

UDC 621.886.156

October 1992

Coiled, heavy duty spring-type straight pins
(ISO 8748 : 1987)
English version of DIN EN 28 748

DIN
EN 28 748

This standard incorporates the English version of ISO 8748.

Spiralspannstifte; schwere Ausführung
(ISO 8748 : 1987)

Supersedes DIN ISO 8748,
April 1991 edition.

European Standard EN 28 748 : 1992 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).

As a consequence, all DIN Standards covering such pins have been superseded by the corresponding DIN EN Standards (see table below).

EN Standard	DIN EN Standard	Title	Previous DIN Standard
28 748	28 748	Coiled, heavy duty spring-type straight pins	8748
28 750	28 750	Coiled, standard duty spring-type straight pins	8750
28 751	28 751	Coiled, light duty spring-type straight pins	

The DIN Standards corresponding to the ISO Standards referred to in clause 2 of the EN are as follows:

ISO Standard	DIN Standard
ISO 3269	DIN ISO 3269 (at present at the stage of draft)
ISO 8749	DIN EN 28 749
ISO 8750	DIN EN 28 750
ISO 8751	DIN EN 28 751

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

Continued overleaf.
EN comprises 5 pages.

Page 2 DIN EN 28 748

Standards referred to

(and not included in **References**)

DIN 4000 Part 9 Tabular layout of article characteristics for bolts, screws, pins, rivets, keys, and lock washers

DIN EN 28 749 Determination of shear strength of pins

DIN EN 28 750 Coiled, standard duty spring-type straight pins

DIN EN 28 751 Coiled, light duty spring-type straight pins

Previous editions

DIN 7344: 04.69; DIN ISO 8748: 04.91.

International Patent Classification

F 16 B 21/02

1 Scope and field of application

This International Standard specifies the characteristics of heavy duty coiled spring-type straight pins with metric dimensions and nominal diameters, d_1 , from 1,5 to 20 mm inclusive.

NOTE — Spring-type straight pins, coiled, standard duty and spring-type straight pins, coiled, light duty, are the subjects of ISO 8750 and ISO 8751 respectively.

2 References

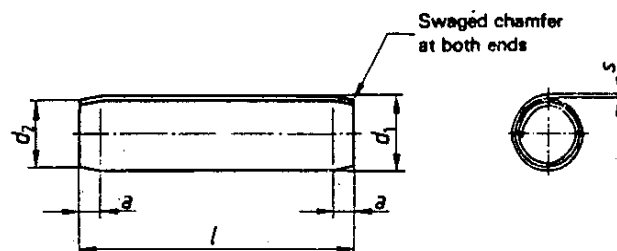
ISO 3269, *Fasteners — Acceptance inspection.*

ISO 8749, *Pins and grooved pins — Shear test.*

ISO 8750, *Spring-type straight pins — Coiled, standard duty.*

ISO 8751, *Spring-type straight pins — Coiled, light duty.*

3 Dimensions



Dimensions in millimetres

	nom.	1,5	2	2,5	3	3,5	4	5	6	8	10	12	14	16	20	
d_1	before mounting	min.	1,61	2,11	2,62	3,12	3,64	4,15	5,15	6,18	8,25	10,3	12,35	14,4	16,4	20,4
		max.	1,71	2,21	2,73	3,25	3,79	4,3	5,35	6,4	8,55	10,65	12,75	14,85	16,9	21
d_2	before mounting	max.	1,4	1,9	2,4	2,9	3,4	3,9	4,85	5,85	7,8	9,75	11,7	13,6	15,6	19,6
a			0,5	0,7	0,7	0,9	1	1,1	1,3	1,5	2	2,5	3	3,5	4	4,5
s			0,17	0,22	0,28	0,33	0,39	0,45	0,56	0,67	0,9	1,1	1,3	1,6	1,8	2,2
Minimum shear strength, double kN			1,9	3,5	5,5	7,6	10	13,5	20	30	53	84	120	165	210	340
$l^{1)}$																
nom.	min.	max.														
4	3,75	4,25														
5	4,75	5,25														
6	5,75	6,25														
8	7,75	8,25														
10	9,75	10,25														
12	11,5	12,5														
14	13,5	14,5														
16	15,5	16,5														
18	17,5	18,5														
20	19,5	20,5														
22	21,5	22,5														
24	23,5	24,5														
26	25,5	26,5														
28	27,5	28,5														
30	29,5	30,5														
32	31,5	32,5														
36	34,5	35,5														
40	39,5	40,5														
45	44,5	45,5														
50	49,5	50,5														
55	54,25	55,75														
60	59,25	60,75														
65	64,25	65,75														
70	69,25	70,75														
75	74,25	75,75														
80	79,25	80,75														
85	84,25	85,75														
90	89,25	90,75														
95	94,25	95,75														
100	99,25	100,75														
120	119,25	120,75														
140	139,25	140,75														
160	159,25	160,75														
180	179,25	180,75														
200	199,25	200,75														

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

4 Application

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

5 Specifications and reference International Standards

Material	St = Steel meeting the following analyses [% (m/m)] : <table border="1"> <thead> <tr> <th>All pin diameters</th><th>Alternative for pin diameters over 12 mm</th></tr> </thead> <tbody> <tr> <td>C > 0,64</td><td>C > 0,38</td></tr> <tr> <td>Mn > 0,60</td><td>Mn > 0,70</td></tr> <tr> <td>Si > 0,15</td><td>Si > 0,20</td></tr> <tr> <td>Cr > 0,50 (opt.)</td><td>Cr > 0,80</td></tr> <tr> <td>P < 0,04</td><td>V > 0,15</td></tr> <tr> <td>S < 0,05</td><td>P < 0,035</td></tr> <tr> <td></td><td>S < 0,04</td></tr> </tbody> </table> Hardened and tempered to a Vickers hardness 420 to 520 HV. Other materials as agreed between customer and supplier.	All pin diameters	Alternative for pin diameters over 12 mm	C > 0,64	C > 0,38	Mn > 0,60	Mn > 0,70	Si > 0,15	Si > 0,20	Cr > 0,50 (opt.)	Cr > 0,80	P < 0,04	V > 0,15	S < 0,05	P < 0,035		S < 0,04
All pin diameters	Alternative for pin diameters over 12 mm																
C > 0,64	C > 0,38																
Mn > 0,60	Mn > 0,70																
Si > 0,15	Si > 0,20																
Cr > 0,50 (opt.)	Cr > 0,80																
P < 0,04	V > 0,15																
S < 0,05	P < 0,035																
	S < 0,04																
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, although freedom from hydrogen embrittlement is not absolutely guaranteed. Preferred coatings are chemical black oxide or non-electrolytic zinc plating. Other coatings as agreed between customer and supplier. 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 spring-type straight pin, coiled, heavy duty, with nominal diameter $d_1 = 6$ mm and nominal length $l = 30$ mm :

Spring pin ISO 8748 - 6 × 30 - St