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МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ

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## Parallel pins with internal thread, hardened

*Goupilles cylindriques à trou taraudé, trempées*

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Reference number  
ISO 8735: 1987 (E)

## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 8735 was prepared by Technical Committee ISO/TC 2, *Fasteners*.

Users should note that all International Standards undergo revision from time to time and that any reference made herein to any other International Standard implies its latest edition, unless otherwise stated.

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# Parallel pins with internal thread, hardened

## 1 Scope and field of application

This International Standard specifies the characteristics of through hardened and case hardened parallel pins with internal thread, metric dimensions and nominal diameters,  $d_1$ , from 6 to 50 mm inclusive.

## 2 References

ISO 965, *ISO general purpose metric screw threads — Tolerances.*

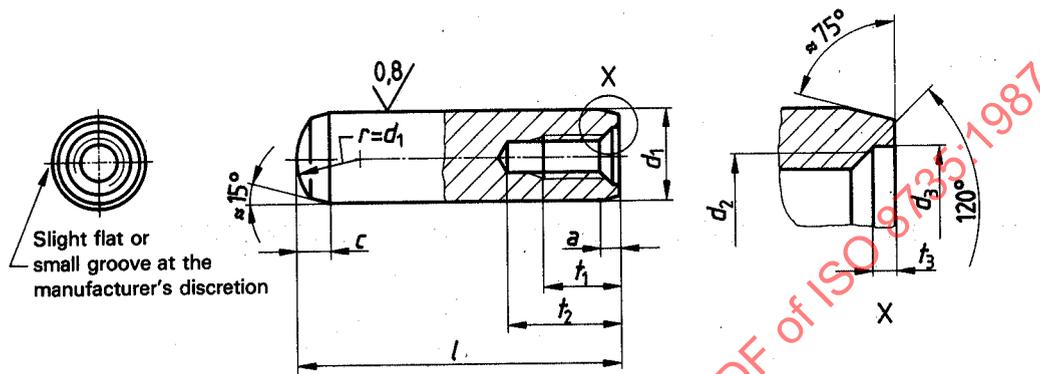
ISO 3269, *Fasteners — Acceptance inspection.*

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

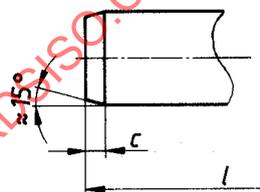
3 Dimensions

Surface roughness values in micrometres

**Type A**  
Pin with crown, through hardened



**Type B**  
Flat pin, case hardened



NOTE — Other dimensions, see type A.

Dimensions in millimetres

$d_1$	$m6^{1)}$	6	8	10	12	16	20	25	30	40	50
$a$	$\approx$	0,8	1	1,2	1,6	2	2,5	3	4	5	6,3
$c$		2,1	2,6	3	3,8	4,6	6	6	7	8	10
$d_2$		M4	M5	M6	M6	M8	M10	M16	M20	M20	M24
$P^{2)}$		0,7	0,8	1	1	1,25	1,5	2	2,5	2,5	3
$d_3$		4,3	5,3	6,4	6,4	8,4	10,5	17	21	21	25
$t_1$		6	8	10	12	16	18	24	30	30	36
$t_2$	min.	10	12	16	20	25	28	35	40	40	50
$t_3$		1	1,2	1,2	1,2	1,5	1,5	2	2	2,5	2,5
nom.	$f^{3)}$ min.	max.									
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		Range							
32	31,5	32,5									
35	34,5	35,5									
40	39,5	40,5				of					
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					commercial				
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								lengths	
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 as agreed between customer and supplier.
- 2)  $P$  = pitch of the thread.
- 3) For nominal lengths above 200 mm, steps of 20 mm.

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#### 4 Specifications and reference International Standards

<b>Screw thread</b>	Metric screw thread with tolerance class 6H to ISO 965.	
<b>Material</b> <sup>1)</sup>	St = steel meeting the following analyses [% (m/m)] :	
	<p style="text-align: center;"><b>Type A</b></p> <p>C 0,95 to 1,1 Si 0,15 to 0,35 Mn 0,25 to 0,4 P 0,03 max. S 0,025 max. Cr 1,35 to 1,65</p> <p>Hardness : 550 to 650 HV30</p>	<p style="text-align: center;"><b>Type B</b> or</p> <p>C 0,06 to 0,13 Si 0,1 to 0,4 Mn 0,25 to 0,6 P 0,025 max. S 0,05 max.</p> <p>C 0,15 max. Si 0,10 max. Mn 0,9 to 1,3 P 0,07 max. S 0,15 to 0,35 Pb 0,15 to 0,35</p> <p style="text-align: center;">at the supplier's option</p> <p>Surface hardness : 600 to 700 HV1</p> <p>Hardness at case depth 0,25 to 0,4 mm : 550 HV1 min.</p>
<b>Surface finish</b>	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.	
	Preferred coatings are chemical black oxide or non-electrolytic zinc plating with chromate conversion coating (see ISO 4520). Other coatings as agreed between customer and supplier. All tolerances shall apply prior to the application of a plating or coating.	
<b>Workmanship</b>	Parts shall be uniform in quality and free of irregularities or detrimental defects. No burrs shall appear on any part of the pin.	
<b>Acceptability</b>	The acceptance procedure is covered in ISO 3269.	

1) Other materials as agreed between customer and supplier.

#### 5 Designation

Example for the designation of a through hardened steel parallel pin, type A, with internal thread, nominal diameter  $d = 6$  mm and nominal length  $l = 30$  mm :

**Parallel pin ISO 8735 - 6 × 30 - A - St**