

OBSOLESCENT
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Specification for

Unified black hexagon Bolts, screws, nuts — (UNC & UNF threads) — Heavy series

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Co-operating organizations

The Mechanical Engineering Industry Standards Committee, under whose supervision this British Standard was prepared, consists of representatives from the following Government departments and scientific and industrial organizations:—

Admiralty*	Institute of Marine Engineers
Air Ministry	Institute of Petroleum
Associated Offices Technical Committee	Institution of Civil Engineers
Association of Consulting Engineers'	Institution of Gas Engineers
Incorporated	Institution of Heating and Ventilating Engineers
British Chemical Plant Manufacturers' Association	Institution of Mechanical Engineers
British Compressed Air Society	Institution of Mechanical Engineers (Automobile Division)
British Electrical and Allied Manufacturers' Association*	Institution of Production Engineers*
British Engineers' Association*	Locomotive Manufacturers' Association*
British Internal Combustion Engine Manufacturers' Association*	Machine Tool Trades' Association*
British Iron and Steel Federation*	Ministry of Fuel and Power
British Railways, The Railway Executive*	Ministry of Labour and National Service
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Department of Scientific and Industrial Research	Ministry of Transport
Engineering Equipment Users' Association*	Ministry of Works*
	Office of the High Commissioner for India*
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The Government departments and 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 standard:—

Agricultural Engineers' Association	Institution of Naval Architects
Black Bolt and Nut Association of Great Britain	Metal Thread Screw Manufacturers' Association (Rolled Screw Section)
Boilermakers' and Iron and Steel Shipbuilders' Society	Metal Thread Screw Manufacturers' Association (Turned Screw Section)
Bright Bolt and Nut Manufacturers' Association	National Coal Board
Bright Steel Bar Association	National Physical Laboratory
British Constructional Steelwork Association	North East Coast Institution of Engineers and Shipbuilders
British Cycle and Motor Cycle Manufacturers' and Traders' Union Ltd.	Oil Companies Materials Committee
British Steel Wire Industries Association	Railway Carriage and Wagon Building Association
Cold Headed Heat-treated Bolt Association	Society of British Aircraft Constructors Ltd.
Council of British Manufacturers of Petroleum Equipment	Society of Motor Manufacturers and Traders Ltd.
General Post Office	Washer Manufacturers' Association
Institution of Engineers and Shipbuilders in Scotland	

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This British Standard, having been approved by the Mechanical Engineering Industry Standards Committee and endorsed by the Chairman of the Engineering Divisional Council, was published under the authority of the General Council on 24 September 1951

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Foreword

This standard makes reference to the following British Standards:—

BS 919, *Screw thread gauge tolerances*.

BS 969, *Tolerances for plain limit gauges*.

BS 1580, *Unified Screw threads*.

This British Standard has been prepared under the authority of the Mechanical Engineering Industry Standards Committee in response to a request from the Inter-Services Engineering Standards Co-ordinating Committee.

The British Standard for Unified screw threads, BS 1580, having been completed and published in July, 1949, the Inter-Services Engineering Standards Co-ordinating Committee put forward a request for steps to be taken to secure similar agreement on the widths across flats and general dimensions of bolts, screws and nuts having Unified threads.

This request was considered by joint meetings of all Technical Committees of the British Standards Institution dealing with bolts and nuts, and proposals were submitted to Canada and the United States of America to serve as bases for discussion.

In due course, an invitation to attend a joint conference was received from the United States, and a United Kingdom delegation comprising representatives from the Services and from industry was appointed and attended a conference at which representatives from American and Canadian services, industries and standards bodies were present in New York in June, 1950.

It was agreed at the conference that there should be two series, a normal and a heavy series, based essentially on a selection from existing American standards. It was recognized that interchangeability depended on agreement on the widths across flats of the hexagons and provided this could be secured, it was considered permissible for each country to follow its own practice in regard to such points of detail as were not essential to interchangeability.

The report of the United Kingdom delegation was considered at a joint meeting of all the bolt and nut committees in September, 1950, and its recommendations were accepted, following which, draft standards were prepared and circulated widely throughout Government departments and industrial organizations; at the same time, the bolt and nut committees of the American standards bodies were preparing a revision of the American Standard which represented a considerable simplification of previous practice.

Finally, at a conference held at the British Standards Institution, London, in April, 1951, attended by delegates from the United Kingdom, the United States and Canada, agreement was reached on the basic dimensions, for the normal and heavy series and overall limits were established with the provision that individual countries might, if they so desired, apply smaller tolerances within those limits.

The Heavy Series bolts, screws and nuts to which this standard relates have hexagon sizes which are larger in proportion to the nominal diameter of thread than those in the Normal Series. The tolerances are comparatively wide, as is usual in the case of black bolts and nuts, but it is recognized that bolts and nuts of these dimensions may be required with a higher grade of finish for certain applications, and requirements are accordingly included in respect of bolts faced under the head and machined on the shank and machined nuts.

Normal Series bolts, screws and nuts from $\frac{1}{4}$ in. to 1 in. inclusive are dealt with in a companion standard BS 1768, "*Unified Precision bolts, screws and nuts — Normal Series*" and are made to closer tolerances in a variety of steels selected to provide a choice of closely controlled mechanical properties in the finished bolts and nuts.

NOTE The requirements for washers in this standard have been superseded by the publication of BS 3410, "*Metal washers for general engineering purposes*", to which reference should now be made.

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 to iv, pages 1 to 10 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.

