

Australian Standard[®]

PRECISION VEE-BLOCKS

The following scientific, industrial and governmental organizations and departments were officially represented on the committee entrusted with the preparation of this standard:

American Society of Tool and Manufacturing Engineers
Associated Chambers of Manufactures
Australian and New Zealand Railways Conferences
Department of Supply
Department of the Army
Division of Applied Physics, CSIRO
Electricity Supply Association of Australia
Federal Chamber of Automotive Industries
Metal Trades Employers Association
Petroleum Refinery Engineers Advisory Committee
The Institution of Engineers, Australia
The Institution of Production Engineers
The Tractor, Farm Machinery and Construction Equipment Association
of Australia
University of New South Wales
Weapons Research Establishment

This standard, prepared by Committee ME/27, Metrology, was approved by the Mechanical Engineering Industry Standards Committee on behalf of the Council of the Standards Association of Australia on 8 March 1968.

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Australian Standard®

PRECISION VEE-BLOCKS

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PREFACE

This Australian standard, prepared by the SAA Committee on Metrology, is one of a series for metrological equipment used in engineering industries for precision measurement.

The standard has been developed on the basis of BS 3731:1964 but differs from that standard in a number of respects, the main differences being as follows:

- (i) The word “precision” is added to the title to emphasize the fact that this standard is not concerned with a variety of vee-blocks used as a clamping medium in various production operations not requiring high precision.
- (ii) A vee-block of 1-in nominal size is added to the range of recommended dimensional variety, which is in agreement with Australian practice and with the availability of vee-blocks from major manufacturers (catalogue ranges).
- (iii) A higher grade of accuracy (Grade AA) is included in the Australian standard in recognition of progress both in the manufacture of vee-blocks and in the degree of accuracy required in modern engineering.
- (iv) Requirements for surface finish are added.
- (v) The material clauses are altered considerably, especially with regard to cast iron vee-blocks.

This standard, as is the case with BS 3731, does not specify details of design, leaving it to individual manufacturers and users, and in recognition of variations required depending on application.

STANDARDS ASSOCIATION OF AUSTRALIA

**Australian Standard Specification
for
PRECISION VEE-BLOCKS**

1 SCOPE. This specification is concerned with vee-blocks having 90° included angle, used in engineering for operations requiring high precision.

NOTE: The specification may also be used for vee-blocks other than 90°, with regard to all provisions except nominal values of vee angle and related dimensions, which are to be specified separately.

The standard range of vee-blocks comprises three grades of accuracy and six size varieties, capable of accommodating the range of cylinders from $\frac{1}{8}$ to $5\frac{1}{2}$ in (diameter).

The specification defines only basic parameters and requirements, leaving the details of the design for determination by individual designers depending on intended usage and/or other factors.

2 TERMS AND DEFINITIONS.

2.1 Vee-block Elements. The terms and their meanings are defined diagrammatically in Fig. 1.

2.2 Working Faces—the vee flanks, the base and the end, top and side faces.

2.3 Flatness Tolerance—the maximum permissible distance separating two parallel planes within which the surface under consideration can just be enclosed.

2.4 Squareness Tolerance between Two Surfaces—the maximum permissible distance separating two imaginary parallel planes within which the surface under consideration can just be enclosed and which are perpendicular to the other surface, taken as the datum.

NOTE: That one of the mutually perpendicular surfaces which constitutes the longer leg, is to be chosen as the datum.

2.5 Parallelism Tolerance between Two Surfaces—the maximum permissible distance separating two imaginary planes within which the surface under consideration can just be enclosed and which are parallel to the other surface, taken as the datum.

2.6 Tolerance on Centrality of Vee—permissible displacement of vee axis from a vertical plane midway between the side faces.

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