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**50 mm PIN—TYPE COUPLINGS
AND DRAWBAR EYES FOR
TRAILERS**



STANDARDS ASSOCIATION OF AUSTRALIA
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Australian Road Transport Federation
Australian Road Research Board
Australasian Institute of Metals
Commercial Vehicle Industry Association of Australia
Department of Defence
Department of Transport
Federal Chamber of Automotive Industry
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AUSTRALIAN STANDARD

**50 mm PIN-TYPE COUPLINGS
AND DRAWBAR EYES
FOR TRAILERS**

AS 2211—1984

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PREFACE

This edition of this standard was prepared by the Association's Committee on Semi-trailer and Heavy Trailer Couplings, to supersede AS 2213—1978, 50 mm Pin-type Couplings for Trailers.

The method of selecting couplings for a truck and single trailer is still in accordance with the *D*-value taken from DIN 74051-74054, Pin Type Couplings. With respect to the selection method for couplings for trucks towing more than one trailer or articulated vehicles towing trailer(s), it is now based on original experimental work done by the Australian Road Research Board. The *D*-value method of rating is a dynamic concept so dynamic testing is required. Because the couplings are rated according to their strength, the material for couplings is not specified, although some recommended materials are listed for the drawbar eyes (see Appendix B).

Couplings to DIN 74052, Automatic Bolt Couplings 50, Dimensions and Calculating Data, and to DIN 74053, Trailer Coupling Ring 50, With Socket Dimensions, comply with the functional requirements, and in general with the other requirements in this standard for couplings with the same *D*-value rating. However, it should be noted that the identification system used (Category No) does not align.

This standard is not intended to preclude the use of appropriate alternative size or types of tow couplings which may require adaptation for specific industrial, commercial or defence requirements. Usually such special types are restricted to limited fleet use; they include 40 mm size pin couplings, pintle hooks and ball type.

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STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard

for

50 mm PIN-TYPE COUPLINGS AND DRAWBAR EYES FOR TRAILERS

SECTION 1. SCOPE AND GENERAL

1.1 SCOPE. This standard specifies requirements for 50 mm pin-type couplings suitable for connecting towing vehicles to trailers, and intended for use on highways at normal highway speeds. It covers four categories of coupling, each with different mounting dimensions and load capacities.

The standard specifies dimensional requirements for interchangeability and freedom of movement and dimensional requirements for mounting on the vehicle.

NOTES:

1. Typical coupling applications and wear limits are given in Appendix A.
2. Recommended materials for drawbar eyes are given in Appendix B.

1.2 REFERENCED DOCUMENTS. The following standards are referred to in this standard:

- AS 1444 Wrought Alloy Steels—AISI-SAE Standard, Hardenability (H) and Stainless Series
- AS 1447 Hot-rolled Spring Steels
- AS 1448 Carbon Steels and Carbon-manganese Steels—Forgings (Ruling Section 300 mm Maximum)
- AS 2506 Wrought Alloy Steels—En Series

1.3 DEFINITIONS. For the purpose of this standard, the following definitions apply:

1.3.1 Pin-type coupling—a coupling for connecting a towing vehicle to a trailer by means of a vertical pin through a drawbar eye.

1.3.2 Drawbar eye—the towing attachment on the trailer.

1.3.3 D-value—an expression of the load capacity of a coupling or drawbar eye.

1.4 CATEGORIZATION. For the purposes of correlating mounting dimensions and load capacities, the couplings shall be categorized according to

D-values determined in accordance with Section 4 and as shown in Table 1.1.

TABLE 1.1
CATEGORIZATION OF COUPLINGS

| Category | <i>D</i> -value t |
|----------|----------------------|
| 1 | ≤ 7 |
| 2 | > 7 ≤ 9.5 |
| 3 | > 9.5 ≤ 19 |
| 4 | > 19 |

1.5 FUNCTIONAL REQUIREMENTS. The couplings shall have provision for automatic coupling and locking and for a second independent safety device. Locking shall be verifiable by visual examination.

1.6 COMBINED RATING. Where a coupling and a drawbar eye of different *D*-values are connected in a vehicle combination, the component with the lower *D*-value will determine the overall rating of the towing connection.

1.7 MARKING.

1.7.1 Couplings. Couplings shall be clearly and permanently marked with the following information:

- (a) The name or trademark of the manufacturer.
- (b) Rated vertical load.
- (c) Rated *D*-value.

1.7.2 Drawbar eyes. Drawbar eyes shall be clearly and permanently marked with the following information:

- (a) The name or trademark of the manufacturer.
- (b) Rated *D*-value.