

Specification for Wing nuts

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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:

Associated Offices' Technical Committee	Institution of Civil Engineers
Association of Consulting Engineers	Institution of Gas Engineers
Association of Mining Electrical and Mechanical Engineers	Institution of Heating and Ventilating Engineers
Board of Trade	Institution of Mechanical Engineers
British Chemical Plant Manufacturers' Association	Institution of Mechanical Engineers (Automobile Division)
British Compressed Air Society	Institution of Production Engineers*
British Electrical and Allied Manufacturers' Association*	Locomotive and Allied Manufacturers' Association of Great Britain*
British Gear Manufacturers' Association	London Transport Board
British Internal Combustion Engine Manufacturers' Association	Machine Tool Trades Association
British Mechanical Engineering Federation	Ministry of Defence
British Pump Manufacturers' Association	Ministry of Defence, Army Department
British Steel Industry*	Ministry of Power
Crown Agents for Oversea Governments and Administrations	Ministry of Public Building and Works
Department of Employment and Productivity	Ministry of Technology
Electricity Council, the Central Electricity Generating Board and the Area Boards in England and Wales*	Ministry of Technology — National Engineering Laboratory*
Engineering Equipment Users' Association*	Ministry of Transport
Gas Council	National Coal Board*
Institute of Marine Engineers	National Physical Laboratory (Ministry of Technology)
	Radio Industry Council
	Royal Institute of British Architects

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 British Standard:

Association of Hydraulic Equipment Manufacturers	Post Office
British Bolt, Nut, Screw and Rivet Federation	Precision Bolt and Nut Institute
British Railways Board	Rolled Thread Screw Association
British Constructional Steelwork Association	Scientific Instrument Manufacturers' Association
British Cycle and Motor Cycle Industries Association Ltd.	Society of Motor Manufacturers and Traders Ltd.
Council of British Manufacturers of Petroleum Equipment	Telecommunication Engineering and Manufacturing Association
Electronic Engineering Association	Washer Manufacturers' Association of Great Britain
Fasteners and Turned Parts Institute	Individual manufacturers
Institute of Iron and Steel Wire Manufacturers	
Ministry of Defence, Navy Department	

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Foreword

This standard makes reference to the following British Standards:

BS 21, *Pipe threads*.

BS 84, *Parallel screw threads of Whitworth form*.

BS 93, *British Association (B.A.) screw threads with tolerances for sizes 0 B.A. to 16 B.A.*

BS 1580, *Unified screw threads*.

BS 3382, *Electroplated coatings on threaded components*.

BS 3643, *ISO metric screw threads*.

This revised British Standard has been prepared, under the authority of the Mechanical Engineering Industry Standards Committee, to supersede BS 856:1939, as a result of the decision taken to adopt the ISO metric screw thread system in the United Kingdom (see Appendix A).

Prior to preparing this revision initial consideration was given to preparing a completely new and separate specification based on purely metric concepts and modules of measurement, to cover ISO metric and ISO inch (Unified) threaded wing nuts, as BS 856:1939 referred only to BSW, BSF and BA threaded products. Accordingly a review was made of current European specifications covering metric series wing nuts, but, since little conformity was detected, it was decided to maintain (pending any future ISO agreements) the basic geometry of wing nuts established by BS 856:1939 which was of course based on inch modules of measurement.

This revision thus makes provision for accommodating ISO metric and ISO inch (Unified) screw threads within the currently established wing nut blanks, which, while maintaining interchangeability, avoid unnecessary retooling and expense within British industry. References to the obsolescent BSW, BSF and BA threads have been retained until such time as they become obsolete and can be withdrawn.

Wing nuts are basically manufactured by three processes, for which the following type designations have been allocated in this standard:

“Type HS” for hot stamped products.

“Type DC” for cast products.

“Type CF” for cold forged products.

However, only two forms of wing nut blank geometry are incorporated in this specification, Types HS and DC being manufactured to the dimensions of Table 1 and Type CF to the dimensions of Table 2.

NOTE 1 Table 1 and Table 2 have been subdivided and the metric and inch units are set out alongside each other. It is emphasized that in both tables the metric units are arithmetical conversions of the basic inch units.

NOTE 2 See Appendix B for related British Standards.

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, 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 Scope

1.1 This British Standard specifies requirements for wing nuts having ISO metric, ISO inch (Unified), BSW¹⁾, BSF¹⁾ and BA¹⁾ screw threads.

1.2 Nominal dimensions for two forms of wing nut blank geometry are specified in the following size ranges:

Wing nut			Diameter range			
Blank geometry shown in	Type designation	Product description	ISO metric	UNC UNF	BSW ^a BSF ^a	BA ^a
Table 1	HS	Hot stamped	M3 to M18			
	DC	Cast				
Table 2	CF	Cold forged	M3 to M20	No. 3 to ¾ in	⅛ in to ¾ in	5 BA to 0 BA

^a BSW, BSF and BA screw threads have been rendered obsolescent. See Appendix A.

2 Material

2.1 The wing nuts whose dimensions conform to those given in Table 1 shall be manufactured from hot brass or other non-ferrous stampings or die castings, malleable iron castings, or hot steel stampings, as may be specified by the purchaser.

2.2 The wing nuts whose dimensions conform to those given in Table 2 shall be manufactured by cold forging steel or brass, as may be specified by the purchaser.

NOTE See Clause 7 for information concerning designation for enquiry or ordering purposes.

3 Finish

3.1 Wing nuts shall be cleanly finished, sound and free from fins and sharp edges.

3.2 The bearing face of hot stamped or cast wing nuts shall be machined if so required by the purchaser.

3.3 If the purchaser requires the wing nuts to be coated he shall state the coating required in his enquiry and order. It is recommended that the coating should comply with the appropriate part of BS 3382²⁾.

4 Nominal dimensions

The nominal dimensions for wing nuts shall be as given in Table 1 or Table 2 and Clauses 5 and 6.

5 Screw threads

5.1 General. The form of thread, diameters and associated pitches and tolerances shall be in accordance with 5.2 to 5.5.

5.2 ISO metric. The screw threads shall be the coarse pitch series to tolerance class 6H (medium fit) as specified in BS 3643-2³⁾.

5.3 ISO inch (Unified). The screw threads shall be UNC or UNF to Class 2B as specified in BS 1580⁴⁾.

5.4 Whitworth form. The screw threads shall be BSW or BSF to the Normal class as specified in BS 84⁵⁾.

5.5 BA. The screw threads shall be as specified in BS 93⁶⁾.

¹⁾ BSW, BSF and BA screw threads have been rendered obsolescent. See Appendix A.

²⁾ BS 3382, "Electroplated coatings on threaded components" — Part 1: "Cadmium on steel components" — Part 2: "Zinc on steel components" — Part 3: "Nickel or nickel plus chromium on steel components" — Part 4: "Nickel or nickel plus chromium on copper and copper alloy (including brass) components" — Part 5: "Tin on copper and copper alloy (including brass) components" — Part 6: "Silver on copper and copper alloy (including brass) components" — Part 7: "Thicker platings for threaded components".

³⁾ BS 3643, "ISO metric screw threads" — Part 2: "Specification for selected limits of size".

⁴⁾ BS 1580, "Unified screw threads" — Parts 1 and 2: "Diameters ¼ in and larger" — Part 3: "Diameters below ¼ in".

⁵⁾ BS 84, "Parallel screw threads of Whitworth form" (obsolescent).

⁶⁾ BS 93, "British Association (B.A.) screw threads with tolerances for sizes 0 B.A. to 16 B.A." (obsolescent).