

Australian/New Zealand Standard™

LP Gas fuel vessels for automotive use



AS/NZS 3509:2009

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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committees ME-001, Pressure Equipment and ME-002, Gas Cylinders, to supersede AS/NZS 3509:2003, *LP Gas fuel vessels for automotive use*.

The Standard is for vessels with welded attachments intended to be used as parts of installations complying with AS/NZS 1425, *LP Gas fuel systems for vehicle engines*. Certain features, e.g. attachments, require reference to AS/NZS 1425 and so manufacturers need to be familiar with that Standard.

The design and manufacture of fuel vessels has strong links with both the gas cylinder industry and the pressure vessels industry, and the Standard has adopted successful practices from both these fields.

The main changes from the 2003 edition are the following:

- (a) Revised frequencies for radiographic examination (Clause 2.4.1).
- (b) Revised testing requirements for carbon steel vessels that are not intended to undergo heat treatment (Clause 2.4.3.2).
- (c) Clarification of requirements for elliptical pads.

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

The term 'normative' has been used in this Standard to define the application of the Appendix to which it applies. A 'normative' appendix is an integral part of a Standard.

CONTENTS

	<i>Page</i>
SECTION 1 SCOPE AND GENERAL	
1.1 SCOPE	4
1.2 OBJECTIVE.....	4
1.3 APPLICATION	4
1.4 REFERENCED DOCUMENTS	5
1.5 DEFINITIONS	6
1.6 DESIGNATION	7
1.7 NEW DESIGNS, MATERIALS AND MANUFACTURING METHODS	7
SECTION 2 GENERAL REQUIREMENTS	
2.1 DESIGN AND CONSTRUCTION	8
2.2 MATERIAL	16
2.3 WELDING	16
2.4 INSPECTION AND TESTING	17
2.5 MARKING	22
2.6 RECORD AND TEST CERTIFICATES	23
2.7 DISPATCH.....	23
SECTION 3 WELDED CARBON STEEL LP GAS FUEL VESSELS	
3.1 CYLINDRICAL SECTIONS AND ENDS	24
3.2 ATTACHMENTS.....	24
3.3 HEAT TREATMENT.....	25
3.4 SURFACE COATING AND COLOUR	25
SECTION 4 WELDED STAINLESS STEEL LP GAS FUEL VESSELS	
4.1 CYLINDRICAL SECTION AND ENDS	26
4.2 ATTACHMENTS.....	26
4.3 INTERGRANULAR CORROSION TEST	26
SECTION 5 TYPE TESTS	
5.1 GENERAL	28
5.2 WITNESSING OF TYPE TESTS.....	28
5.3 TESTING SCHEDULE	28
5.4 HYDROSTATIC STRETCH TEST.....	29
5.5 HOOP STRESS TEST	29
5.6 PULSATION TEST.....	29
5.7 NON-CIRCULAR INSERTED PAD TEST.....	30
APPENDICES	
A TESTS AND FITTINGS FOR CONTAINER SUBASSEMBLIES TO BE SUPPLIED TO AN INSTALLER	31
B LOCATION OF TEST SPECIMENS CUT FROM VESSEL	32

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SECTION 1 SCOPE AND GENERAL

1.1 SCOPE

This Standard specifies requirements for welded carbon steel LP Gas fuel vessels of total internal volume not greater than 500 L, and for welded stainless steel LP Gas fuel vessels of total internal volume not greater than 200 L, intended for automotive and marine installations.

Appendix A specifies additional requirements to allow the supply of subassemblies, consisting of the container shell and the components listed in AS/NZS 1425, for use by an installer without pre-installation tests.

NOTES:

- 1 AS/NZS 1425 specifies requirements for the installation of LP Gas fuel vessels for vehicles.
2 Users of this Standard are reminded that it has no legal authority in its own right, but acquires legal standing when adopted by government or an authority having jurisdiction, or if specified as part of a commercial contract.

1.2 OBJECTIVE

This Standard is intended to—

- (a) specify requirements for the design, manufacture, inspection and testing of LP Gas fuel vessels within the limits of Clause 1.1; and
(b) facilitate the supply of LP Gas fuel vessels to meet current customer and regulatory requirements.

1.3 APPLICATION

The LP Gas fuel vessels shall comply with the general requirements of Section 2, and with the specific requirements of Section 3 or Section 4 according to the material of construction as follows:

- (a) Carbon steel Section 3.
(b) Stainless steel..... Section 4.

NOTES:

- 1 Vessels of thickness less than 2.2 mm and vessels of stainless steel material grade 304 are suitable only for installation within a compartment of a vehicle (see also AS/NZS 1425).
2 For New Zealand, which is deemed to be a marine environment, specific material requirements are set out in Clauses 3.4 and 4.1.1.

Type tests shall be performed in accordance with Section 5.

This Standard has been written for vessels for use with LP Gas having an effective vapour pressure of 2.55 MPa at 65°C.