

Specification for

Twist drills and combined drills and countersinks —

**Part 2: Combined drills and
countersinks (centre drills)**

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British Electrical and Allied Manufacturers' Association*	Institution of Mechanical Engineers
British Gear Manufacturers' Association	Institution of Mechanical Engineers (Automobile Division)
British Internal Combustion Engine Manufacturers' Association	Institution of Plant Engineers
British Mechanical Engineering Confederation	Institution of Production Engineers*
British Pump Manufacturers' Association	Locomotive and Allied Manufacturers' Association of Great Britain
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Electricity Council, the Central Electricity Generating Board and the Area Boards in England and Wales	Process Plant Association
	Royal Institute of British Architects
	Telecommunications Engineering Manufacturing Association
	Water Tube Boilermakers Association

The scientific and industrial organizations marked with an asterisk in the above list, together with the following, were directly represented on the committee entrusted with the preparation of this British Standard:

Society of Motor Manufacturers and Traders Ltd.	Twist Drill Association
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This British Standard, having been approved by the Mechanical Engineering Industry Standards Committee, was published under the authority of the Executive Board on 28 July 1972

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The following BSI references relate to the work on this standard:
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Foreword

In order to keep abreast of progress in the industries concerned, British Standards are subject to periodical review. Suggestions for improvements will be recorded and in due course brought to the notice of the committees charged with the revision of the standards to which they refer.

A complete list of British Standards, numbering over 9,000, fully indexed and with a note of the contents of each, will be found in the BSI Catalogue which may be purchased from BSI Sales Department. The Catalogue may be consulted in many public libraries and similar institutions.

The subject of combined drills and countersinks was first dealt with in BS 985, which was published in 1941 as a war emergency British Standard at the request of the Ministry of Supply. The contents of BS 985 were incorporated in a revision of BS 328 in 1950, becoming Part 2 of that standard when BS 985 was withdrawn.

This latest revision of this Part of this British Standard, prepared under the authority of the Mechanical Engineering Industry Standards Committee, has been undertaken in order that this Part may be in agreement with Draft International Standards DIS 2540¹⁾ and DIS 2541²⁾ and ISO Recommendation R 866³⁾, which have been formulated by the International Organization for Standardization.

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.

Compliance with a British Standard does not of itself confer immunity from legal obligations.

Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 8 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⁾ Draft International Standard ISO/DIS 2540, "Centre drills for centre holes with protecting chamfer. Type B".

²⁾ Draft International Standard ISO/DIS 2541, "Centre drills for centre holes with radius form. Type R".

³⁾ ISO Recommendation R 866, "Centre drills for centre holes without protecting chamfer. Type A".

1 Scope

This Part of this British Standard gives designations and dimensions for the following types of centre drills.

- 1) Type A, combined drills and countersinks (centre drills) for centre holes without protecting chamfers.
- 2) Type B, combined drills and countersinks (centre drills) for centre holes with protecting chamfers.
- 3) Type R, combined drills and countersinks (centre drills) for centre holes with radius form.

Appendix A, Appendix B and Appendix C show the recommended dimensions for centre holes.

2 Manufacturing requirements for combined drills and countersinks (centre drills)

Combined drills and countersinks (centre drills) shall comply with the following requirements.

- 1) The drills shall be sharpened ready for use and shall be well finished.
- 2) The flutes shall be so designed that the cutting lips are equal.
- 3) The pilot drill is to be provided with adequate back taper and relief.
- 4) The countersink shall be ground to provide lip clearance. The included angle shall be 60° maximum, each lip being equally inclined to the axis.
- 5) The body of the drill shall be truly cylindrical and the body, the drill and the drill point shall be truly co-axial.
- 6) The flutes may be straight or spiral at the option of the manufacturer.
- 7) The drills shall be right-hand cutting unless otherwise specified.

3 Dimensions of combined drills and countersinks (centre drills)

The three standard types of combined drills and countersinks (centre drills) shall be made in accordance with the dimensions given in Table 1, Table 2 or Table 3, as appropriate.

4 Designation

Combined drills and countersinks (centre drills) shall be designated by the Type, the pilot diameter d and the body diameter d_1 .

Examples of designations: A 0.63/3.15

B 1.6/6.3

R 1.6/4