

UDC 621.886.114

October 1992

Unhardened taper pins
(ISO 2339 : 1986)
English version of DIN EN 22 339

DIN
EN 22 339

This standard incorporates the English version of ISO 2339.

Kegelstifte, ungehartet (ISO 2339 : 1986)

Supersedes DIN 1,
September 1981 edition.

European Standard EN 22 339 : 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 parallel and taper pins as European Standards. The responsible German body involved in their publication is the *Normenausschu 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As a consequence, all DIN Standards covering such pins have been superseded by the corresponding DIN EN Standards (see table below).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
22 338	22 338	Unhardened parallel pins	7
22 339	22 339	Unhardened taper pins	1
28 733	28 733	Unhardened parallel pins with internal thread	7979
28 734	28 734	Hardened parallel pins	6325
28 735	28 735	Hardened parallel pins with internal thread	7979
28 736	28 736	Unhardened taper pins with internal thread	7978
28 737	28 737	Unhardened taper pins with external thread	7977

See National appendix for guideline values for the mass of taper pins not given in the European Standard.

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

ISO Standard DIN Standard

ISO 2081 DIN 50 961

ISO 3269 DIN ISO 3269 (at present at the stage draft)

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

Continued overleaf.
EN comprises 6 pages.

Page 2 DIN EN 22 339

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 50 961 Chromating of zinc and cadmium coatings on iron and steel

Previous editions

DIN 1: 03.18, 05.20, 02.25, 02.32, 07.36, 01.41, 01.43, 06.56, 03.61, 09.81; DIN 2: 03.18; DIN 92: 03.23, 10.36.

Amendments

In comparison with DIN 1, September 1981 edition, the following amendments have been made.

- a) The specifications for the nominal lengths and their tolerances have been amended and new lengths introduced.
- b) The point length (dimension *c*) has been amended.
- c) The specifications for surface roughness have been amended.
- d) The material hardness has been specified.
- e) The standard designation has been changed.

International Patent Classification

F 16 B 19/02

1 Scope and field of application

This International Standard specifies the characteristics of unhardened taper pins, with metric dimensions and nominal diameters, d , from 0,6 to 50 mm inclusive.

2 References

ISO 2081, *Metallic coatings — Electroplated coatings of zinc on iron or steel.*

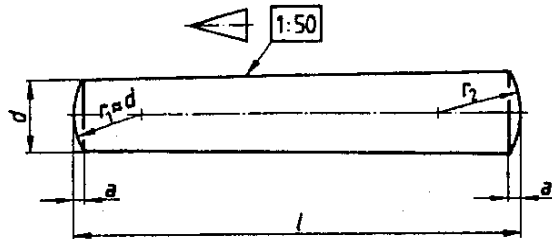
ISO 3269, *Fasteners — Acceptance inspection.*

ISO 4520, *Chromate conversion coatings on electroplated zinc and cadmium coatings.*

3 Dimensions

Type A (ground pins) : Surface finish $R_a = 0,8 \mu\text{m}$

Type B (turned pins) : Surface finish $R_a = 3,2 \mu\text{m}$



$$r_2 = \frac{a}{2} + d + \frac{(0,02l)^2}{8a}$$

Dimensions in millimetres

d	h10 ¹¹	0,8	0,8	1	1,2	1,5	2	2,5	3	4	5	6	8	10	12	16	20	25	30	40	50	
a	-	0,08	0,1	0,12	0,16	0,2	0,25	0,3	0,4	0,5	0,63	0,8	1	1,2	1,6	2	2,5	3	4	5	6,3	
nom.	R_a																					
	min.	max.																				
2	1,75	2,25																				
3	2,75	3,25																				
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																				
56	54,25	55,75																				
60	59,25	60,75																				
66	64,25	65,75																				
70	69,25	70,75																				
75	74,25	75,75																				
80	79,25	80,75																				
86	84,25	85,75																				
90	89,25	90,75																				
96	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) Other tolerances, for example, e11, c11, f8, as agreed between customer and supplier.
2) For nominal lengths above 200 mm, steps of 20 mm.

4 Specifications and reference International Standards

Material	St = Free-cutting steel, hardness 125 to 245 HV. Other materials as agreed between customer and supplier.
Surface finish	Plain, i.e. pins to be supplied in natural finish treated with a rust-preventative lubricant, unless otherwise specified by agreement between customer and supplier. Preferred coatings are black oxide, phosphate coating or zinc plating with chromate conversion coating (see ISO 2081 and ISO 4520). 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.
Taper	The taper shall be inspected by use of an adequate optical comparator.
Acceptability	The acceptance procedure is covered in ISO 3269.

5 Designation

Example for the designation of an unhardened steel taper pin, type A, with nominal diameter $d = 6$ mm and nominal length $l = 30$ mm :

Taper pin ISO 2339 - A - 6 × 30 - St

National appendix
(informative)**Mass of taper pins**

The values given are guideline values.

Size	0,6	0,8	1	1,2	1,5	2	2,5	3	4	5	6	8	10	12	16	20	25	30	40	50	
Nominal length	Approximate mass (7,85 kg/dm ³), in kg per 1000 units																				
2																					
3																					
4	0,010																				
5	0,013	0,022																			
6	0,016	0,027	0,042	0,059																	
8	0,023	0,038	0,058	0,081	0,123																
10		0,050	0,075	0,104	0,158	0,272	0,417														
12		0,063	0,093	0,129	0,194	0,333	0,508	0,720													
14			0,112	0,155	0,232	0,395	0,601	0,850	1,48												
16			0,133	0,182	0,272	0,460	0,698	0,985	1,71												
18				0,211	0,313	0,527	0,797	1,12	1,94	2,98											
20				0,242	0,356	0,597	0,899	1,26	2,18	3,33											
22					0,401	0,668	1,00	1,41	2,42	3,70	5,25	9,16									
24					0,448	0,742	1,11	1,55	2,66	4,06	5,76	10,0									
26						0,819	1,22	1,70	2,91	4,43	6,28	10,9	16,9								
28						0,897	1,33	1,86	3,16	4,81	6,81	11,8	18,2								
30						0,978	1,45	2,01	3,42	5,20	7,34	12,7	19,6								
32						1,06	1,57	2,17	3,68	5,58	7,88	13,7	21,0	29,9							
35						1,19	1,75	2,42	4,08	6,18	8,70	15,0	23,1	32,9							
40								2,85	4,77	7,19	10,1	17,4	26,7	37,9	66,3						
45								3,30	5,49	8,24	11,5	19,8	30,3	43,0	75,1	116					
50									6,24	9,33	13,0	22,3	34,0	48,2	83,9	130	200				
55									7,02	10,4	14,5	24,8	37,7	53,4	92,9	143	221	316			
60										11,6	16,1	27,4	41,6	58,7	102	157	242	346	610		
65											17,7	30,0	45,5	64,1	111	171	264	376	662	1028	
70											19,4	32,7	49,4	69,6	120	185	285	407	715	1109	
75											21,1	35,4	53,4	75,2	130	199	307	437	768	1191	
80											22,8	38,2	57,5	80,8	139	213	328	468	821	1273	
85											24,6	41,0	61,7	86,5	149	228	350	499	875	1355	
90											26,4	44,0	65,9	92,3	158	242	372	530	928	1438	
95												46,9	70,2	98,2	168	257	394	561	982	1520	
100												49,9	74,6	104	178	272	417	592	1036	1604	
120												62,6	92,8	129	219	333	508	720	1256	1939	
140													112	155	261	395	602	851	1479	2280	
160													133	183	306	460	698	985	1707	2627	
180														211	352	527	797	1222	1939	2978	
200															400	597	899	1263	2175	3334	