

Australian Standard™

**Laboratory glassware—Interchangeable  
spherical ground glass joints**

**STANDARDS**  
Australia



This Australian Standard was prepared by Committee CH-001, Laboratory Glassware and Related Apparatus. It was approved on behalf of the Council of Standards Australia on 14 October 2005.

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## PREFACE

This Standard was prepared by the Standards Australia Committee CH-001, Laboratory Glassware and Related Apparatus to supersede AS 2410—1981, *Interchangeable spherical ground glass joints*. It is based on, but not equivalent to, ISO 641:1975 (confirmed in 2000), *Laboratory glassware—Interchangeable spherical ground joints*.

This Standard is intended to ensure interchangeability between spherical ground glass joints, irrespective of where they are manufactured.

Limiting dimensions for the ground glass zone and the external diameter of adjacent tubing, which will ensure interchangeability, are given in Table 1. The finish of the ground surface is also specified, and this is similar to the finish specified in AS 2409, *Laboratory glassware—Interchangeable conical ground glass joints*.

A conventional designation is adopted, which consists of the code letter ‘S’ in conjunction with the approximate spherical diameter of the joint in millimetres. The bore diameter which may be employed with each size of joint is controlled, for the purpose of this Standard, only the maximum diameter at the narrow end of the ground zone.

The objective of this revision is to reconfirm the Standard with minor changes including the following:

- (a) Referenced documents have been updated.
- (b) The Standard has been brought into line with current editorial practices.

The terms ‘normative’ and ‘informative’ have been used in this Standard to define the application of the appendix to which they apply. A ‘normative’ appendix is an integral part of a Standard, whereas an ‘informative’ appendix is only for information and guidance.

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## STANDARDS AUSTRALIA

## Australian Standard

## Laboratory glassware—Interchangeable spherical ground glass joints

**1 SCOPE**

This Standard specifies the essential geometric requirements for interchangeability in relation to a series of 10 spherical ground glass joints for incorporation in laboratory glassware. The joints range in size from a nominal diameter of 7 mm to a nominal diameter of 102 mm.

NOTE: Spherical ground glass joints are normally assembled with the use of an appropriate clamp. Details of clamps are not included in this Standard.

**2 REFERENCED DOCUMENTS**

The following documents are referred to in this Standard.

AS

1349 Bourdon tube pressure and vacuum gauges

HB 47 Dimensioning and tolerancing to AS 1100.101 and AS 1100.201

BS

2761 Spherical ground joints

ASTM

E677-94 Specification for interchangeable spherical-ground joints

**3 NOMINAL SPHERICAL GROUND JOINT DIAMETER**

The diameter of the ground spherical zone shall conform to the dimensions specified in Table 1, columns 2, 3 and 4.

NOTE: The tolerances ensure that the diameter of the inner component (or ball member) is not greater than the nominal diameter, and that the diameter of the outer component (or cup member) is not less than the nominal diameter.

**4 DIMENSIONS**

The diameter at the wide end of the ground zone shall be not less than the corresponding dimension given in Table 1, column 5, and the diameter at the narrow end of the ground zone shall be not greater than the corresponding dimension given in Table 1, column 6.

NOTE: The relationship of the dimensions is illustrated in Figure 1.

**5 DIAMETER OF TUBING**

The external diameter of tubing adjacent to the joint shall not exceed the dimensions given in Table 1, column 7.

NOTE: It is important to limit the external diameter of the tubing in order to facilitate interchangeability of appropriate clamps.