



Load restraint for LP Gas cylinder distribution



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- Australasian Fire and Emergency Service Authorities Council
 - Department of Natural Resources and Mines, Qld
 - Department of Mines and Petroleum, WA
 - Department of the Premier and Cabinet, SA
 - Engineers Australia
 - Fire Protection Association Australia
 - Gas Appliance Manufacturers Association of Australia
 - Gas Energy Australia
 - The Australian Gas Association
 - WorkCover New South Wales
 - WorkSafe Tasmania
 - WorkSafe Victoria
-

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Australian Standard[®]

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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee ME-015, Storage and Handling—Liquefied Petroleum Gases. After consultation with stakeholders in both countries, Standards Australia and Standards New Zealand decided to develop this Standard as an Australian Standard rather than an Australian/New Zealand Standard.

The objective of this Standard is to provide industry with specific requirements and guidance for load restraint systems for typical LP Gas cylinder loads that facilitate compliance with the National Transport Commission's Load Restraint Guide.

This Standard does not replace statutory regulations, which take precedence at all times. It should be read in conjunction with the latest edition of AS/NZS 1596, *The storage and handling of LP Gas*, and the National Transport Commission's *Load Restraint Guide* and *Australian Code for the Transport of Dangerous Goods by Road and Rail* (ADG Code).

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

CONTENTS

	<i>Page</i>
SECTION 1 SCOPE AND GENERAL	
1.1 SCOPE.....	4
1.2 REFERENCED DOCUMENTS.....	4
1.3 DEFINITIONS.....	4
1.4 REQUIREMENTS.....	4
1.5 FORCES ACTING ON LP GAS CYLINDER LOADS	5
SECTION 2 GENERAL VEHICLE BODY AND GATE CONFIGURATIONS	
2.1 DESIGNS OF VEHICLES AND GATES.....	9
2.2 GATE DESIGN LOAD CRITERIA.....	9
2.3 FAILURE ANALYSIS AND RESTRAINT SYSTEM REQUIREMENTS	9
2.4 DETAILED GATE DESIGN.....	12
2.5 DETAILED GATE DIMENSIONS	13
SECTION 3 RESTRAINT METHODS FOR DRIVERS	
3.1 STRAPPING LOAD RESTRAINT FOR CYLINDERS	15
3.2 LONG REAR OVERHANG.....	15
3.3 LEISURE CYLINDER CAGES AND STILLAGES	18

STANDARDS AUSTRALIA

Australian Standard
Load restraint for LP Gas cylinder distribution

SECTION 1 SCOPE AND GENERAL

1.1 SCOPE

This Standard specifies requirements and recommendations for the design and construction of load restraint systems for typical LP Gas cylinder loads to prevent loss of the load or movement of the LP Gas cylinders that affects stability of the vehicle. The requirements facilitate conformance with the requirements of the National Transport Commission's *Load Restraint Guide* to the transport of LP Gas cylinders.

1.2 REFERENCED DOCUMENTS

The following documents are referred to in this Australian Standard:

AS/NZS

1596 The storage and handling of LP Gas

National Transport Commission (NTC)

Load Restraint Guide

1.3 DEFINITIONS

For the purpose of this Standard, the definitions given in AS/NZS 1596 and the *Load Restraint Guide 2004* apply.

1.4 REQUIREMENTS**1.4.1 General load restraint performance requirement**

Loads shall be restrained to prevent unacceptable movement during all normal conditions of on road operation. The load restraint system shall, therefore, satisfy the following requirements:

- (a) The load shall not become dislodged from the vehicle.
- (b) Cylinders shall be restrained to remain upright.
- (c) Any load movement shall be limited, such that in all cases where movement occurs, the vehicle's stability and weight distribution are not adversely affected.

Loads that are permitted to move relative to the vehicle include loads that are effectively contained within the sides or enclosure of the vehicle body, such as loads that are restrained from moving horizontally. Limited vertical movement is permissible. Also see Clause 3.1.1.

To achieve this, the load restraint system shall be capable of withstanding the forces (see Figure 1.1) that would result if the laden vehicle were subjected to each of the following separately:

- (i) 0.8g deceleration in a forward direction.
- (ii) 0.5g deceleration in a rearward direction.
- (iii) 0.5g acceleration in a lateral direction.
- (iv) 0.2g acceleration relative to the load in a vertical direction.

NOTE: g is the acceleration due to gravity.