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

Assembly tools for bolts and screws — Hexagon drive ends for hand- and machine-operated screwdriver bits

Outils de manœuvre pour vis et écrous — Hexagones conducteurs pour embouts de tournevis à main et à machine

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Reference number
ISO 1173:1988 (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 1173 was prepared by Technical Committee ISO/TC 29, *Small tools*.

This second edition cancels and replaces the first edition (ISO 1173 : 1975), of which it constitutes a technical revision.

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.

Assembly tools for bolts and screws — Hexagon drive ends for hand- and machine-operated screwdriver bits

1 Scope and field of application

This International Standard, relating to assembly tools for bolts and screws, specifies the dimensions, the separation force and minimum test torques of male and female parts for hexagon drive ends.

This International Standard applies to hand- and machine-operated screwdriver bits.

2 Reference

ISO 286, *ISO system of limits and fits*.

3 Interchangeability

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

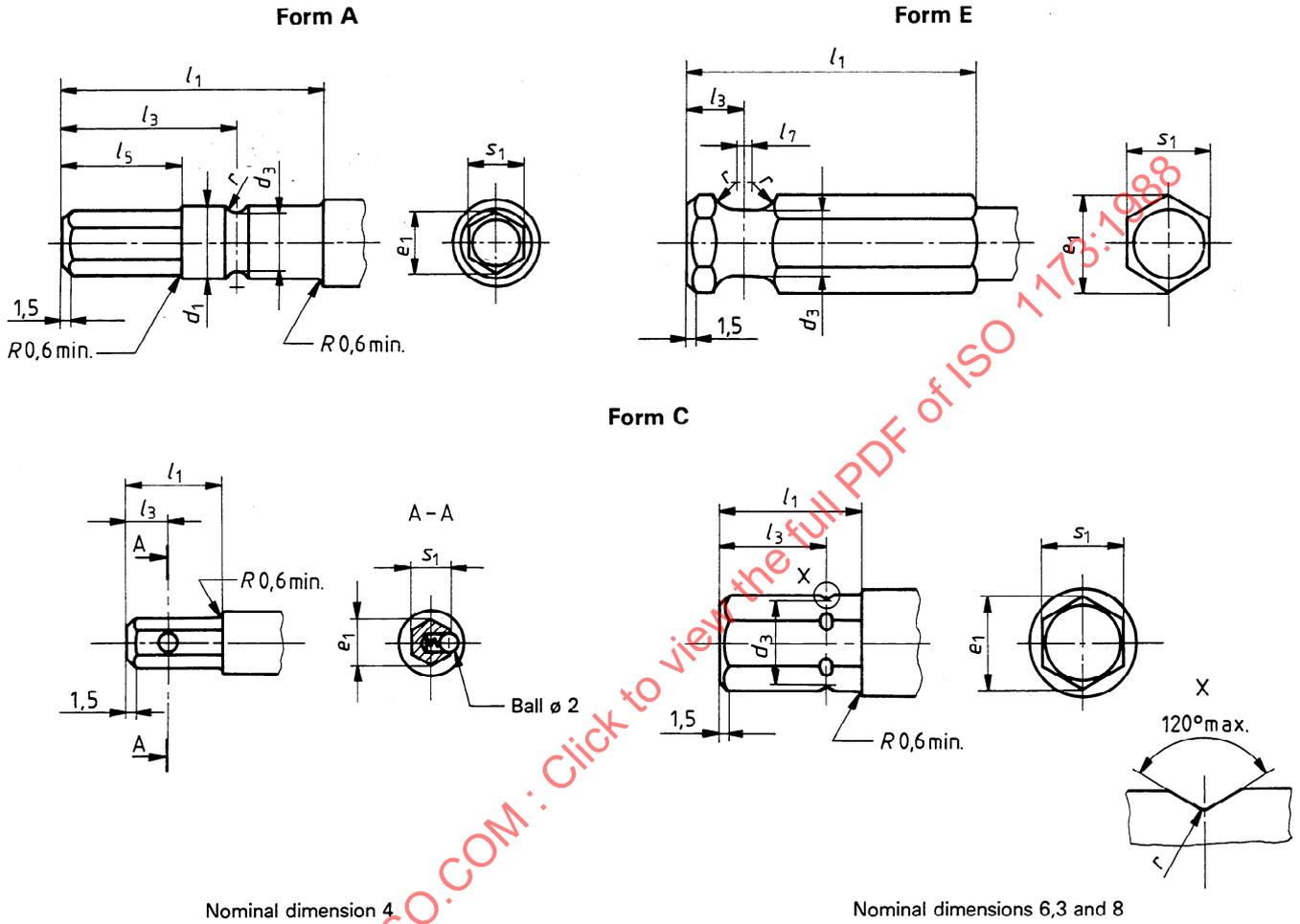
Deviations between the maximum and minimum widths across flats of s_1 and s_2 correspond to tolerances of grade IT10 (see ISO 286).

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

4 Dimensions

4.1 Male hexagons

Dimensions in millimetres

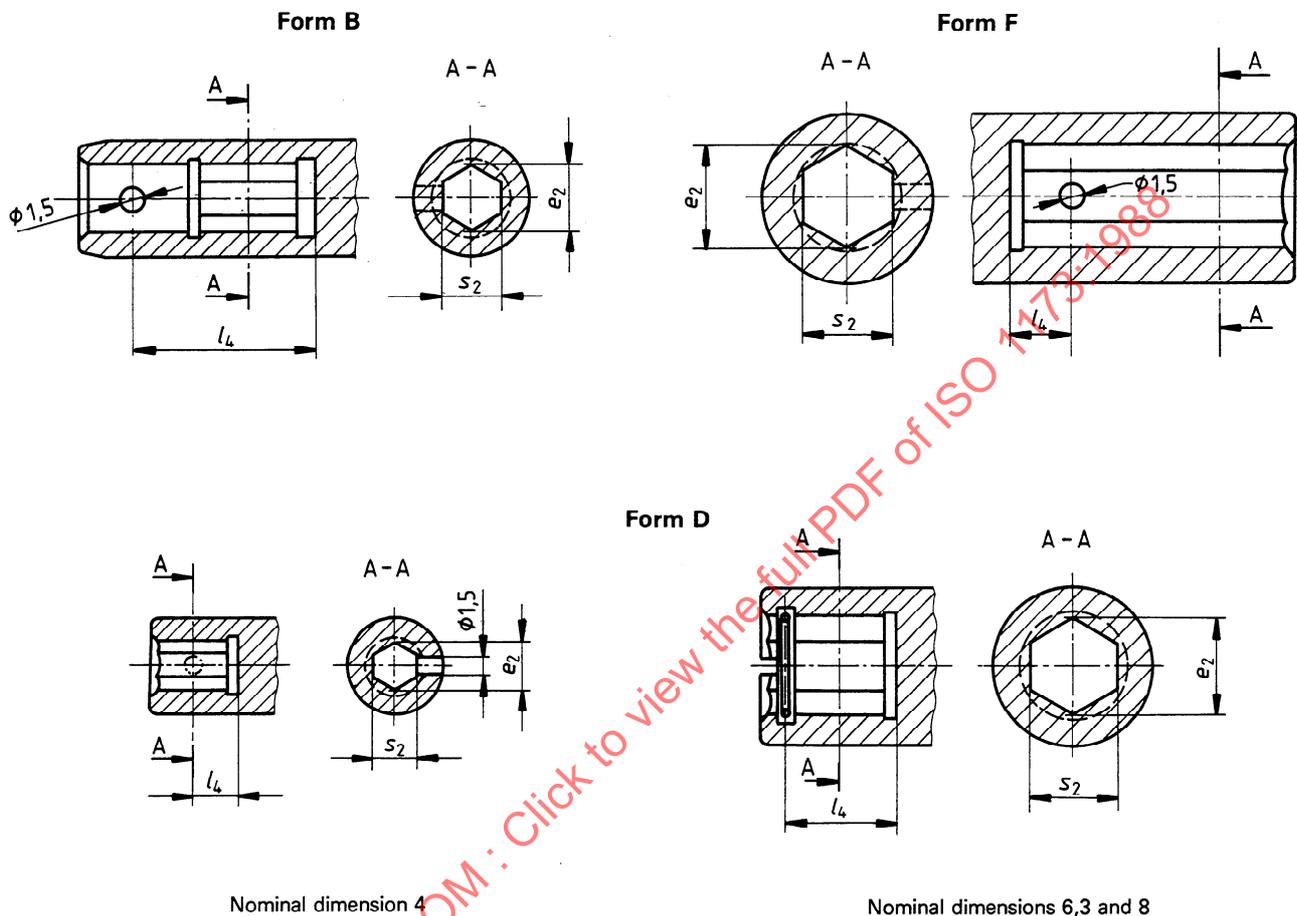


Dimensions in millimetres

Form	s ₁			s ₁ nom. in	d ₁ h9	d ₃ h12	e ₁		l ₁ min.	l ₃ 0 -0,1	l ₅ ±0,1	l ₇	r min.
	nom.	max.	min.				max.	min.					
A	3	3	2,96	—	3,6	3	3,39	3,34	19,5	11,9	7,5	—	1
	5,5	5,5	5,452	—	6,7	5,7	6,21	6,16	24	16	11	—	1,25
C	4	3,962	3,914	$\frac{5}{32}$	—	—	4,48	4,42	9	4	—	—	—
	6,3	6,35	6,292	$\frac{1}{4}$	—	6,7	7,18	7,11	11	8,2	—	—	0,3
	8	7,93	7,872	$\frac{5}{16}$	—	8,2	8,96	8,9	13,5	10,2	—	—	0,3
E	6,3	6,35	6,292	$\frac{1}{4}$	—	4,7	7,18	7,11	25	9,5	—	1	2,4
	11,2	11,112	11,042	$\frac{7}{16}$	—	8,7	12,56	12,48	31,5	6,7	—	1,2	2,8

4.2 Female hexagons

Dimensions in millimetres



Nominal dimension 4

Nominal dimensions 6,3 and 8

Dimensions in millimetres

Form	s ₂			s ₂ nom. in	e ₂ min.	l ₄ +0.1 0
	nom.	max.	min.			
B	3	3,06	3,02	—	3,41	11,9
	5,5	5,578	5,53		6,25	16
D	4	4,04	3,992	$\frac{5}{32}$	4,51	4
	6,3	6,448	6,39	$\frac{1}{4}$	7,22	8,2
	8	8,028	7,97	$\frac{5}{16}$	9	10,2
F	6,3	6,448	6,39	$\frac{1}{4}$	7,22	9,5
	11,2	11,232	11,162	$\frac{7}{16}$	12,61	6,7

5 Separation force

The force required to separate the male and female parts shall have a minimum value of 2,5 N.

6 Minimum test torques

Form	Nominal dimension	Minimum test torque
	mm	N · m
A and B	3	7,6
	5,5	47
C and D	4	18
	6,3	71
	8	144
E and F	6,3	71
	11,2	396

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