

AS/NZS 3845:1999

Australian/New Zealand Standard™

Road safety barrier systems

AS/NZS 3845:1999

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Australian Motorcycle Council
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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee CE/33, Road Safety Barrier Systems.

The objective of this Standard is to provide users with—

- (a) issues that have to be addressed when specifying the installation of these devices;
- (b) erection and maintenance practices necessary to achieve an acceptable level of performance;
- (c) the process necessary to assess the nature of repairs to a road safety barrier system, or to a crash attenuator system following a crash; and
- (d) methods to test road safety barrier and crash attenuator systems.

This Standard also provides details of non-patented road safety barrier systems that are deemed to comply with this Standard.

This Standard describes a means of evaluating road safety barrier systems, based on the best practices identified by the Committee. The National Cooperative Highway Research Program (NCHRP) of the United States Report Number 350 has been adopted as the basis of testing. This Standard is to be read in conjunction with NCHRP Report 350. Reference to CEN Standards is made in NCHRP 350. The Committee notes that the provisions are rudimentary and steps are being taken which may lead to a mutual recognition of tests in future NCHRP and CEN documents.

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

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.

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FOREWORD

The intent of this Standard is to provide a framework that unites the many parties involved in the provision of road safety barrier systems and crash attenuators, so that the completed installations provide acceptable performance to the community of road users over the length of time the barrier systems are expected to operate.

The function of these devices is to improve road safety by reducing the consequences of crashes. However, it should be recognized that these devices are themselves a hazard; they have the potential to cause serious injuries. The intention of this Standard is that these devices are only installed at locations where the risk **with** the device installed is *significantly* less than the risk **without** the device.

The duty of care to be exercised is emphasized. The community of road users includes people in a variety of vehicles which vary in size, mass and methods of propulsion. What should be noted is that the users of these vehicles have different levels of protection, especially pedal cyclists and motorcyclists. The community of road users also includes pedestrians and those involved in the various construction, operational and maintenance activities that occur within the road reserve. At some sites, the community of road users should be extended to include those whose activities require them to abut the road reserve.

STANDARDS AUSTRALIA/STANDARDS NEW ZEALAND

Australian/New Zealand Standard
Road safety barrier systems

SECTION 1 SCOPE AND GENERAL

1.1 SCOPE This Standard sets out the requirements for roadside devices that provide some degree of redirection and containment capability when impacted by a vehicle, or provide controlled absorption of the kinetic energy of a vehicle that is on a collision course with some significant obstacle.

This Standard includes the following:

- (a) Methods and data to test road safety barrier and crash cushion systems.
- (b) Issues to be addressed in specifying these devices.
- (c) Erection and maintenance practices necessary to achieve acceptable performance.
- (d) Steps to evaluate the nature of repairs necessary for road safety barrier systems following a crash.

The Standard also provides details of non-patented road safety barriers that are deemed to comply with this Standard.

Where the terms 'vehicle' or 'impacting vehicles' are referred to in this Standard for the consideration of effects on or by a road safety barrier system, these terms include the following:

- (i) Motorized vehicles, such as cars, trucks and motorcycles.
- (ii) Non-motorized vehicles, such as pedal cycles and horse-drawn vehicles.
- (iii) Operators, drivers and riders of vehicles specified in Items (i) and (ii) whether attached or unattached to their vehicle.
- (iv) Any other road users, considered appropriate to the conditions being assessed.

This Standard is to be read in conjunction with NCHRP Report Number 350.

NOTE: For commentary on this Section, see Appendix A.

1.2 APPLICATION This Standard applies to both permanent road safety barrier systems and road safety barrier systems designed to be readily erected and dismantled. It also applies to devices meant for the applications given in Table 1.2.

This Standard does not apply to the following:

- (a) Road safety barrier systems erected for special purposes, such as motor racing, or where special permit vehicles are the design focus.
- (b) Where individual elements of a road safety barrier system are used for special purposes, such as protection of gas tanks and delineation of car parks.
- (c) Pedestrian fences.
- (d) Truck-mounted attenuators (TMAs).
- (e) The comparative performance of road safety barrier systems or the preferred type of road safety barrier system to be installed.



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