UDC 621.886.15 August 1993

Slotted spring-type straight pins

(ISO 8752 : 1987)

English version of DIN EN 28 752

DIN EN 28752

This standard incorporates the English version of ISO 8752.

Spannstifte, geschlitzt
(ISO 8752 : 1987)

Supersedes DIN 1481, November 1978 edition.

European Standard EN 28 752 : 1993 has the status of a DIN Standard.

A comma is used as the decimal marker.

National foreword

The publication of this standard is in keeping with a decision made by CEN/TC 185 to adopt, without alteration, a series of ISO Standards covering spring-type straight pins as European Standards.

The responsible German body involved in their publication is the *Normenausschuß Mechanische Verbindungselemente* (Fasteners Standards Committee).

DIN ISO 3269 and DIN EN 28.749 are the standards corresponding to International Standards ISO 3269 and ISO 8749, respectively, referred to in clause 2 of the EN.

The DIN 4000-9-1 tabular layout of article characteristics applies for spring-type straight pins as covered here.

Standards referred to

(and not included in **References** and **Annex ZA**).

DIN 4000 Part 9	Tabular layout of article characteristics for bolts, screws, pins, rivets, keys, and lock washers
DIN EN 28 749	Pins and grooved pins; shear test
DIN ISO 3269	Fasteners; acceptance inspection

Previous editions

DIN 1481: 06.46x, 11.59x, 11.78.

Continued overleaf.
EN comprises 6 pages.

Amendments

In comparison with DIN 1481, November 1978 edition, the following amendments have been made.

a) A new type of spring-type pin, non-interlocking (type B), has been introduced.

b) Dimension d_3 (nominal diameter of chamfered end) has been included.

c) The angle of chamfer has been changed.

d) The range of spring-type pins with chamfer at both ends specified has been extended to include nominal diameters of less than 12 mm.

e) Maximum and minimum values have been specified for dimension *a*.

f) The specifications for single shear strength have been dropped.

g) The values of d_2 and s have been changed for pins with a nominal diameter of 6 mm.

h) The limits of size for the nominal length, l, have been amended.

i) Specifications for the use of spring-type straight pins with bolted joints (previously dealt with in clause 4) are no longer included.

j) Specifications for material, surface finish and workmanship have been amended and are now covered in clause 5.

k) Shear strength test and acceptance inspection shall be in accordance with the relevant International Standards.

International Patent Classification

F 16 B 017/00

1 Scope and field of application

This International Standard specifies the characteristics of slotted spring-type straight pins with metric dimensions and nominal diameters, d_1, from 1 to 50 mm inclusive.

NOTE – The nominal diameters have been chosen in such a way that pins may be fitted one into the other.

2 References

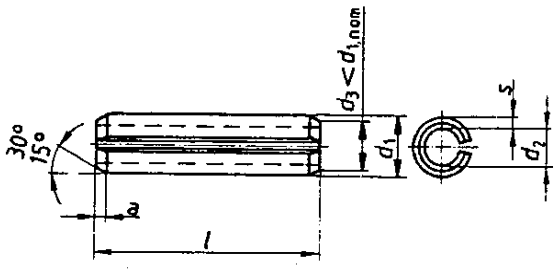
NOTE – Normative references to international publications are listed in annex ZA (normative).

3 Dimensions

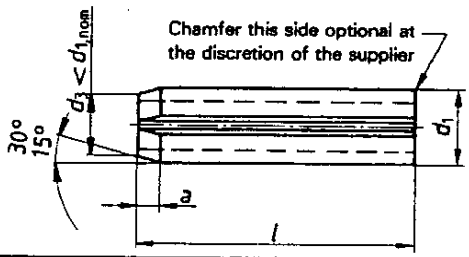
Type A : Standard spring pin

Type B : Non-interlocking spring pin [1]

Spring pin with nominal diameter d_1 < 12 mm



Spring pin with nominal diameter d_1 > 12 mm



d_1	before mounting	nom.	1	1,5	2	2,5	3	3,5	4	4,5	5	6	8	10
		min.	1,2	1,7	2,3	2,8	3,3	3,8	4,4	4,9	5,4	6,4	8,5	10,5
		max.	1,3	1,8	2,4	2,9	3,5	4	4,6	5,1	5,6	6,7	8,8	10,8
d_2	before mounting	≈	0,8	1,1	1,5	1,8	2,1	2,3	2,8	2,9	3,4	4	5,5	6,5
a		min.	0,15	0,25	0,35	0,4	0,5	0,6	0,65	0,8	0,9	1,2	2	2
		max.	0,35	0,45	0,55	0,6	0,7	0,8	0,85	1	1,1	1,4	2,4	2,4
s			0,2	0,3	0,4	0,5	0,6	0,75	0,8	1	1	1,2	1,5	2
Mimimum shear strength, double kN			0,7	1,58	2,82	4,38	6,32	9,06	11,24	15,36	17,54	26,04	42,76	70,16

l [2] nom.	min.	max.
4 5 6	3,75 4,75 5,75	4,25 5,25 6,25
8 10 12	7,75 9,75 11,5	8,25 10,25 12,5
14 16 18	13,5 15,5 17,5	14,5 16,5 18,5
20 22 24	19,5 21,5 23,5	20,5 22,5 24,5
26 28 30	25,5 27,5 29,5	26,5 28,5 30,5
32 35 40	31,5 34,5 39,5	32,5 35,5 40,5
45 50 55	44,5 49,5 54,25	45,5 50,5 55,75
60 65 70	59,25 64,25 69,25	60,75 65,75 70,75
75 80 85	74,25 79,25 84,25	75,75 80,75 85,75
90 95 100	89,25 94,25 99,25	90,75 95,75 100,75
120 140 160	119,25 139,25 159,25	120,75 140,75 160,75
180 200	179,25 199,25	180,75 200,75

Range of

1) See clause 5, slot type B.

2) For nominal lengths above 200 mm, steps of 20 mm.

Dimensions in millimetres

12	13	14	16	18	20	21	25	28	30	32	35	38	40	45	50
12,5	13,5	14,5	16,5	18,5	20,5	21,5	25,5	28,5	30,5	32,5	35,5	38,5	40,5	45,5	50,5
12,8	13,8	14,8	16,8	18,9	20,9	21,9	25,9	28,9	30,9	32,9	35,9	38,9	40,9	45,9	50,9
7,5	8,5	8,5	10,5	11,5	12,5	13,5	15,5	17,5	18,5	20,5	21,5	23,5	25,5	28,5	31,5
2	2	2	2	2	3	3	3	3	3	3	3	4	4	4	4
2,4	2,4	2,4	2,4	2,4	3,4	3,4	3,4	3,4	3,4	3,6	3,6	4,6	4,6	4,6	4,6
2,5	2,5	3	3	3,5	4	4	5	5,5	6	6	7	7,5	7,5	8,5	9,5
104,1	115,1	144,7	171	222,5	280,6	298,2	438,5	542,6	631,4	684	859	1 003	1 068	1 360	1 685

commercial lengths

4 Application

The bore dimension of the spring pin hole shall be equal to the nominal diameter, d_1, of the mating pin, and to tolerance H12.

When mounted in the smallest permitted hole the slot for type A and type B shall not fully close.

5 Specifications and reference International Standards

Slot	Type A	Form and width of slot at the discretion of the supplier.
	Type B	Non-interlocking pins with a form and/or width of slot which guarantees no interlocking may be supplied by special agreement between customer and supplier.
Material		Steel (= St) at the supplier's option : Either plain carbon steel [% (*m/m*)] C > 0,65 Mn > 0,5 Hardened and tempered to a Vickers hardness 420 to 520 HV or austempered to a Vickers hardness 500 to 560 HV. or Silicon manganese steel [% (*m/m*)] C > 0,5 Si > 1,5 Mn > 0,7 Hardened and tempered to a Vickers hardness 420 to 560 HV. Other materials as agreed between customer and supplier.
Surface finish		Plain, i.e. pins to be supplied in natural finish, treated with a protective lubricant, unless otherwise specified by agreement between customer and supplier.
		Appropriate plating or coating processes should be employed to avoid hydrogen embrittlement. When pins are electroplated or phosphate-coated, they shall be suitably treated immediately after plating or coating to obviate detrimental hydrogen embrittlement. All tolerances shall apply prior to the application of a plating or coating.
Workmanship		Parts shall be uniform in quality and free of irregularities or detrimental defects. No burrs shall appear on any part of the pin.
Shear strength test		The test shall be in accordance with ISO 8749.
Acceptability		The acceptance procedure is covered in ISO 3269.

6 Designation

Example for the designation of a steel, slotted spring-type straight pin, type A, with nominal diameter d_1 = 6 mm and nominal length l = 30 mm :

Spring pin ISO 8752 - 6 × 30 -A- St

Annex ZA (normative)
Normative references to international publications with their relevant European publications

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

Publication	Title	EN/HD
ISO 3269	Fasteners - Acceptance inspection	—
ISO 8749	Pins and grooved pins - Shear test	EN 28749