INTERNATIONAL STANDARD

ISO 4204

Second edition
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Countersinks, 90°, with Morse taper shanks and detachable pilots

Outils à chanfreiner à 90°, à queue cône Morse et pilote amovible

Reference number
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Foreword

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The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

The committee responsible for this document is ISO/TC 29, *Small tools*, Subcommittee SC 2, *Holding tools, adaptive items and interfaces*.

This second edition cancels and replaces the first edition (ISO 4204:1977), of which it constitutes a minor revision, notably with the addition of Annex A, which gives the relationship between the designations of this International Standard and the ISO 13399 series.

Countersinks, 90°, with Morse taper shanks and detachable pilots

1 Scope

This International Standard specifies the dimensions of 90° countersinks with Morse taper shanks and detachable pilots for general use.

Figure 1 is diagrammatic only and is not intended to indicate details of design.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 296, *Machine tools — Self-holding tapers for tool shanks*

3 Dimensions

The dimensions for 90° countersinks with Morse taper shanks and detachable pilots are given in Table 1. It specifies dimensions in metric units only, these being regarded as the only recommended dimensions in the future.

4 Tolerances

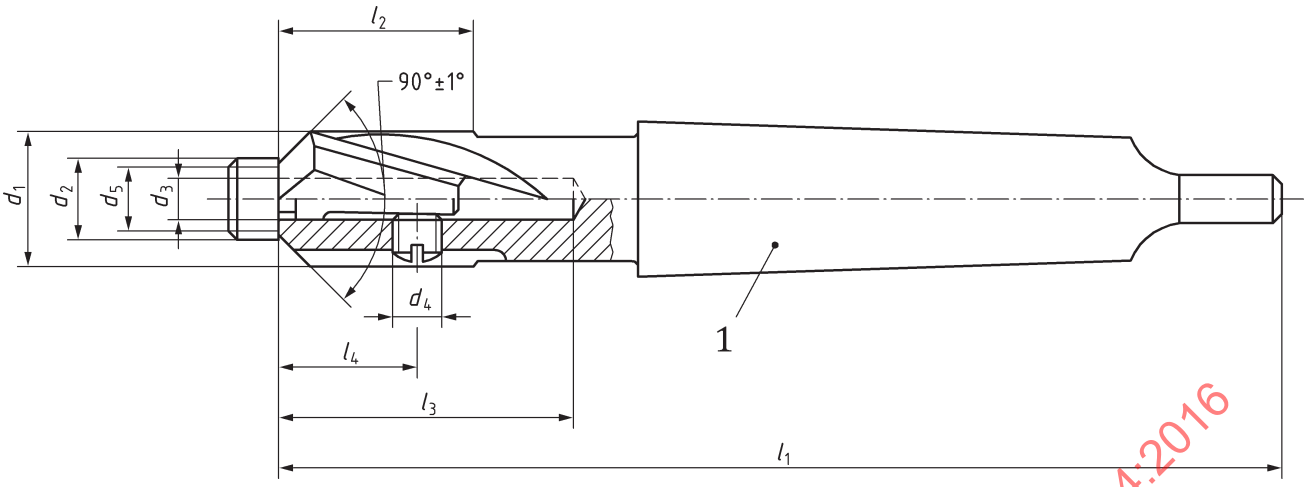
The tolerances relating to the countersink, Morse taper shanks and detachable pilots are as follows:

— cutting diameter d_1:z9;

— pilot diameter d_2: e8;

— pilot hole diameter d_3: H8;

— Morse taper: according to ISO 296.



Key

1 Morse taper shank

Figure 1

Table 1

Dimensions in millimetres

Cutting diameter d_1 (z9)		**Pilot diameter** d_2 (e8)		d_3 (H8)	**Set screw** d_4	d_5	l_1	l_2	l_3	l_4	**Morse taper shank** N°
over	to	over	to								
12,5	16	6,3	14	4	M3	6	132	22	30	16	2
16	20	6,3	18	5	M4	6	140	25	38	19	
20	25	8	22,4	6	M5	7,5	150	30	46	23	
25	31,5	10	28	8	M6	9,5	180	35	54	27	3
31,5	40	12,5	35,5	10	M8	12	190	40	64	32	

Annex A
(informative)

Relationship between designations in this International Standard and ISO 13399

For the relationship between the designations of this International Standard and preferred symbols according to ISO 13399, see Table A.1.

Table A.1 — Relationship between designations in this International Standard and ISO 13399

Symbol in ISO 8051:1999	Reference in ISO 8051:1999	Property name in the ISO 13399 series	Symbol in the ISO 13399 series	Reference in the ISO 13399 series
d_1	Figure 1 Table 1	Cutting diameter	DC	71D084653E57F
d_2	Figure 1 Table 1	Guide pilot diameter	GPD	71ED6A7A6E6A2
d_3	Figure 1 Table 1	Connection diameter work-piece side	DCONWS	7272379A5F325
d_5	Figure 1 Table 1	Interference cutting diame-ter	DCINTF	726E2FCC0EC78
l_1	Figure 1 Table 1	Overall length	OAL	71D078EB7C086
d_3 **H8**	Table 1	Tolerance class connection diameter workpiece side	TCDCONWS	727ED91B5AA66
90°	Figure 1	Point angle	SIG	71DCCC4FEF366

Bibliography

[1] ISO 4207, *Counterbores with morse taper shanks and detachable pilots*

[2] ISO 4208, *Detachable pilots for use with counterbores and 90 degrees countersinks — Dimensions*

[3] ISO 8051:1999, *Long shank taps with nominal diameters from M3 to M10 — Full-diameter shank taps with recess*

[4] ISO 13399 (all parts), *Cutting tool data representation and exchange*