Australian Standard™

Railway track material

Part 19: Resilient fastening assemblies

Standards Australia

This Australian Standard was prepared by Committee CE-002, Railway Track Materials. It was approved on behalf of the Council of Standards Australia on 29 November 2002 and published on 14 February 2003.

The following are represented on Committee CE-002:

Australasian Railway Association

Australian Chamber of Commerce and Industry

Australian Industry Group

Bureau of Steel Manufacturers of Australia

Rail Track Association Australia

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This Standard was issued in draft form for comment as DR 01300 (in part).

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Part 19: Resilient fastening assemblies

First published as AS 1085.19—2003.

Published by Standards Australia International Ltd
GPO Box 5420, Sydney, NSW 2001, Australia

ISBN 0 7337 4948 8

PREFACE

This Standard was prepared by the Standards Australia Committee CE-002, Railway Track Materials.

The objective of this Standard is to provide manufacturers and purchasers with performance requirements for resilient fastening assemblies for use with steel rails and sleepers and other support structures in railway track.

It has been produced in order to clarify the separation of requirements for fasteners from those for sleepers.

This Standard is Part 19 of the AS 1085 series (*Railway track material*) comprised of the following parts:

Part 1: Steel rails

Part 2: Fishplates

Part 3: Sleeper plates

Part 4: Fishbolts and nuts

Part 7: Spring washers

Part 8: Dogspikes

Part 10: Rail anchors

Part 12: Insulated joint assemblies

Part 13: Spring fastening spikes for sleeper plates

Part 14: Prestressed concrete sleepers

Part 15: Aluminothermic rail welding

Part 17: Steel Sleepers

Part 18: Screw spikes and threaded inserts

Part 19: Resilient fastening systems

New parts also under development are Part 20: *Welding of steel rail* and Part 21*: Points and crossing structures*.

Of interest to users of this series are the following:

AS 3818.2, *Timber—Heavy structural products—Visually graded,* Part 2: *Railway track timbers*

AS 2758.7, *Aggregates and rock for engineering purposes,* Part 7: *Railway ballast*.

The terms 'normative' and 'informative' have been used in this Standard to define the application of the appendix to which they apply. A 'normative' appendix is an integral part of a Standard, whereas an 'informative' appendix is only for information and guidance.

Statements expressed in mandatory terms in notes to tables and figures are deemed to be requirements of this Standard.

Notes to the text contain information and guidance and are not considered to be an integral part of the Standard.

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SECTION 1 SCOPE AND GENERAL

1.1 SCOPE

This Standard specifies requirements for resilient fastening assemblies for use in conjunction with steel rails and sleepers or other support structures for railway track for insulated and non-insulated applications.

NOTES:

1 Purchasing and usage guidelines are given in Appendix A including, information to be supplied by purchasers and suppliers, typical fastening evaluation data sheets, and a method for evaluation in track. Also included is a set of typical test loads for various track situations.

2 Guidance on means of demonstrating compliance with this Standard is given in Appendix B.

1.2 CONTEXT AND PURPOSE OF USE

1.2.1 Function

Resilient fastening assemblies are intended for use to fasten steel rails in place in track. The resilient fastening provides a flexible restraint that holds the rail in position on the sleeper or other support structures by providing a fastening force of known magnitude. The assembly may, if required, also provide load spreading, impact attenuation and electrical isolation.

1.2.2 Action

Resilient fastening assemblies are placed on both sides of the rail and may require the use of a sleeper plate, or have a shoulder built into the fastening or cast into the sleeper. They hold the rail onto the rail seat of the support structure. Resilient fastenings are subject to effects resulting from the following actions:

(a) Passage of rolling stock (including effects of vertical, lateral and longitudinal forces, vibration, acceleration and deceleration).

(b) Compressive and tensile forces due to temperature change of the rail.

(c) Maintenance operations.

(d) Exposure to the elements.

(e) Electrical potential, if present.

These actions may result in fatigue, wear, corrosion and material degradation.

1.3 REFERENCED DOCUMENTS

The following documents are referred to in this Standard:

AS		
1085	Railway track material	
1085.3	Part 3:	Sleeper plates
1085.13	Part 13:	Spring spikes