

Drills and reamers —

Part 5: Specification for the dimensions of counterbores with Morse taper shanks and countersinks with parallel shanks without solid pilots and Morse taper shanks

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Foreword

This Part of BS 328 is published under the direction of the Mechanical Engineering Standards Committee. It has been prepared to take account of the international work on countersinks and counterbores which specifies the general dimensions of these tools in millimetres only. It is recognized, however, that counterbores with cutting diameters dimensioned in inches will be required for some time to come and hence preferred inch diameters are given in Appendix B. All other dimensions are in metric units, thus allowing the same blanks to be used for both inch and metric cutting tools.

BS 328 whose Parts 1 and 2 have hitherto been issued under the generic title “*Twist drills and combined drills and countersinks*” is now being issued as a series under the generic title “*Drills and reamers*”, of which this standard is Part 5: Some Parts of this series have already been published with the remaining Parts in course of preparation. The other Parts of BS 328 are:

- *Part 1: Twist drills*¹⁾;
- *Part 2: Centre drills*²⁾;
- *Part 3 Core drills*³⁾;
- *Part 4: Reamers*;
- *Part 6: 90° countersinks with parallel shanks and solid pilots*;
- *Part 7: Counterbores with parallel shanks and solid pilots*;
- *Part 8: Spot drills*.

This Part of BS 328 supersedes clauses **21**, **22** and **23** of BS 122-2:1964, the remaining clauses being superseded by BS 328-4. BS 122-2:1964 is therefore withdrawn.

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

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Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 10, an inside back cover and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

¹⁾ In course of revision, and will be published under the new generic title of “*Drills and reamers*”.

²⁾ BS 328-2:1972 is being proposed for confirmation and will be re-titled by amendment.

³⁾ In course of preparation.

1 Scope

This Part of this British Standard specifies the dimensions of the following:

- a) counterbores with Morse taper shanks and detachable pilots;
- b) countersinks with parallel shanks;
- c) countersinks with Morse taper shanks.

Appendix A shows extracts from BS 4500-1, giving details of the tolerances specified. Appendix B specifies details of counterbores with cutting diameters designated in inches.

NOTE The titles of the publications referred to in this standard are listed on the inside back cover.

2 Definitions

For the purposes of this Part of BS 328 the following definitions apply.

2.1

counterbore

a cutter with teeth on the periphery and the end, integral with either a parallel or a taper shank and having a pilot, the cutter being intended for the production of a flat seating to accommodate the head of a bolt or set screw, etc. (see Figure 2)

2.2

pilot

a cylindrical feature, either integral with a counterbore or detachable, that projects forward of the cutting end of the counterbore and is coaxial with it, and in use engages with a pre-drilled hole in the workpiece so that the flat seating produced by the counterbore is concentric with that hole (see Figure 2 and Figure 3)

2.3

countersink

a cutter with teeth on conical cutting faces, integral with a parallel or a taper shank, designed to produce a conical seating to accommodate the conical head of a component such as a screw or a rivet. The flutes may be straight or helical (see Figure 4 and Figure 5)

3 Text deleted

4 Counterbores with Morse taper shanks and detachable pilots

4.1 Flutes. Both right-hand and left-hand cutting counterbores are in conformity with this standard, but unless otherwise ordered, a counterbore shall be supplied with right-hand helical teeth for right-hand cutting.

4.2 Dimensions. The general dimensions of counterbores with Morse taper shanks shall be as shown in Table 3 and their diameters as shown in Table 4 (see Figure 2). The dimensions of detachable pilots shall be as shown in Table 5 (see Figure 3).

5 Countersinks with parallel shanks

5.1 Dimensions. The dimensions of countersinks with parallel shanks shall be as shown in Table 6 (see Figure 4).

6 Countersinks with Morse taper shanks

6.1 Dimensions. The dimensions of countersinks with Morse taper shanks shall be as shown in Table 7 (see Figure 5).

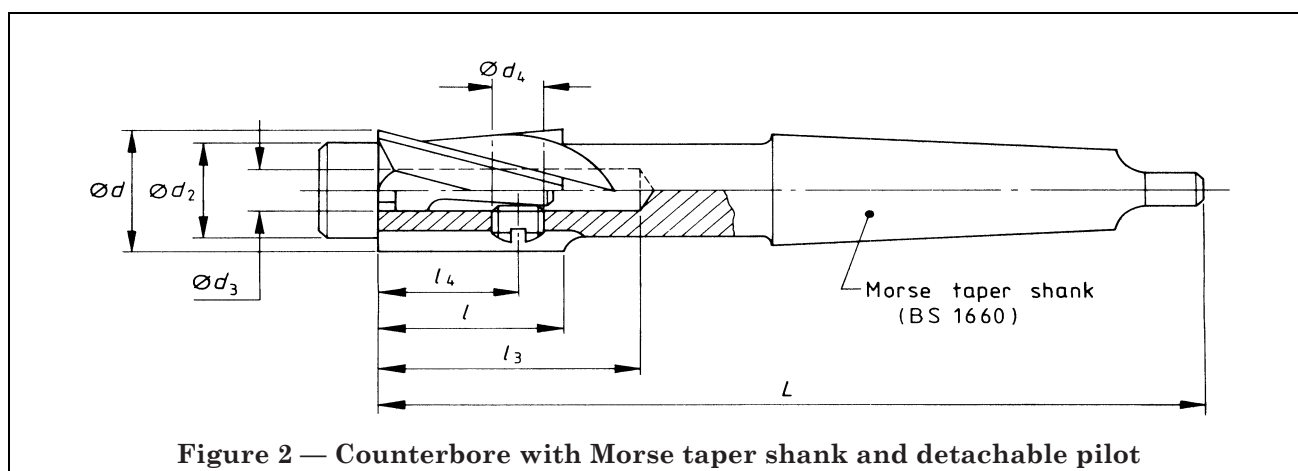


Figure 2 — Counterbore with Morse taper shank and detachable pilot