
International Standard



7388/2

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

**Tool shanks with 7/24 taper for automatic tool changers —
Part 2 : Retention knobs for shanks Nos. 40, 45 and 50 —
Dimensions and mechanical characteristics**

Queues d'outils à conicité 7/24 pour changement automatique d'outils — Partie 2 : Embouts de tirage pour cônes nos 40, 45 et 50 — Dimensions et caractéristiques mécaniques

First edition — 1984-08-01

(standards.iteh.ai)

ISO 7388-2:1984

<https://standards.iteh.ai/catalog/standards/sist/65b3ce27-296e-469f-ac8b-084e01407351/iso-7388-2-1984>



UDC 621.9.229.2

Ref. No. ISO 7388/2-1984 (E)

Descriptors : tools, power-operated tools, shanks, taper shanks, 7/24 taper shanks, machine tapers, dimensions, characteristics.

Price based on 4 pages

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of developing International Standards is carried out through ISO technical committees. Every member body interested in a subject for which a technical committee has been authorized 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.

International Standard ISO 7388/2 was developed by Technical Committee ISO/TC 39, *Machine tools*, and was circulated to the member bodies in February 1982.

It has been approved by the member bodies of the following countries :

Belgium	India	South Africa, Rep. of
China	Italy	Spain
Czechoslovakia	Korea, Dem. P. Rep. of	Sweden
Egypt, Arab Rep. of	Korea, Rep. of	Switzerland
France	Netherlands	United Kingdom
Germany, F. R.	Poland	
Hungary	Romania	

The member bodies of the following countries expressed disapproval of the document on technical grounds :

Japan
USA
USSR

Tool shanks with 7/24 taper for automatic tool changers — Part 2 : Retention knobs for shanks Nos. 40, 45 and 50 — Dimensions and mechanical characteristics

iTeh STANDARD PREVIEW
(standards.iteh.ai)

0 Introduction

ISO 7388-2:1984

Users of this part of ISO 7388 are advised that proprietary rights apply to tool shanks with a 7/24 taper for automatic tool changers. Patent holders have agreed to negotiate licenses on terms and conditions defined in statements that are available upon request from the ISO Central Secretariat.

1 Scope and field of application

This part of ISO 7388 lays down the dimensions of the retention knobs for shanks Nos. 40, 45 and 50 for tools to be fitted on machines using an automatic gripping system for feeding tools from the magazine to the spindle and vice-versa. Retention knobs are intended to hold the tools in the spindles.

This part of ISO 7388 specifies two distinct types of retention knobs :

- 1) type A, for use with a pull stud claw;
- 2) type B, for use for preference with a ball-type pull stud claw.

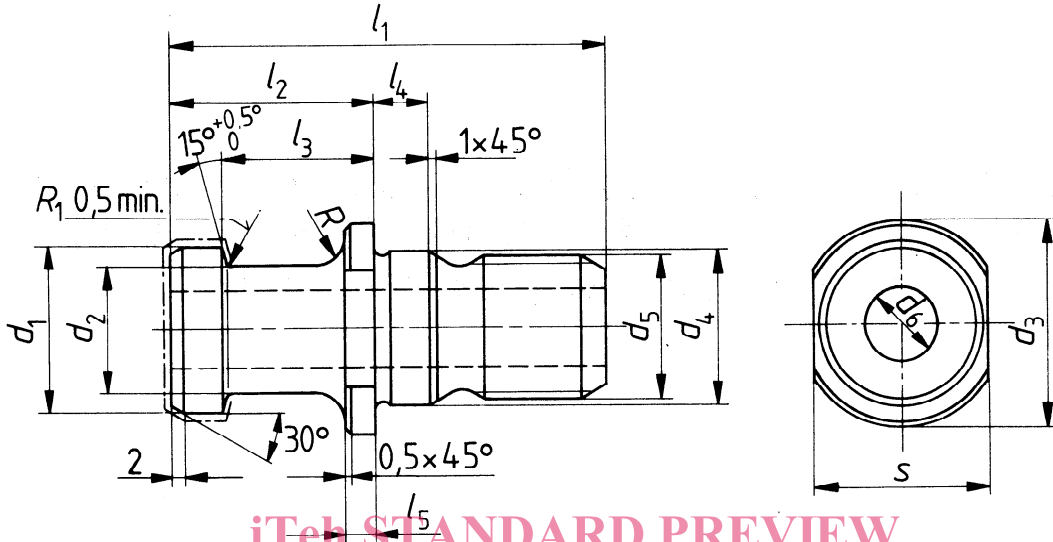
2 Reference

ISO 7388/1, *Tool shanks with 7/24 taper for automatic tool changers — Part 1 : Shanks Nos. 40, 45 and 50 — Dimensions.*

3 Dimensions

3.1 Retention knob – Type A

Dimensions in millimetres



iTeh STANDARD PREVIEW
(standards.iteh.ai)

ISO 7388-2:1984

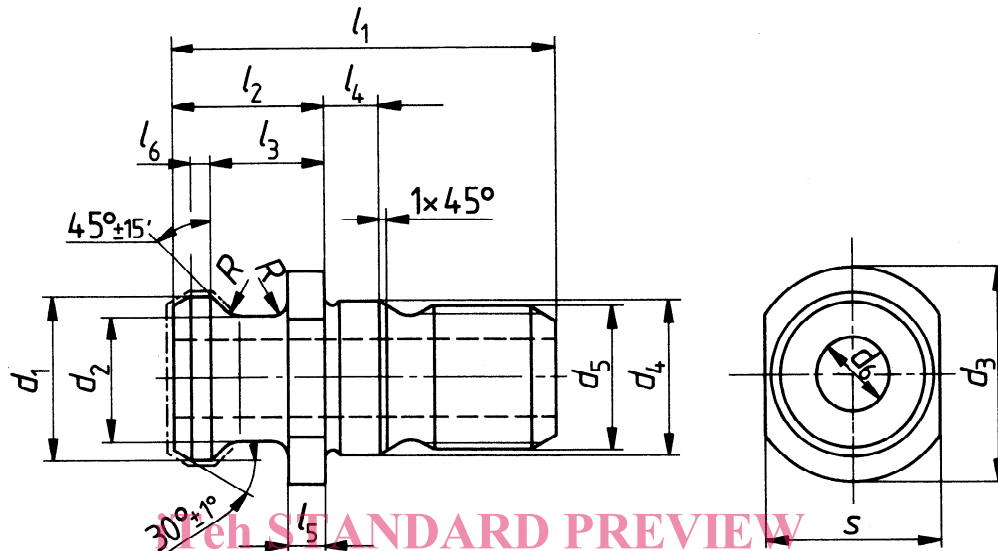
Shank No.	d_1 0 - 0,1	d_2 0 - 0,1	d_3 0 - 0,2	d_4 h6	d_5	d_6 + 0,1 0	l_1	l_2 $\pm 0,1$	l_3 $\pm 0,1$	l_4	l_5	R	s 0 - 0,1
40	19	14	23	17	M16	7,00	54	26	20	7	4	3	19
45	23	17	30	21	M20	9,50	65	30	23	8	5	4	24
50	28	21	36	25	M24	11,50	74	34	25	10	5	5	30

NOTES

- 1 R and R_1 radii to be free of tool marks.
- 2 The shape and dimensions of the groove on the centring diameter d_4 are left to the manufacturer.
- 3 The drilling of the hole diameter d_6 is optional.

3.2 Retention knob – Type B

Dimensions in millimetres



STANDARD PREVIEW
(standards.iteh.ai)

ISO 7388-2:1984

<https://standards.iteh.ai/catalog/standards/sist/65b3ce27-296e-469f-aa8b-084c91407991/iso-7388-2-1984>

Shank No.	d_1	d_2	d_3		d_4	d_5	d_6	l_1	l_2	l_3	l_4	l_5	l_6	R	s	
	$-0,3$	$-0,3$	nom.	tol.	h6		$+0,3$ 0		$-0,3$	$-0,3$		$-0,5$	$-0,5$	$-0,5$	nom.	tol.
40	18,95	12,95	22,50	-0 1	17	M16	7,35	44,50	16,40	11,15	7	3,25	1,75	2,65	18	-0 $0,33$
45	24,05	16,30	30,00	-0 2	21	M20	9,25	56,00	20,95	14,85	8	4,25	2,25	2,65	24	-0 $0,39$
50	29,10	19,60	37,00	-0 2	25	M24	11,55	65,50	25,55	17,95	10	5,25	2,75	2,65	30	-0 $0,65$

NOTES

- 1 R radii to be free of tool marks.
- 2 The shape and dimensions of the groove on the centring diameter d_4 are left to the manufacturer.
- 3 The drilling of the hole diameter d_6 is optional.

4 Mechanical characteristics

4.1 Material

The material used shall correspond to the following specifications :

alloy steel

superficial hardness 56 to 60 HRC on surfaces indicated by a chain dotted line

core hardness 35 to 45 HRC

Variant :

Manganese-silicon steel treated for :

$$R_m \approx 1\,650 \text{ N/mm}^2$$

$$R_p \approx 1\,500 \text{ N/mm}^2$$

4.2 Maximum tensile force to apply to retention knobs (calculated taking into account the smallest section — this is for guidance only)

For a stress of 400 N/mm², this force shall not exceed the following values :

Type A		Type B	
Shank No.	Maximum force N	Shank No.	Maximum force N
40	42 000	40	34 800
45	61 600	45	56 000
50	88 000	50	78 400

ISO 7388-2:1984
<https://standards.iteh.ai/catalog/standards/sist/65b3ce27-296e-469f-ac8b-084e01407351/iso-7388-2-1984>

iTeh STANDARD PREVIEW
This page intentionally left blank
(standards.iteh.ai)

ISO 7388-2:1984

<https://standards.iteh.ai/catalog/standards/sist/65b3ce27-296e-469f-ac8b-084e01407351/iso-7388-2-1984>

iTeh STANDARD PREVIEW
This page intentionally left blank
(standards.iteh.ai)

ISO 7388-2:1984

<https://standards.iteh.ai/catalog/standards/sist/65b3ce27-296e-469f-ac8b-084e01407351/iso-7388-2-1984>