

Australian Standard 2658—1983

1988ed

LIQUEFIED PETROLEUM (LP) GAS—PORTABLE AND MOBILE APPLIANCES

MELBOURNE LIBRARY
28 OCT 1983
STANDARDS ASSOCIATION
OF AUSTRALIA

2658—1983 Liquefied petroleum (LP) gas portable and mobile appliances A4 33pp F
Specifies requirements for mechanical design, gas lines and connections, ergonomic requirements and a full range of safety and performance tests for portable and mobile LP gas appliances used primarily within the leisure industry; i.e. portable mobile barbeques and cookers, portable space heaters, gas lights and portable and mobile refrigerators and fridges.
Amended by CS/52; Supersedes AS 2658—1983; Publication date 1988-06-17; ISBN 0 7262 5100 3.



STANDARDS ASSOCIATION OF AUSTRALIA
Incorporated by Royal Charter

This Australian standard was prepared by Committee CS/52, Portable LP Gas Appliances. It was approved on behalf of the Council of the Standards Association of Australia on 16 August 1983 and published on 7 October 1983.

The following interests are represented on Committee CS/52:

Australian Consumers Association
Australian Gas Association
Australian Liquefied Petroleum Gas Association
Australian Retailers Association
Confederation of Australian Industry
Department of Consumer Affairs, N.S.W.
Department of Home Affairs and Environment
Department of Industrial Relations, N.S.W.
Department of Mines, Qld
Gas Appliance Manufacturers Association of Australia
Metal Trades Industry Association of Australia

Review of Australian Standards. To keep abreast of progress in industry, Australian standards are subject to periodic review and are kept up-to-date by the issue of amendments or new editions as necessary. It is important that standards users ensure that they are in possession of the latest edition, and any amendments hereto.

Full details of SAA publications will be found in the Annual List of Australian Standards; this information is supplemented each month by SAA's journal 'The Australian Standard', which subscribing members receive, and which gives details of new publications, new editions and amendments, and of withdrawn standards.

Questions or improvements to Australian standards, addressed to the head office of the Association, are welcomed. Notification of any inaccuracy or ambiguity found in an Australian standard should be made without delay in order that the matter may be investigated and appropriate action taken.

This standard was issued in draft form for comment as DR 82044.

Incorporated by Royal Charter

AMENDMENT No 1

to

AS 2658-1983

LIQUEFIED PETROLEUM (LP) GAS - PORTABLE AND MOBILE APPLIANCES

REVISED TEXT

The 1983 edition of AS 2658 is amended as follows; the amendments should be inserted in the appropriate place.

SUMMARY: This amendment applies to Clause 2.7 and Paragraph 01.

Published on

Page 2. Preface

Add the following new paragraph at the end of the preface.

This edition is substantially the same as the previous edition, but it introduces a new general requirement for the security of adjusting devices.

Page 7. Clause 2.7.3.

Add the following new Clause:

2.7.4 Adjusting devices. Adjusting devices shall be provided with locking arrangements which shall be sufficiently positive to prevent subsequent movement, either through accident or through the creep of sealing material. The tightening of a locking device shall not alter the setting.

Page 28. Appendix O Paragraph 01.

Delete the word 'rurnbers' and substitute 'burners'.

also, correct mis alignment on Table N1, page 27.

ISBN: 0 7262 5100 3

UDC: 665.725 [621.56 +
628.9.047 + 683.965]

AUSTRALIAN STANDARD

**LIQUEFIED PETROLEUM (LP)
GAS—PORTABLE AND MOBILE
APPLIANCES**

AS 2658—1983

First published1983

**PUBLISHED BY THE STANDARDS ASSOCIATION OF AUSTRALIA
STANDARDS HOUSE, 80 ARTHUR ST, NORTH SYDNEY, N.S.W.**

ISBN 0 7282 3162 2

PREFACE

This standard was prepared by the Association's Committee on Portable LP Gas Appliances in response to a request by the Australian Gas Association.

The standard embodies most of the requirements set out in Australian Gas Industry Code AG 113—1978, Approval Requirements for Leisure Type Appliances, issued by the Australian Gas Association and the Australian Liquefied Petroleum Gas Association, and the assistance received from these organizations is gratefully acknowledged.

There are two main areas where this standard diverges from AG 113: details of the AGA Appliance Approval Scheme are not included since these are covered in the AGA's own documents, and the subjects of surface temperatures and the guarding of space heaters have been dealt with by reference to AS 2285, Guarding of Domestic Heating Appliances for Protection Against Fire and Burn Injury, in order that uniform requirements be applicable to the guarding of all types of heaters. The requirements of AS 2285 are, in this respect, substantially similar (though not identical) to those of AG 113.

Although the original intention of this standard was to cover portable and mobile LP gas appliances which found their markets mainly in the leisure type industries, the committee, in the course of its work on the standard, considered that there may be some appliances which should be covered by this standard but fail to be strictly encompassed by the definition of the term 'leisure'. Accordingly, the term 'leisure' has not been embodied in the scope of the standard. Nevertheless, the scope of the standard is confined to portable and mobile appliances which are intended to operate from a locally associated LP gas cylinder.

© Copyright — STANDARDS ASSOCIATION OF AUSTRALIA 1983

Users of standards are reminded that copyright subsists in all SAA publications. No part of this publication may be reproduced, stored in a retrieval system in any form or transmitted by any means without prior permission in writing of the Standards Association of Australia.

CONTENTS

	<i>Page</i>		<i>Page</i>
SECTION 1. SCOPE AND GENERAL		SECTION 6. ADDITIONAL REQUIREMENTS FOR GAS LIGHTS	
1.1 Scope	4	6.1 Quality	10
1.2 Application	4	SECTION 7. ADDITIONAL REQUIREMENTS FOR REFRIGERATORS AND FREEZERS	
1.3 Referenced Documents	4	7.1 Cabinet Temperature	10
1.4 Definitions	4	APPENDICES	
SECTION 2. GENERAL REQUIREMENTS		A Preparation for Testing	11
2.1 Scope of Section	6	B Stability Test for Free-standing Appliances	11
2.2 General Requirements for Portable and Mobile Appliances	6	C Gas Leakage Test for Fully / Assemble Appliances	12
2.3 Special Requirements for Components	6	D Gas Consumption Test for Unregulated Appliances	13
2.4 Mechanical Design	6	E Gas Consumption Test for Regulated Appliances	14
2.5 Materials and Finishes	6	F Test for Temperature Hazards	16
2.6 Gas Connections	6	G Heat Resistance Tests	17
2.7 Design for Use	7	H Heat Resistance Test—Lit-back Condition	18
2.8 Design for Maintenance	7	J Normal Ignition Test	19
2.9 Tests Using Test Gases	7	K Delayed Ignition Test	20
2.10 Gas Leakage	7	L Determination of CO/CO ₂ Ratio in Combustion Products	21
2.11 Gas Consumption	7	M Determination of CO/CO ₂ Ratio in Combustion Products of Surface Combustion Burners	24
2.12 Temperature Hazards	7	N Test for Thermal Efficiency of Hotplate Burners	25
2.13 Heat Resistance	7	O Test for Flame Stability-to-Draught of Hotplate Burners.....	28
2.14 Ignition	8	P Test for Flame Stability-to-Draught of Appliance Burners Other Than Hotplate Burners	29
2.15 Combustion Tests	8	Q Pan Stability Test	30
2.16 Instructions and Marking.....	8	R Vitiation Test	31
SECTION 3. ADDITIONAL REQUIREMENTS FOR COOKERS		S Unreacted Fuel Determination	33
3.1 Hotplate Burners	9	T Refrigerator and Freezer Performance Test	34
3.2 Ovens	9	U Test of Marking	35
SECTION 4. ADDITIONAL REQUIREMENTS FOR PORTABLE SPACE HEATERS		V Test Gases and Pressures	36
4.1 Marking	9		
4.2 Vitiation	9		
4.3 Guarding of Portable Space Heaters	9		
SECTION 5. ADDITIONAL REQUIREMENTS FOR BARBECUES			
5.1 Flame Stability.....	10		
5.2 Design	10		

STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard
for
LIQUEFIED PETROLEUM (LP) GAS—PORTABLE AND MOBILE APPLIANCES

SECTION 1. SCOPE AND GENERAL

1.1 SCOPE. This standard specifies requirements for portable and mobile LP gas appliances, connected directly or by flexible hose to a single LP gas supply cylinder, such appliances being used for cooking, refrigeration, lighting or heating and being operative when supplied with liquefied petroleum gas at either cylinder or regulated pressures.

NOTES:

1. This standard does not cover appliances which are intended for connection to a fixed piping system as in a building, caravan or boat.
2. Requirements for gas cylinders are specified in AS 2030.

1.2 APPLICATION. Portable and mobile LP gas appliances shall comply with the requirements of Section 2, and with the requirements of the following Sections according to the nature of the appliance:

- (a) Cookers Section 3.
- (b) Portable Space Heaters Section 4.
- (c) Barbecues Section 5.
- (d) Gas Lights Section 6.
- (e) Refrigerators and Freezers Section 7.

1.3 REFERENCED DOCUMENTS. The following standards are referred to in this standard:

- AS 1596 SAA LP Gas Code
 AS 1869 Liquefied Petroleum Gases (LPG)—Hose and Hose Assemblies
 AS 1881 Zinc Alloy Ingots (for Pressure Die Casting) and Zinc Alloy Pressure Die Castings
 AS 2030 SAA Gas Cylinders Code
 AS 2136 Method for Detecting the Susceptibility of Copper and its Alloys to Stress Corrosion Cracking Using the Mercurous Nitrate Test
 AS 2285 Guarding of Domestic Heating Appliances for Protection Against Fire and Burn Injury

1.4 DEFINITIONS. For the purpose of this standard, the following definitions apply:

1.4.1 Barbecue—an underfired cooking unit with either an open grid or solid cooking top. Food is cooked by a combination of radiant and/or convected heat and may be assisted by flared fat.

1.4.2 Burner head—the component of the burner from which gas or an air/gas mixture is discharged for the purpose of combustion, the flame from which is stabilized.

1.4.3 Burner port—the opening in a burner through which gas or an air/gas mixture issues to be ignited and burned.

1.4.4 Flame abnormality—a flame condition which results in lifting, floating, lighting back, appreciable yellow tipping, carbon deposition or objectionable odour.

1.4.5 Flame safeguard—a safety device which automatically cuts off the gas supply if the actuating flame is extinguished.

1.4.6 Gas consumption—a measure of the energy introduced into an appliance under specified conditions, expressed in megajoules per hour or grams per hour.

1.4.7 Gas pressure regulator—a device which automatically regulates to a predetermined value, the outlet pressure or outlet volume of gas passing therethrough.

1.4.8 Gas rail or gas manifold—a common supply pipe or chamber into which tappings are made to supply gas to a plurality of burners.

1.4.9 Griller—an appliance for cooking food by radiant heat.

1.4.10 Injector—a device which causes air to mix with a stream of gas. For an aerated burner, it incorporates an orifice discharging gas into the burner mixing tube.

1.4.11 Mixing tube—that part of an aerated burner in which the air and gas are mixed.

1.4.12 Mobile appliance—an appliance with one or more wheels, designed to be easily moved from place to place by one person.

1.4.13 Nominal gas consumption—the gas consumption as stated by the manufacturer on the appliance data plate, in instructions and in general communications. (See Clause 1.4.6.)

1.4.14 Nominal inlet pressure—the gas pressure at the appliance inlet or test point (if provided), as nominated by the manufacturer to give the nominal gas consumption. (See Clause 1.4.13.)

1.4.15 Orifice—an accurately drilled hole in the injector, which functions as a metering device to control the gas consumption of a burner. It is also a directional guide for the gas injected into the burner throat.

1.4.16 Oven—that portion of a gas cooker or separate unit, consisting of an enclosed, insulated cabinet in which food is cooked.

1.4.17 Overload gas consumption—the gas consumption when overload inlet pressure, appropriate to the appliance and to the gas in use, is applied to the inlet of the appliance. (See Clause 1.4.6.)