a ≤ 20 mm*[1)]

EN 2228, *Aerospace — steel FE-PA 12, 500 MPa ≤ R_m ≤ 700 MPa, sheets 0,5 mm ≤ a ≤ 6 mm*[1)]

EN 2246, *Steel FE-PL43S — 1150 MPa ≤ R_m ≤ 1300 MPa — Sheet strip and plate — 0,5 mm ≤ A ≤ 20 mm*[2)]

EN 2250, *Steel FE-PL52S — R_m ≥ 700 MPa — Sheets strips and plates — 0,3 mm ≤ A ≤ 12 mm*[2)]

EN 2273, *Aerospace — steel FE-PM 13 S, 1800 MPa ≤ R_m ≤ 2000 MPa — sheets and plates a ≤ 30 mm*[1)]

EN 2276, *Aerospace — steel FE-PA 95, 1750 MPa ≤ R_m ≤ 2000 MPa — sheet and plate a ≤ 40 mm*[1)]

EN 2280, *Aerospace — steel FE-PM 37, 900 MPa ≤ R_m ≤ 1100 MPa — sheet a ≤ 6 mm*[1)]

EN 2467, *Aerospace series — Steel FE-PA3901 (X2CrNi18-9) — Air melted — Softened — Plate, sheet and strip — 0,4 mm ≤ a ≤ 20 mm — 520 MPa ≤ R_m ≤ 670 MPa*[1)]

EN 2538, *Aerospace series — Steel FE-PM3801 (X5CrNiCu17-4) — Air melted — Solution treated and precipitation treated — Sheet and strip, a ≤ 6 mm, R_m ≥ 1310 MPa*[1)]

EN 2540, *Aerospace series — Steel FE-PM3902 (X7CrNiAl17-7) air melted, solution treated and precipitation hardened — Sheet and strip, a ≤ 6 mm, 1240 MPa ≤ R_m ≤ 1450 MPa*[1)]

1) Published as ASD-STAN pre-standard at the date of publication of this European Standard.

2) In preparation at the date of publication of this European Standard.

EN 2543, *Aerospace series — Steel FE-PL1502 (25CrMo4) — Annealed — Sheet and strip — 0,3 mm ≤ a ≤ 2 mm — For prevailing torque nuts*[1)]

EN 2600, *Aerospace series — Designation of metallic semi-finished products — Rules*[1)]

EN 2770, *Steel FE-PL53S — hardened and tempered — 1050 ≤ R_m ≤ 1220 MPa — Sheet and plate — 0,5 ≤ a ≤ 12 mm*[1)]

EN 2773, *Aerospace series — Steel FE-PM3801 (X5CrNiCu17-4), consumable electrode remelted, solution treated and precipitation treated — Sheet and strip, a ≤ 6 mm, R_m ≥* 1310 MPa; Inactive for new design[1)]

EN 2776, *Aerospace series — Steel FE-P11 — R_m ≤ 340 MPa — Sheet and strip — a ≤ 2 mm*[1)]

3 Required characteristics

3.1 Materials

Steels EN 2209, EN 2212, EN 2215, EN 2216, EN 2217, EN 2228, EN 2246, EN 2250, EN 2273, EN 2276, EN 2280, EN 2467, EN 2538, EN 2540, EN 2543, EN 2770, EN 2773, EN 2776.

3.2 Form

In accordance with Figure 1.

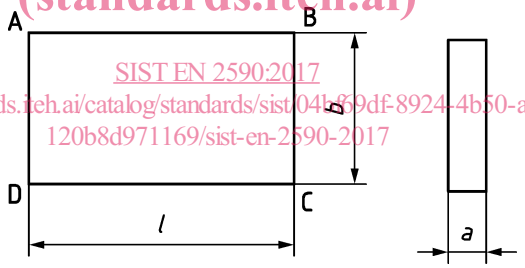

Figure 1

3.3 Dimensions

3.3.1 Thicknesses and masses

3.3.1.1 Sheets

In accordance with Table 1.

Table 1

Dimensions in millimetres

Thickness *a*	Mass per unit area[a] kg/m^2
1,2	9,4
1,4	11
1,6	12,6
1,8	14,1
2	15,7
2,5	19,6
3	23,6
4	31,4
5	39,3
6	47,1

[a] For information, calculated with a density: 7,85 kg/dm^3.

3.3.1.2 Plates

In accordance with Table 2.

Table 2

Dimensions in millimetres

Thickness *a*	Mass per unit area[a] kg/m^2
8	63
10	78,5
12	94
15	118

[a] For information, calculated with a density: 7,85 kg/dm^3.

3.3.2 Widths

Widths are not defined.

3.3.3 Lengths

Lengths are not defined.

3.4 Dimensional tolerances

3.4.1 Thicknesses

In accordance with Table 3.

Measurements shall be taken at least 20 mm from the edge.

Table 3

Dimensions in millimetres

Thickness	Tolerances (±) in accordance with $R_{p0,2}$ in MPa for *a* width:					
	$b \leq 1\,200$			$1\,200 < b \leq 1\,500$		
	$R_{p0,2} \leq 355$	$355 < R_{p0,2} \leq 460$	$R_{p0,2} > 460$	$R_{p0,2} \leq 355$	$355 < R_{p0,2} \leq 460$	$R_{p0,2} > 460$
$a \leq 2,0$	0,17	0,19	0,21	0,19	0,21	0,24
$2,0 < a \leq 2,5$	0,18	0,20	0,23	0,20	0,22	0,25
$2,5 < a \leq 3,0$	0,20	0,22	0,25	0,22	0,24	0,28
$3,0 < a \leq 4,0$	0,22	0,24	0,28	0,24	0,26	0,30
$4,0 < a \leq 5,0$	0,24	0,26	0,30	0,26	0,29	0,33
$5,0 < a \leq 6,0$	0,26	0,29	0,33	0,28	0,31	0,35
$6,0 < a \leq 8,0$	0,29	0,32	0,36	0,30	0,33	0,38
$8,0 < a \leq 10$	0,32	0,35	0,40	0,33	0,36	0,41
$10 < a \leq 12,5$	0,35	0,38	0,44	0,36	0,40	0,45
$12,5 < a \leq 15$	0,38	0,42	0,48	0,40	0,44	0,50

3.4.2 Widths

In accordance with Table 4.

Table 4

Dimensions in millimetres

Widths	Tolerances
$b \leq 1\,200$	$^{+4}_{0}$
$1\,200 < b \leq 1\,500$	$^{+6}_{0}$