AS 3501—1987
Reconfirmed 2017

Australian Standard®

PARALLEL SCREW THREADS OF WHITWORTH FORM (BSW AND BSF) AND ASSOCIATED GAUGES AND GAUGING PRACTICE

This Australian Standard was prepared by Committee ME/28, Screw Threads. It was approved on behalf of the Council of the Standards Association of Australia on 20 August 1987 and published on 5 October 1987.

The following interests are represented on Committee ME/28:

Confederation of Australian Industry
CSIRO, Division of Applied Physics
Department of Defence
Department of Technical and Further Education, N.S.W.
Electricity Supply Association of Australia
Fasteners Institute of Australia
Federal Chamber of Automotive Industries
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Metal Trades Industry Association of Australia
Railways of Australia Committee
Society of Automotive Engineers, Australasia

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STANDARDS AUSTRALIA

RECONFIRMATION

OF
AS 3501—1987
Parallel screw threads of Whitworth form (BSW and BSF) and associated gauges and gauging practice

RECONFIRMATION NOTICE

Technical Committee ME-029 has reviewed the content of this publication and in accordance with Standards Australia procedures for reconfirmation, it has been determined that the publication is still valid and does not require change.

Certain documents referenced in the publication may have been amended since the original date of publication. Users are advised to ensure that they are using the latest versions of such documents as appropriate, unless advised otherwise in this Reconfirmation Notice.

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NOTES

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PARALLEL SCREW THREADS OF WHITWORTH FORM (BSW AND BSF) AND ASSOCIATED GAUGES AND GAUGING PRACTICE

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PREFACE

This Standard was prepared by the Association's Committee on Screw Threads, to supersede AS B47—1958, Parallel Screw Threads of Whitworth Form. The Standard also covers associated gauges and gauging practices previously given in AS B121, Screw Gauge Limits and Tolerances, Part 2—1953, Gauges for Screw Threads Other Than Those of Unified Form, which was withdrawn in 1978.

It has become apparent over recent years that screw threads of Whitworth form (BSW and BSF), which theoretically are obsolescent, in fact have a continuing use in industry for replacement purposes, and are still being featured in new equipment particularly in the general engineering and heavy engineering industries.

In recognition of this, the committee agreed that a replacement for AS B47 was warranted. At the same time the opportunity has been taken to improve the presentation of the technical information, to introduce contemporary terms and definitions in line with the metric screw thread standards, and to include the gauges and gauging practices for BSW and BSF threads previously given in AS B121, Part 2.

The technical requirements for the screw threads and those for associated gauges and gauging practices are unchanged from those specified in AS B47 and AS B121, Part 2.

There are no related IS0 Standards for parallel screw threads of Whitworth form (other than for pipe threads) or related gauges and gauging practices, but this Standard is technically identical with BS 84, Parallel Screw Threads of Whitworth Form, and BS 919, Screw Gauge Limits and Tolerances, Part 2—Gauges for Screw Threads Other Than Those of Unified Form.

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PARALLEL SCREW THREADS OF WHITWORTH FORM (BSW AND BSF) AND ASSOCIATED GAUGES AND GAUGING PRACTICE

SECTION 1. SCOPE AND GENERAL

1.1 SCOPE. This Standard specifies requirements (in inch units) for parallel screw threads, having the Whitworth thread form, together with associated gauges and gauging practices, in the diameter size range $^1/_8$ inch to 6 inches inclusive.

The Standard gives information on designation, thread classes, deviations, tolerances, and gauging.

Appendices give the basis of the tabulated values, pitch diameter equivalents of pitch and flank angle errors, details of some less frequently used threads, and notes on screw thread verification.

1.2 APPLICATION. The Standard gives information on the design, manufacture, use, and metrology of the British Standard Whitworth screw thread system.

The Standard is intended for adoption by industry and government authorities concerned with the manufacture, measurement, and use of British Standard Whitworth screw threads.

NOTE: These screw threads are obsolescent and should not be used in new designs.

1.3 THE BRITISH STANDARD WHITWORTH SCREW THREAD SYSTEM. The British Standard Whitworth screw thread system comprises the following series:

(a) The British Standard Whitworth coarse thread series (BSW), which gives graded diameter/pitch combinations in diameters from $^1/_8$ in to 6 in inclusive.

(b) The British Standard Fine thread series (BSF), which gives graded diameter/pitch combinations in diameters from $^3/_{16}$ in to $4^1/_4$ in inclusive.

NOTE: The tabulated values of limits for BSF threads are given for diameters up to and including 3 in only, because these threads are rarely used in larger diameters.

(c) A supplementary selected constant pitch thread series (Whit. S) in vulgar fractional and decimal fractional sizes, in diameters from $^1/_4$ in to 20 in inclusive.

NOTE: For Whitworth threads with truncated form, see Appendix A.

1.4 REFERENCED DOCUMENTS. The following Standards are referred to in this Standard:

AS 1014	Gauging of Metric Screw Threads.
AS B129	Designs for Geometric Limit Gauges (Plain and Screwed in Inch Units).

1.5 DESIGNATION.

1.5.1 General. Screw threads designed or manufactured to this Standard shall be designated in accordance with the system illustrated by the following examples:

Designation for an external thread . . .
. . . 1-8 BSW (free) external

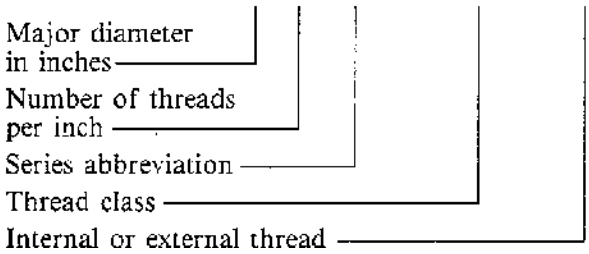
Designation for an external thread . . .
. . . 1-10 BSF (medium) external

Designation for an external thread . . .
. . . $1^1/_2$-6 BSW (close) external

Designation for an internal thread . . .
. . . 1-8 BSW (medium) internal

Designation for an internal thread . . .
. . . 1-10 BSF (normal) internal

Designation for an internal thread . . .
. . . 1.5-12 Whit. S (normal) internal



If the screw thread is left hand, the symbol 'LH' shall be added to the designation, e.g. 1-8 BSW (free) external LH.

1.5.2 Threads with special requirements.

1.5.2.1 *Coated threads.* For coated threads, the word 'COATED' should be added to the designation required by Clause 1.5.1.

1.5.2.2 *Threads of truncated form.* For truncated threads, the abbreviation 'trunc' shall be added to the designation required by Clause 1.5.1, e.g. 1-8 BSW (free) external, trunc.

1.5.2.3 *Multistart threads.* Multistart threads shall be designated in accordance with the following example:

2 in-2 start, 0.2 in lead, 0.1 in pitch, Whit.