SLOVENSKI STANDARD
SIST EN ISO 4753:2001

01-julij-2001

Mehanski vezni elementi - Končine vijakov z zunanjim metrskim navojem po ISO (ISO 4753:1999)

Fasteners - Ends of parts with external ISO metric screw thread (ISO 4753:1999)

Verbindungselemente - Enden von Teilen mit metrischem ISO-Außengewinde (ISO 4753:1999)

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Eléments de fixation - Extrémités des éléments a filetage extérieur métrique ISO (ISO 4753:1999)

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Ta slovenski standard je istoveten z: **EN ISO 4753:1999**

ICS:

21.040.10	Metrski navoji	Metric screw threads
21.060.10	Sorniki, vijaki, stebelni vijaki	Bolts, screws, studs

SIST EN ISO 4753:2001 **en**

2003-01.Slovenski inštitut za standardizacijo. Razmnoževanje celote ali delov tega standarda ni dovoljeno.

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 4753

December 1999

ICS 21.060.10

English version

Fasteners - Ends of parts with external ISO metric screw thread (ISO 4753:1999)

Eléments de fixation - Extrémités des éléments à filetage extérieur métrique ISO (ISO 4753:1999)

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This European Standard was approved by CEN on 1 December 1999.

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This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

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EUROPÄISCHES KOMITEE FÜR NORMUNG

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Ref. No. EN ISO 4753:1999 E

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Foreword

The text of the International Standard ISO 4753:1999 has been prepared by Technical Committee ISO/TC 2 "Fasteners" in collaboration with Technical Committee CEN/TC 185 "Threaded and non-threaded mechanical fasteners and accessories", the secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by June 2000, and conflicting national standards shall be withdrawn at the latest by June 2000.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

NOTE FROM CEN/CS: The foreword is susceptible to be amended on reception of the German language version. The confirmed or amended foreword, and when appropriate, the normative annex ZA for the references to international publications with their relevant European publications will be circulated with the German version.

Endorsement notice

The text of the International Standard ISO 4753:1999 was approved by CEN as a European Standard without any modification.

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INTERNATIONAL STANDARD

ISO 4753

Second edition
1999-12-01

Fasteners — Ends of parts with external ISO metric thread

Éléments de fixation — Extrémités des éléments à filetage extérieur métrique ISO

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Reference number
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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. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 4753 was prepared by Technical Committee ISO/TC 2, *Fasteners*, Subcommittee SC 7, *Reference Standards for fasteners (mainly covering terminology, dimensioning, sizes and tolerancing)*.

This second edition cancels and replaces the first edition (ISO 4753:1983) which has been technically revised.

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Fasteners — Ends of parts with external ISO metric thread

1 Scope

This International Standard specifies the form and dimensions of ends of parts with external ISO metric screw thread (e.g., bolt and screw ends) recommended for use. They apply to standardized or non-standardized threaded parts if they are specified at the time of order.

For each end type a symbol is specified and it is recommended to use these symbols when specifying one of the ends for threaded fasteners.

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2 Normative references

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The following normative documents contain provisions which, through reference in this text, constitute provisions of this International Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 225:1983, *Fasteners — Bolts, screws, studs and nuts — Symbols and designations of dimensions.*

ISO 4027:1993, *Hexagon socket set screws with cone point.*

3 Dimensions

See Figures 1 and 2 and Tables 1 to 4.

Symbols and designations of dimensions are specified in ISO 225.

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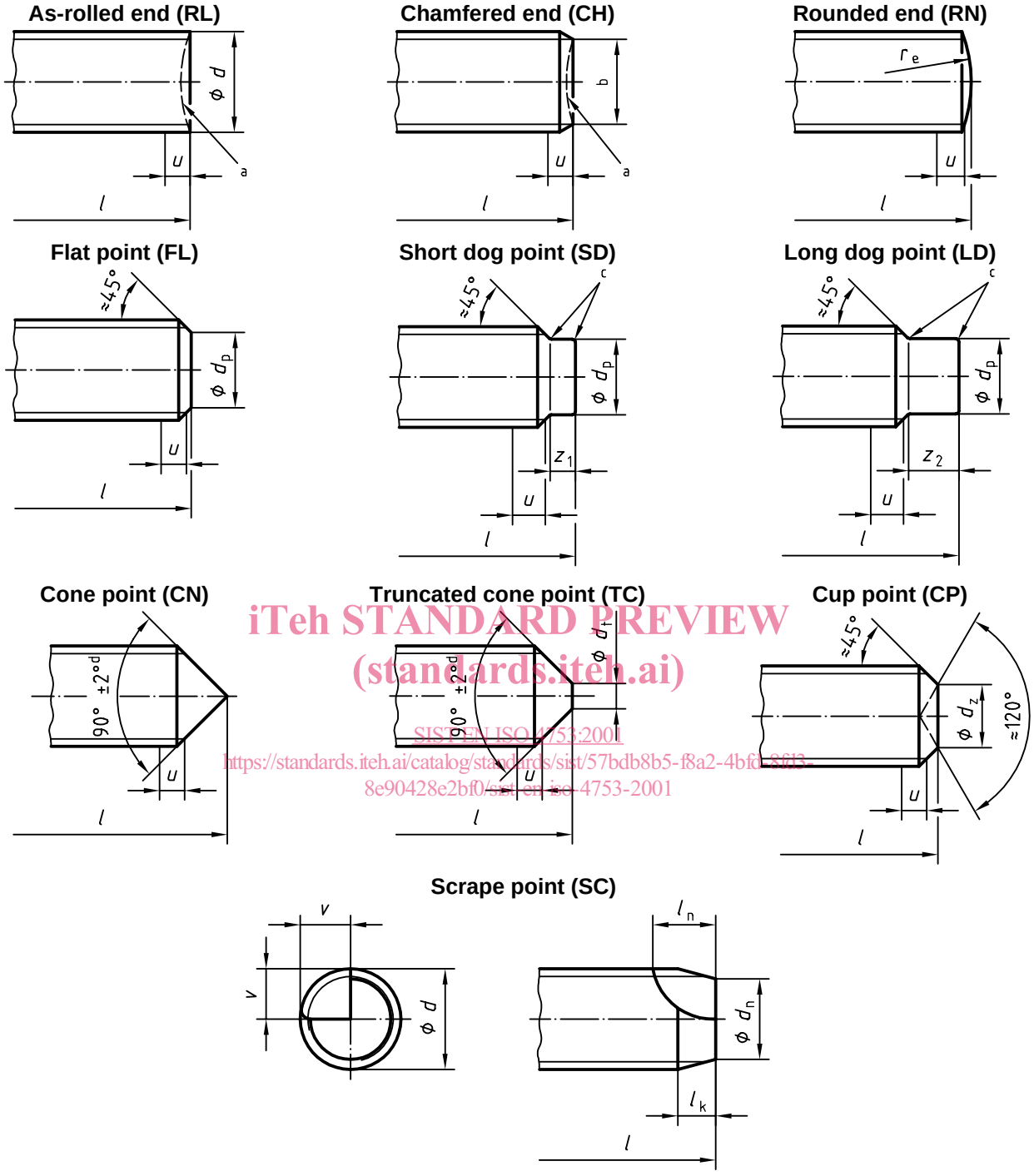
3.1 Ends which are included in the nominal length of the fastener



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$r_e \approx 1{,}4d$ $\quad v = 0{,}5d \pm 0{,}5$ mm $\quad l_n \leqslant 5P$

$d_n = d - 1{,}6P$ $\quad l_k \leqslant 3P$ $\quad l_n - l_k \geqslant 2P$ (P is the pitch of thread)

NOTE 1 l is the nominal length of the fastener.

NOTE 2 Incomplete thread $u \leqslant 2P$

NOTE 3 The 45° angle for the ends FL, SD, LD and CP applies only to the portion of the point below the root diameter of the thread.

a End may be dimpled.

b Maximum diameter at the minor thread diameter.

c Slight radius

d 120° ± 2° for short length screws; see product standard, e.g. ISO 4027.

Figure 1

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Table 1 — Dimensions

Dimensions in millimetres

Thread diameter d [a]	d_p h14 [b]	d_t [c] h16	d_z h14	z_1 $^{+IT14\ d}_{0}$	z_2 $^{+IT14\ d}_{0}$
1,6	0,8	—	0,8	0,4	0,8
1,8	0,9	—	0,9	0,45	0,9
2	1	—	1	0,5	1
2,2	1,2	—	1,1	0,55	1,1
2,5	1,5	—	1,2	0,63	1,25
3	2	—	1,4	0,75	1,5
3,5	2,2	—	1,7	0,88	1,75
4	2,5	—	2	1	2
4,5	3	—	2,2	1,12	2,25
5	3,5	—	2,5	1,25	2,5
6	4	1,5	3	1,5	3
7	5	2	4	1,75	3,5
8	5,5	2	5	2	4
10	7	2,5	6	2,5	5
12	8,5	3	8	3	6
14	10	4	8,5	3,5	7
16	12	4	10	4	8
18	13	5	11	4,5	9
20	15	5	14	5	10
22	17	6	15	5,5	11
24	18	6	16	6	12
27	21	8	—	6,7	13,5
30	23	8	—	7,5	15
33	26	10	—	8,2	16,5
36	28	10	—	9	18
39	30	12	—	9,7	19,5
42	32	12	—	10,5	21
45	35	14	—	11,2	22,5
48	38	14	—	12	24
52	42	16	—	13	26

[a] For sizes < M1,6 dimensions and tolerances should be agreed as suitable.

[b] For nominal dimensions ⩽ 1 mm tolerance field h13 applies.

[c] For threads ⩽ M5 no flat part on the cone required; the point may be slightly rounded.

[d] For nominal dimensions ⩽ 1 mm tolerance field $^{+IT13}_{0}$ applies.

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