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<sup>Dup</sup>  
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# **Australian Standard 2213—1978**

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## **50 mm PIN-TYPE COUPLINGS FOR TRAILERS**

[Title allocated by Defence Cataloguing Authority:  
COUPLER, DRAWBAR, RING (for towing trailers)...NSC 2540]

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**STANDARDS ASSOCIATION OF AUSTRALIA**

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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:

Australian Road Transport Federation  
Commercial Vehicle Industry Association of Australia  
Department of Defence  
Department of Transport  
Federal Chamber of Automotive Industries  
Highways Department, South Australia  
Institute of Road Transport Engineers  
National Association of Australian State Road Authorities  
Society of Automotive Engineers—Australasia  
Telecom Australia

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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.

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**AUSTRALIAN STANDARD SPECIFICATION**

**50 mm PIN-TYPE  
COUPLINGS FOR  
TRAILERS**

**AS 2213—1978**

First published ..... 1978

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## PREFACE

This standard was prepared by the Association's Committee on Fifth Wheel Attachments in accordance with the recommendations of the National Association of Australian State Road Authorities Study Team Reports on the Economics of Road Vehicle Limits.

The standard incorporates the requirements of ISO 1102, Road Vehicles—Mechanical Connections between Towing Vehicles and Trailers—Interchangeability, in respect of interchangeability of the couplings and freedom of movement. It also provides for standard mounting dimensions, in which respect it correlates with ISO 3584, Road Vehicles—Mounting of Mechanical Coupling Devices on Rear Cross Members of Trucks.

The method of rating (according to the *D* value) has been taken from DIN 74051-74054, Pin Type Couplings. This rating method is being adopted generally by the International Organization for Standardization (ISO).

The *D* value method of rating is a dynamic concept which, for a given combined vehicle mass, provides for the strongest coupling to be used where the masses of the towing vehicle and trailer are equal, and for lesser strength couplings to be used where these masses differ. Dynamic testing is carried out accordingly. Because the couplings are rated according to their strength, the material of the couplings is not specified.

Couplings to the following DIN standards—

DIN 74052 Automatic Bolt couplings 50, Dimensions and Calculating Data

DIN 74053 Trailers Coupling Ring 50, with Socket, Dimensions

comply with functional requirements and in general with other requirements in this standard for couplings with the same *D* value rating. However it should be noted that the identification systems used (Category No) do NOT align.

Pin-type couplings are normally not designed for high vertical loads. These couplings have flexibly mounted shanks and are primarily intended for trailers with articulated drawbars, and not for trailers with fixed drawbars. They may be found suitable for some single axle or close-coupled tandem axle trailers with fixed drawbars, but in most cases the vertical loads will exceed the rating of the coupling. Persons proposing to install a pin-type coupling should accordingly pay particular attention to the likely vertical loads on the coupling *vis-a-vis* its vertical load rating.

This standard is not intended to preclude the use of 40 mm size couplings in installations for which they are suitable. However, in the interests of standardization it is desirable to move towards one size of coupling, and since the 50 mm size is the present ISO standard, this is preferred. Also, the 50 mm coupling provides a greater margin of safety and better wear characteristics, as well as having more potential for a greater designed vertical load.

For trailers of gross vehicle mass not exceeding 2270 kg, attention is drawn to AS D18, Ball Couplings for Automotive Purposes, which uses the 50 mm ISO ball.

## CONTENTS

	<i>Page</i>
<b>SECTION 1. SCOPE AND GENERAL</b>	
1.1 Scope ....	4
1.2 Definitions ....	4
1.3 Categorization ....	4
1.4 Functional Requirements ....	5
1.5 Marking ....	5
<b>SECTION 2. DIMENSIONAL REQUIREMENTS FOR INTERCHANGE- ABILITY AND FREEDOM OF MOVEMENT</b>	
2.1 Dimensions of Drawbar Eye ....	6
2.2 Articulation Requirements ....	6
2.3 Distance between the Vertical Axis of the Coupling Pin on the Vehicle and the Rearmost Projection of the Towing Vehicle ....	6
2.4 Heights of Towing Attachments ....	6
<b>SECTION 3. DIMENSIONAL REQUIREMENTS FOR MOUNTING ON THE VEHICLE</b>	
3.1 Drilling Dimensions and Tolerances ....	9
<b>SECTION 4. METHOD OF DETERMINING COUPLING CAPACITY</b>	
4.1 Method ....	10
<b>SECTION 5. TEST REQUIREMENTS</b>	
5.1 Test Method ....	12
5.2 Test Load ....	12
5.3 Test Criteria ....	12
<b>APPENDIX A. TYPICAL COUPLING APPLICATIONS AND WEAR LIMITS ....</b>	<b>13</b>

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## STANDARDS ASSOCIATION OF AUSTRALIA

**Australian Standard Specification  
for  
50 mm PIN-TYPE COUPLINGS FOR TRAILERS**

## SECTION 1. SCOPE AND GENERAL

**1.1 SCOPE.** This specification applies to 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 specification provides for the following requirements:

Section 2—Dimensional requirements for interchangeability and freedom of movement

Section 3—Dimensional requirements for mounting on the vehicle

Section 4—Method of determining coupling capacity (*D* value)

Section 5—Test requirements

Typical coupling applications, and wear limits, are given in Appendix A.

**1.2 DEFINITIONS.** For the purpose of this specification, the following definitions apply:

*Pin-type coupling*—a coupling for connecting a towing vehicle to a trailer by means of a vertical pin.

*Drawbar*—the towing attachment on the trailer.

*D value*—an expression of the load capacity of a coupling derived from the mass of the towing vehicle and the mass of the trailer.

**1.3 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.

**TABLE 1  
CATEGORIZATION OF COUPLINGS**

Category	<i>D</i> value t
1	< 7
2	7 < 9.5
3	9.5 < 17
4	≥ 17