AS 60120—2010

Australian Standard®

Dimensions of ball and socket couplings of string insulator units

This Australian Standard® was prepared by Committee EL-010, Overhead Lines. It was approved on behalf of the Council of Standards Australia on 19 November 2009.
This Standard was published on 29 January 2010.

The following are represented on Committee EL-010:

- Australian Industry Group
- Electricity Engineers Association (New Zealand)
- Energy Networks Association

This Standard was issued in draft form for comment as DR 0[illegible]048.

Standards Australia wishes to acknowledge the participation of the expert individuals that contributed to the development of this Standard through their representation on the Committee and through the public comment period.

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First published as AS 2947.3—1995.
Revised and redesignated in part as AS 60120—2010.

Published by Standards Australia GPO Box 476, Sydney, NSW 2001, Australia

ISBN 0 7337 9349 5

PREFACE

This Standard was prepared by the Australian members of the Joint Standards Australia/Standards New Zealand Committee EL-010, Overhead Lines, to partly supersede AS 2947.3—1995, *Insulators—Porcelain and glass for overhead power lines—Voltages greater than 1000 V a.c.—Couplings*. After consultation with stakeholders in both countries, Standards Australia and Standards New Zealand decided to develop this Standard as an Australian Standard rather than an Australian/New Zealand Standard.

The objective of this Standard is to specify dimensions for ball and socket couplings used in fittings for use on overhead power lines.

This Standard is identical with, and has been reproduced from, IEC 60120, Ed. 3.0 (1984), *Dimensions of ball and socket couplings of string insulator units*.

As this Standard is reproduced from an International Standard, the following applies:

(a) Its number does not appear on each page of text and its identity is shown only on the cover and title page.

(b) In the source text 'this Standard' should read 'this Australian Standard'.

(c) A full point should be substituted for a comma when referring to a decimal marker.

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STANDARDS AUSTRALIA

Australian Standard

Dimensions of ball and socket couplings of string insulator units

1 Scope

This standard applies to string insulator units of the cap and pin and long rod types and their associated metal fittings.

2 Object

The object of this standard is to define the dimensions of a series of standard ball and socket couplings using the standard locking devices (see ~~IEC 60372, *Locking devices for ball and socket couplings of string insulator units*~~ AS 60372*, Locking devices for ball and socket coupling of string insulator units—Dimensions and tests*) in order to permit the assembly of insulators or metal fittings supplied by different manufacturers.

NOTE – Only the dimensions necessary for assembly are dealt with in this standard. Properties of material and working loads are not specified. The co-ordination of dimensions with strength classes is specified in ~~IEC 60305, *Characteristics of string insulator units of the cap and pin type*~~ AS 60305*, Insulators for overhead lines with a nominal voltage above 1000 V—Ceramic or glass insulator units for a.c. systems—Characteristics of insulator units of the cap and pin type*, and ~~IEC 60433, *Characteristics of string insulator units of the long rod type*~~ AS 60433, *Insulators for overhead lines with a nominal voltage above 1000 V—Ceramic insulators for a.c. systems—Characteristics of insulator units of the long rod type*.

3 Plan of the standard

This standard includes six standard sizes designated by the nominal pin diameters which form the basis of the standard. Each standard size is defined by the dimensions of the pin ball, of the socket and of the hook-on "GO" gauge specified in Clauses 9 to 11. Dimensions of twin-balled pins for coupling of two sockets are stated in Clause 12. Clearance and locking conditions are tabulated in Clauses 13 and 14. Dimensions of the hole for the locking device are stated in Clauses 15 and 16.

All dimensions are expressed in millimetres.

For the pin ball and the socket, dimensions apply to the finished product after any surface treatment.

Extreme positions of the pin ball in the socket are given in Annex A.

Typical examples of gauges for checking the dimensions of pin balls and sockets are given in Annex B.

4 Pin ball

The pin ball shall conform to the dimensions specified in Clause 9. The main dimensions governing the shape of the pin ball are h_1, d_2, r_1 and r_2. Dimension r_3 is given for guidance because its accurate value may be obtained only by the drawing. In addition, the shank diameter d_1, must not exceed the specified values within a length equal to H_3 of the corresponding worn hook-on "GO" gauge (see Clause 11).

