

BS ISO 4207:2016



BSI Standards Publication

Counterbores with Morse taper shanks and detachable pilots

National foreword

This British Standard is the UK implementation of ISO 4207:2016.

The UK participation in its preparation was entrusted to Technical Committee MTE/18, Tools tips and inserts for cutting applications.

A list of organizations represented on this committee can be obtained on request to its secretary.

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STANDARD

BS ISO 4207:2016

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4207

Second edition
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**Counterbores with Morse taper
shanks and detachable pilots**

Outils à lamer à queue cône Morse et pilote amovible



Reference number
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Foreword

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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 4207:1977), 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.

Counterbores with Morse taper shanks and detachable pilots

1 Scope

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

NOTE [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 the counterbores, Morse taper shanks and detachable pilots are given in [Table 1](#) and shown in [Figure 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 counterbores, 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.

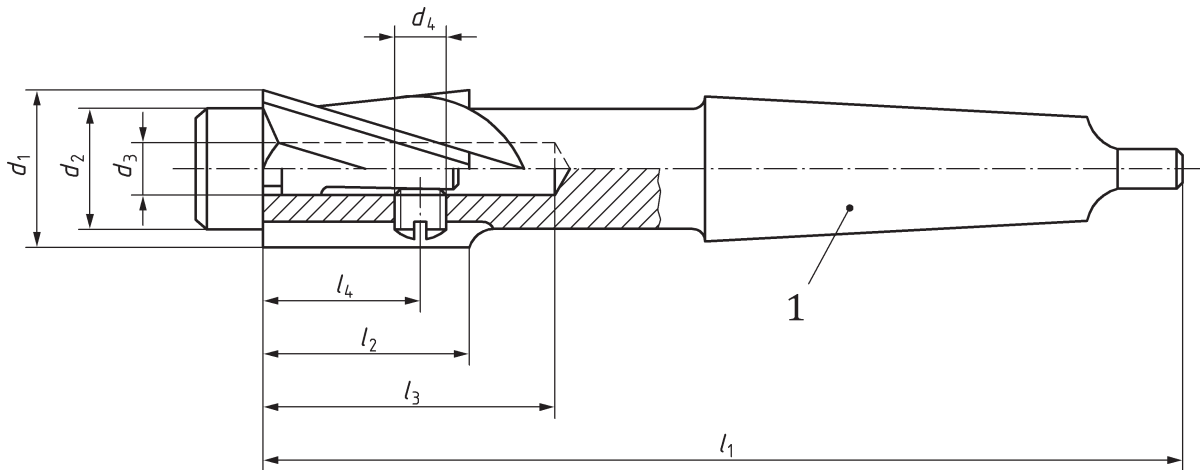


Figure 1

Table 1

Dimensions in millimetres

| Cutting diameter | | Pilot diameter | | d_3 (h8) | Set screw | l_1 | l_2 | l_3 | l_4 | Morse taper shank no. |
|--------------------|------|--------------------|------|------------|-----------|-------|-------|-------|-------|-----------------------|
| d_1 (z9) over | to | d_2 (e8) over | to | | | | | | | |
| 12,5 | 16 | 6,3 | 14 | 4 | M3 | 132 | 22 | 30 | 16 | 2 |
| 16 | 20 | 6,3 | 18 | 5 | M4 | 140 | 25 | 38 | 19 | |
| 20 | 25 | 8 | 22,4 | 6 | M5 | 150 | 30 | 46 | 23 | |
| 25 | 31,5 | 10 | 28 | 8 | M6 | 180 | 35 | 54 | 27 | 3 |
| 31,5 | 40 | 12,5 | 35,5 | 10 | M8 | 190 | 40 | 64 | 32 | |
| 40 | 50 | 16 | 45 | 12 | M8 | 236 | 50 | 76 | 42 | 4 |
| 50 | 63 | 20 | 56 | 16 | M10 | 250 | 63 | 88 | 53 | |

Annex A (informative)

Relationship between designations in this International Standard and ISO 13399 (all parts)

For relationship between designations in this International Standard and preferred symbols according to ISO 13399 (all parts), see [Table A.1](#).

**Table A.1 — Relationship between designations in this International Standard
and ISO 13399 (all parts)**

| Symbol in ISO 4207 | Reference in ISO 4207 | Property name in ISO 13399 (all parts) | Symbol in ISO 13399 (all parts) | Reference in ISO 13399 (all parts) |
|-----------------------|---|--|---------------------------------------|--|
| 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 workpiece side | DCONWS | 7272379A5F325 |
| l_1 | Figure 1 Table 1 | overall length | OAL | 71D078EB7C086 |
| d_3 h8 | Table 1 | tolerance class connection diameter workpiece side | TCDCONWS | 727ED91B5AA66 |

Bibliography

- [1] ISO 4204, *Countersinks, 90°, with Morse taper shanks and detachable pilots*
- [2] ISO 4208, *Detachables pilots for use with counterbores and 90 degrees countersinks — Dimensions*
- [3] ISO 13399 (all parts), *Cutting tool data representation and exchange*

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