INTERNATIONAL STANDARD 1173

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

Assembly tools for bolts and screws — Hexagon drive ends for power tools

Outils de manœuvre pour vis et écrous — Hexagones conducteurs pour outils à machine

First edition — 1975-02-01

UDC 621.883.7

Ref. No. ISO 1173-1975 (E)

Descriptors : tools, assembly tools, hexagons, dimensions.

Price based on 3 pages

FOREWORD

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (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 set up 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.

Prior to 1972, the results of the work of the Technical Committees were published as ISO Recommendations; these documents are now in the process of being transformed into International Standards. As part of this process, Technical Committee ISO/TC 29 has reviewed ISO Recommendation R 1173 and found it technically suitable for transformation. International Standard ISO 1173 therefore replaces ISO Recommendation R 1173-1970 to which it is technically identical.

ISO Recommendation R 1173 was approved by the Member Bodies of the following countries :

Australia	Hungary	Sweden
Belgium	India	Switzerland
Brazil	Ireland	Thailand
Czechoslovakia	Israel	Turkey
Egypt, Arab Rep. of	Italy	United Kingdom
France	Poland	U.S.S.R.
Germany	Portugal	Yugoslavia
Greece	Spain	

No Member Body expressed disapproval of the Recommendation.

No Member Body disapproved the transformation of ISO/R 1173 into an International Standard.

Printed in Switzerland

Assembly tools for bolts and screws — Hexagon drive ends for power tools

1 SCOPE AND FIELD OF APPLICATION

This International Standard, relating to assembly tools for bolts and screws, specifies hexagon drive ends for power tools.

It includes two tables, the first showing the dimensions of male hexagons and the other the dimensions of female hexagons.

2 INTERCHANGEABILITY

Hexagon maximum and minimum dimensions have been selected so as to allow for interchangeability between metric and inch productions.

Deviations between maximum and minimum dimensions of s_1 and s_2 correspond to tolerances of grade 10*.

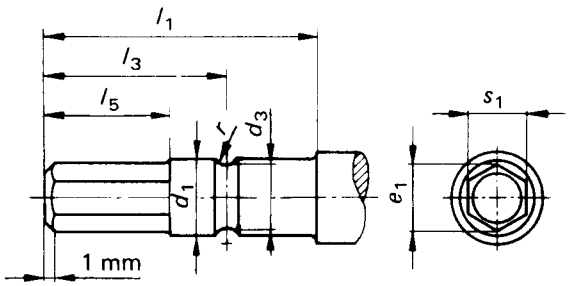
Sizes e have been calculated by using the formula $e = 1{,}13\,s$.

* See ISO/R 286, *ISO system of limits and fits — Part I : General, tolerances and deviations.*

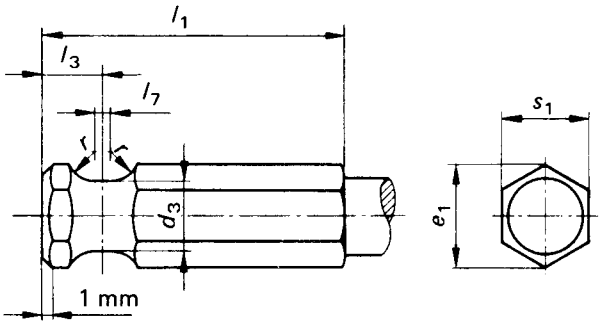
3 DIMENSIONS

3.1 Male hexagons

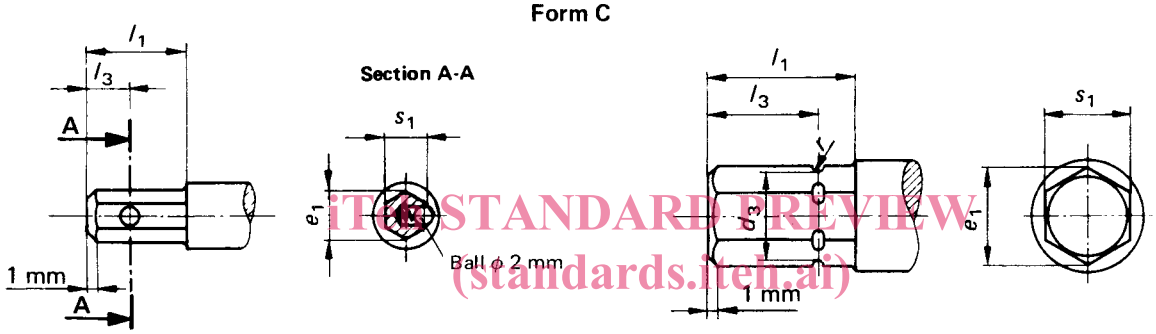
Form A



Form E



Form C



Nominal dimension 4 Nominal dimensions 6,3 and 8

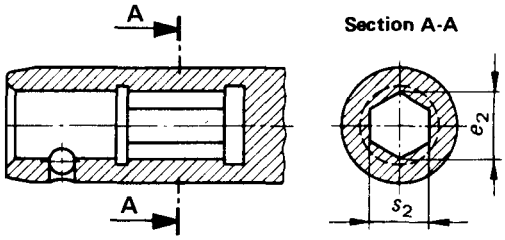
Dimensions in millimetres

Form	Nominal dimensions	s_1 max.	s_1 min.	d_1 h9	d_3 h12	e_1 max.	e_1 min.	l_1 min.	l_3	l_3 tol.	l_5 ± 0,1	l_7	r	Nominal dimensions in inches
A	3	3,000	2,960	3,6	3,0	3,39	3,34	19,5	11,9	± 0,11	7,5	–	1,0	–
	5,5	5,500	5,452	6,7	5,7	6,21	6,16	24,0	16,0	± 0,11	11,0		1,25	
C	4	3,962	3,914	–	–	4,48	4,42	9,0	4,0	± 0,07	–	–	–	$\frac{5}{32}$
	6,3	6,350	6,292		6,7	7,18	7,11	11,0	8,2	± 0,09			0,3	$\frac{1}{4}$
	8	7,930	7,872		8,2	8,96	8,90	13,5	10,2	± 0,11			0,3	$\frac{5}{16}$
E	6,3	6,350	6,292	–	4,7	7,18	7,11	25,0	9,5	± 0,09	–	1,0	2,4	$\frac{1}{4}$
	(8)	7,930	7,872		6,3	8,96	8,90	27,0	5,4	± 0,07		1,2	2,4	$\frac{5}{16}$
	11,2	11,112	11,042		8,7	12,56	12,48	31,5	6,7	± 0,09		1,2	2,8	$\frac{7}{16}$
	16	15,875	15,805		13,5	17,94	17,86	44,0	8,7	± 0,09		1,6	4,0	$\frac{5}{8}$
	(20)	19,050	18,966		16,7	21,53	21,43	50,0	8,7	± 0,09		1,6	4,0	$\frac{3}{4}$

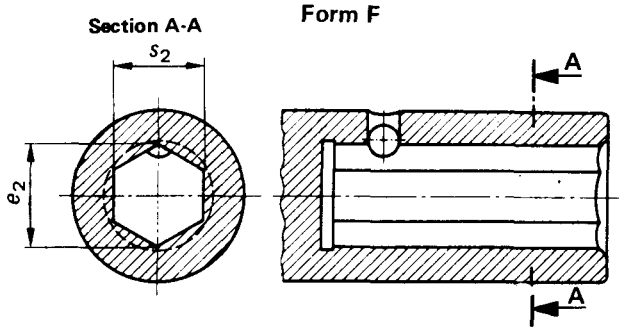
Dimensions placed between parentheses should be avoided as far as possible.

3.2 Female hexagons

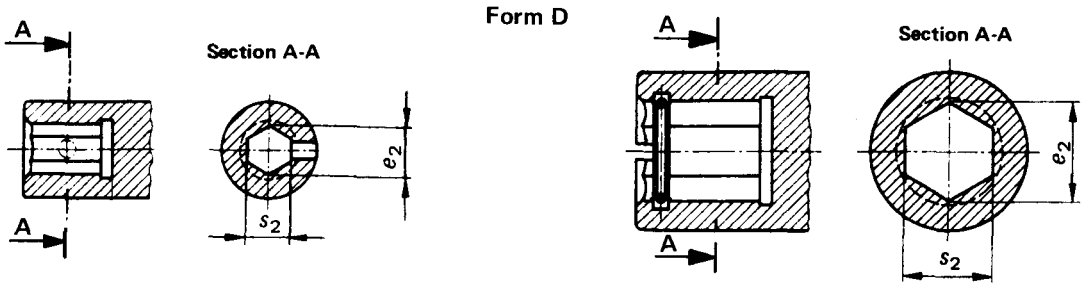
Form B



Form F



Form D



Nominal dimension 4

Nominal dimensions 6,3 and 8

Dimensions in millimetres

Form	Nominal dimensions	s_2 max.	s_2 min.	e_2 min.	Nominal dimensions in inches
B	3	3,060	3,020	3,41	
	5,5	5,578	5,530	6,25	
D	4	4,040	3,992	4,51	$\frac{5}{32}$
	6,3	6,448	6,390	7,22	$\frac{1}{4}$
	8	8,028	7,970	9,00	$\frac{5}{16}$
F	6,3	6,448	6,390	7,22	$\frac{1}{4}$
	(8)	8,028	7,970	9,00	$\frac{5}{16}$
	11,2	11,232	11,162	12,61	$\frac{7}{16}$
	16	15,995	15,925	18,00	$\frac{5}{8}$
	(20)	19,199	19,115	21,60	$\frac{3}{4}$

Dimensions placed between parentheses should be avoided as far as possible.

Female hexagons should be produced by the manufacturer in such a way that they perfectly fit the male hexagons.