

Specification for

Rotary drill rods and tungsten carbide tipped rotary drill bits

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Co-operating organizations

The Mining and Quarrying Requisites Industry Standards Committee, under whose supervision this British Standard was prepared, consists of representatives from the following Government department and scientific and industrial organizations:

- Association of Mining Electrical and Mechanical Engineers
- British Electrical and Allied Manufacturers' Association
- British Steel Industry*
- Council of Underground Machinery Manufacturers*
- Department of Trade and Industry
- Engineering Equipment Users' Association
- Institute of Quarrying
- Institution of Mechanical Engineers
- Institution of Mining Engineers
- Mechanical Handling Engineers' Association
- National Coal Board*

The 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:

- British Compressed Air Society
- British Quarrying and Slag Federation
- Ministry of Defence — Army Department
- National Union of Mineworkers

This British Standard, having been approved by the Mining and Quarrying Requisites Industry Standards Committee, was published under the authority of the Executive Board on 31 December 1974

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Foreword

This British Standard, prepared under the authority of the Mining and Quarrying Requisites Industry Standards Committee, was designed primarily to satisfy the relevant needs of the coal industry, and it incorporates essential basic requirements for the degree of quality and interchangeability demanded by the user.

Originally published in 1955 and revised in 1964, the standard continues to cover the fundamental aspects of the original standard and, in addition, takes cognizance of current trends of developing experience, both in manufacture and performance. The relevant properties of materials are now specified for rods, bits and tips; also included are pilot and reamer bits, together with two other types of bit.

The shanks of the specified drill rods are designed to fit the chuck shown in BS 1090 *“Flameproof hand-held electric drilling machines primarily for use in mines”*.

In this revision the metric dimensions on which the relevant ISO work was based have in general been adopted; however, in order to provide ready cross-reference at this juncture, the equivalent imperial dimensions have been included and it should be noted that these lie within the limits of the metric dimensions.

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 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.

Section 1. General

1 Scope

This British Standard specifies requirements for rotary drill rods and tungsten carbide tipped rotary drill bits. These tools are principally for drilling in coal and other minerals, but are applicable to other materials having appropriate drilling characteristics.

2 References

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

Section 2. Rotary drill rods

3 Form, dimensions and tolerances

The form, dimensions and tolerances of the rods shall be in accordance with Table 1 or Table 2, except that for rods of 54 mm diameter or larger, the winged portion adjacent to the shank shall be reduced in diameter to 48 mm maximum for a minimum distance of 13 mm to facilitate the maximum possible engagement of the chuck (see Table 2).

Although the drill rods illustrated are shown as the hollow type, solid rods which do not have the centre hole shall be deemed to comply with this standard, provided that all other relevant requirements stated herein are met.

The rods shall be supplied in a straight condition so that, when laid upon a flat surface and rotated, no point on the line of contact is more than 6 mm above the surface for lengths up to 2 m and pro rata for lengths over 2 m. The eccentricity between shank and rod shall not exceed 0.8 mm.

4 Material

Rods shall be supplied from steel having a hardness within the range 220–330HB (when tested in accordance with BS 240-1) and which has the following chemical composition:

Element	Per cent	
	Min.	Max.
Carbon	0.65	0.75
Silicon	0.10	0.25
Manganese	—	0.40
Sulphur	—	0.05
Phosphorus	—	0.05

The manufacturer shall provide a specification of the material if so requested by the purchaser.

5 Rod diameters and lengths

The preferred dimensions for the diameters, sections and lengths of rods shall be as follows:

All dimensions are in millimetres

Nominal rod diameter	Rod lengths	
	Diamond section	Turbine section
32	610, 915, 1 370, 1 524, 1 830	—
40	610, 915, 1 220, 1 370, 1 830, 2 435	610, 915, 1 220, 1 524, 1 830, 2 435
48	3 050	610, 915, 1 370, 1 524, 1 830
54	—	610, 915, 1 370, 1 524, 1 830
60	—	610, 915, 1 370, 1 524, 1 830
67	—	610, 915, 1 370, 1 524, 1 830, 2 130, 2 435

The foregoing are the standard preferred sizes, but where agreed between the purchaser and the supplier, rods of other lengths, provided they satisfy all other relevant requirements specified in this standard, shall be deemed to comply with this standard.