

Australian Standard™

Surface plates for metrology

Part 2: Granite

[ISO title: Surface plates, Part 2: Granite]

This Australian Standard was prepared by Committee ME/27, Engineering Tolerance Systems, Metrology, Surface Quality. It was approved on behalf of the Council of Standards Australia on 17 April 1998 and published on 5 June 1998.

The following interests are represented on Committee ME/27:

CSIRO, Division of Telecommunications and Industrial Physics
Engineering Employers Association S.A.
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Metal Trades Industry Association of Australia
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PREFACE

This Standard was prepared by the Standards Australia Committee ME/27, Engineering Tolerance Systems, Metrology, Surface Quality, to supersede, in part, AS 1004—1971, *Surface plates*.

The objective of this Standard is to provide manufacturers and users with the requirements for cast iron surface plates for general use.

Surface plates provide the user with a plane or data for many practical purposes. They are made of cast iron or granite and for convenience of presentation there are two parts in this series of Standards for surface plates, each complete in itself, dealing with cast iron and granite surface plates respectively.

The choice between cast iron and granite surface plates depends on the conditions of use. Some general information about care and use, testing, and moderation in loading of plates is given in Annexes A and B.

In addition to the guidance given in Annexes A, B and C the following recommendations are given:

- (a) A surface plate should be located so that it can be worked on from all sides.
- (b) Preferably, the sensitivity of the measuring instrument used for checking the flatness of 0 grade plate should be equal to or less than 0.2 second of arc ($1\ \mu\text{m/m}$).
- (c) In some circumstances it may not be possible to check the flatness of a surface to within the border zone specified.
- (d) Users should be aware that granite may pick up soft materials such as aluminium, brass and mild steel.

Because of the variable physical properties of granite, the thickness of granite surface plates is not specified and manufacturers have to ensure that plates comply with the rigidity requirements specified. For guidance, the average thickness of surface plates manufactured from high quality granite with uniform properties and medium to coarse grain size is given in Annex F.

This Standard is technically equivalent to and reproduced from ISO 8512-2:1990, *Surface plates*, Part 2: *Granite*.

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