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AS 2979—1998

Australian Standard™

Traffic signal mast arms

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Australian Chamber of Manufactures

Australian Electrical and Electronic Manufacturers Association

AUSTROADS

Brisbane City Council

Department of Transport, South Australia

Department of Urban Services, Australian Capital Territory

Metal Trades Industry Association of Australia

Roads and Traffic Authority of New South Wales

Traffic Control and Road Safety Industry Association

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Traffic signal mast arms

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PREFACE

This Standard was prepared by the Standards Australia Committee LG/6, Road Traffic Signals, to supersede AS 2979—1989. It is one of a number of Standards that set out requirements for the equipment associated with traffic signal installations. As at the date of publication of this Standard, these include the following:

AS
2144 Traffic signal lanterns

2276 Cables for traffic signal installations
2276.1 Part 1: Multicore power cables
2276.3 Part 3: Loop cable for vehicle detectors

2339 Traffic signal posts and attachments

2353 Pedestrian push-button assemblies

2578 Traffic signal controllers
2578.1 Part 1: Physical and electrical compatibility

2703 Vehicle loop detector sensors

2979 Traffic signal mast arms (this Standard)

4113 Traffic signal lamps
4113.1 Part 1: Lamps for 240 V a.c. operation
4113.2 Part 2: Lamps for a.c. operation at extra-low voltage

4191 Portable traffic signal systems

AS/NZS
2276 Cables for traffic signal installations
2276.2 Part 2: Feeder cable for vehicle detectors

4192 Illuminated flashing arrow signs

The objective of this Standard is to specify requirements for the design and construction of tubular steel mast arms used for the support of traffic signal lanterns and associated equipment above the roadway. It is intended for application by road and traffic authorities and their suppliers to facilitate the production, purchase and use of traffic signal mast arms.

This Standard applies to the following categories of traffic signal mast arms:

(a) Those that are used principally for the support of traffic signal lanterns (known as mast arms).

(b) Those that, as well as providing for the support of traffic signal lanterns, are used to support road lighting luminaires (known as joint-use mast arms).

Within each of these basic categories, this Standard designates a number of particular types of traffic signal mast arms, viz. Types 1, 2A, 2B, 3A, 3B and 3C, based on design and constructional considerations. The design and constructional differences that apply to the designated types are intended to provide for—

(i) different installation practices, including the methods used for terminating traffic signal and public lighting cables; and

(ii) different design wind velocities, to cater for conditions in various geographic regions.

Whilst road lighting poles of the slip-base and impact-absorbing type are available, no comparable designs exist for traffic signal mast arms because of the different performance requirements which apply, especially the significant torsional loads they must withstand.

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Among the various changes that have been introduced in this edition, the following are of significance:

(A) Changes to the form of designating mast arms and the introduction of new designated types (see Clause 1.5).

(B) Changes necessitated by a revision of AS 1170.2*. In particular, the specification of design gust wind speed as the basis for structural strength requirements and serviceability wind speed as the basis for deflection requirements (see Clauses 2.2.1, 2.2.3 and 3.2.3).

(C) Revision of the structural design requirements based on the ultimate limit state in accordance with AS 4100† (see Clause 2.2.1).

(D) Alterations to the requirements for overhead lantern mounting assemblies and their attachment to the outreach arm (see Clause 2.3.3.1 and Figure 2.3).

(E) Changes to requirements for lantern mounting lugs and associated fixings (see Figure 2.5).

(F) Alterations to requirements controlling the overall dimensions of mast arms (see Figure 2.1).

(G) For Type 1 mast arms and joint-use mast arms—

(1) the addition of new requirements for the entry of wiring from traffic signal lanterns mounted on the vertical section (see Clause 2.4.2 and Figure 2.10);

(2) revision of baseplate details (see Figure 2.6); and

(3) revision of door opening and cable termination facilities (see Figure 2.9).

The term ‘informative’ has been used in this Standard to define the application of the appendix to which it applies. An ‘informative’ appendix is only for information and guidance.

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* AS 1170 Minimum design loads on structures (known as the SAA Loading Code)

AS 1170.2 Part 2: Wind loads

† AS 4100 Steel structures

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