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DR 94112–94113

AS 1666 — 1976
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Australian Standard 1666–1976

WIRE-ROPE SLINGS

WITHDRAWN TAS NOVEMBER 1995 S/S BY AS 1666.1 & 2-1995

AS 1666
Wire-rope slings

AS 1666.1—1995
Product specification
(In Professional Package 47A)
24pp *F*

Specifies requirements for wire-rope slings, including grommets and wire-rope sling assemblies, for general conditions of use. They consist of steel-wire rope and often include end terminations, such as ferrule-secured eyes, poured sockets or swage fittings. Guidance on information that should be supplied with enquiries and orders is given in an Appendix.

(ME/25): Supersedes AS 1666—1976 (in part) which is to be withdrawn: DR 94112: Publication date 1995-11-05.

AS 1666.2—1995
Care and use
(In Professional Package 47A)
19pp *EE*

Sets out recommended practices for the care and use of wire-rope slings under general conditions of use.

(ME/25): Supersedes AS 1666—1976 (in part) which is to be withdrawn: DR 94113: Publication date 1995-11-05.

[Title allocated by Defence Cataloguing A SLING, WIRE ROPE]

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THE FOLLOWING SCIENTIFIC, INDUSTRIAL AND GOVERNMENTAL organizations and departments were officially represented on the committee entrusted with the preparation of this standard:

Associated Chambers of Manufactures of Australia

Australasian Steamship Owners Federation
Australian Chamber of Commerce

Bureau of Steel Manufacturers of Australia

Department of Defence

Department of Industry and Commerce

Department of Transport

Departments of Labour and Industry and Machinery Inspection

Departments of Mines

Electricity Supply Association of Australia

Master Builders Federation of Australia Inc.

Metal Trades Industry Association of Australia

National Materials Handling Bureau

Railways of Australia Committee

This standard prepared by Committee ME/25, Lifting Tackle, was approved on behalf of the Council of the Standards Association of Australia on 20 January 1976, and was published on 1 July 1976.

To keep abreast of progress in industry, Australian standards are regularly reviewed. Suggestions for improvements to published standards, addressed to the head office of the Association, are welcomed.

This standard was issued in draft form for public review as DR 74176.

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AUSTRALIAN STANDARD SPECIFICATION

WIRE-ROPE SLINGS

AS 1666 — 1976

First published (as AS B286) 1970
Revised and issued as AS 1666 1976

PUBLISHED BY THE STANDARDS ASSOCIATION OF AUSTRALIA
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PREFACE

This standard was prepared by the Association's Committee on Lifting Tackle as a metrication and revision of AS B286—1970, which it accordingly supersedes. It is one of a series issued and in course of preparation covering various forms of slings for lifting purposes. Others in this series include:

AS 1353 Synthetic-webbing Flat Slings
AS 1380 Fibre-rope Slings (of Natural or Synthetic Rope)
AS 1438 Wire-coil Flat Springs
AS .... Chain Slings*.

Other components of lifting equipment, e.g. hooks, links, rings, ropes, shackles, short-link chains, thimbles, are covered by separate standards already issued or in course of preparation (see Clause 5.2).

Applications where steel wire ropes are permanently attached to ancillary appliances (e.g. lifting beam or frame) are covered by AS 1418, SAA Crane Code (including Hoists),* and are consequently excluded from the scope of this standard.

The safe working load (lifting capacity) of a sling is expressed in terms of the maximum mass, in kilograms or tonnes, which may be lifted and handled by the sling.

Wire rope has two physical properties of particular relevance to the strength of a sling made from it. The wire rope specified for slings in this standard complies with AS 1656, Steel Wire Ropes (Other Than for Mining Purposes), is made from steel wires of either 1570 MPa or 1770 MPa tensile strength, and is identified as 1570 grade or 1770 grade. The minimum breaking load of each rope (i.e. the minimum tensile force in kilonewtons which has to be applied to the rope to break it) is specified in AS 1656.

The safe working load of a sling is obtained (see Clause 6.2) by dividing the minimum breaking load of the rope by gravitational acceleration ($9 \cdot 8$ m/s^2) and by factor of safety 5 (this gives the safe working load of a straight—i.e. unreeved—vertical single-leg sling), and by multiplying by a loading factor (see Clause 6.2.2) to allow for the effects of sling type, method of reeving and, for sling assemblies, configuration of the sling when attached to a particular load. The values of safe working load are given in Appendix B.

The standard for sling components (e.g. wire rope, hooks, links and rings) requires such components to be tested and consequently the sling itself needs no further testing except for eyes (Clause 2.7).

This standard does not require slings with hand-spliced eyes to be tested, because reference is made to acceptable methods of hand splicing. A type test has been included for slings with mechanically-jointed eyes because the adequacy of the jointing method (e.g. swaged metal ferrule) needs to be ascertained.

* In course of preparation.

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Opinions vary as to the need for proof testing each sling. Proof testing provisions are applicable only where testing is required by a particular Statutory Authority or individual purchaser.

Considering the inherent difficulties of the permanent marking of slings the committee decided that the marking of slings must be mandatory where required by the Statutory Authority or where—

(a) the sling is of galvanized steel wire rope of grade higher than 1570, or of bright (i.e. ungalvanized) steel wire rope of grade higher than 1770, or has a wire-rope core; and

(b) the safe working load of the sling is based on the minimum breaking load of the rope from which the sling is made.

Appendix E provides for specific requirements of the Department of Defence, covering offices of the Air, Army and Navy, and thereby eliminating the need for a separate DEF (AUST) specification.

Appendix F lists information which should be stated with an enquiry or order for wire-rope slings to ensure that the manufacturer quotes on and supplies the correct slings required by the purchaser.

Other appendices provide information useful to manufacturers and users of wire-rope slings.

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