

SINGAPORE STANDARD

**Specification for non-refillable metal
aerosol dispensers of 50 ml to 1400 ml
capacity and up to 85 mm diameter**

Amendment No. 1 (issued separately)
Confirmed 2011



Published by

Enterprise
Singapore

SS 175 : 1993 (2011)
(ICS 55.130)

SINGAPORE STANDARD

**Specification for non-refillable metal aerosol
dispensers of 50 ml to 1400 ml capacity and up to
85 mm diameter**

All rights reserved. Unless otherwise specified, no part of this Singapore Standard may be reproduced or utilised in any form or by any means, electronic or mechanical, including photocopying and microfilming, without permission in writing from Enterprise Singapore. Request for permission can be sent to: standards@enterprisesg.gov.sg.

ISBN 9971-67-459-9

SS 175 : 1993

This Singapore Standard having been approved by the Packaging Standards Committee was endorsed by the Standards Council on 12 August 1993.

First published, 1977

First revision, 1993

The Packaging Standards Committee appointed by the Standards Council consists of the following members:

	Name	Organisation
Chairman	: Dr Whang Sun Tze	Standards Council
Deputy Chairman	: Mr Andrew Lee	Singapore Institute of Standards and Industrial Research
Secretary	: Mr Boh Hong Jik	Singapore Institute of Standards and Industrial Research
Members	: Dr Philip Adams	The Plastics and Rubber Institute
	Mr Chia Hong Kuan	Ministry of the Environment
	Mr Eddie P Chng	Singapore Manufacturers' Association
	Dr Colin Chong K L	Singapore International Chamber of Commerce
	Dr Chuah Yow Nan	Port of Singapore Authority
	Mr Fan Kwai Sang	Ministry of Defence
	Mr V N Naidu	Central Supplies Department
	Mrs Ser-Low Wai Ming	Singapore Institute of Food Science and Technology
	Mr Albert Tan	Consumers Association of Singapore
	Mr Philip Wong	Singapore Chinese Chamber of Commerce and Industry

The Technical Committee appointed by the Packaging Standards Committee and responsible for the preparation of this standard consists of representatives from the following organisations:

	Name	Organisation
Chairman	: Dr Colin Chong K L	Packaging Standards Committee
Deputy Chairman	: Mr Lim Cheong Ming	CMB Packaging (S) Ltd
Secretary	: Mrs Florence Tan	Singapore Institute of Standards and Industrial Research
Members	: Mr Chan Chiu Seng	Singapore Institute of Standards and Industrial Research
	Mr Peter Cheong	Shell Eastern Petroleum (S) Pte Ltd
	Mr Gan Tee Kim	MC Packaging Pte Ltd
	Dr Teoh Swee Hin	Consumers Association of Singapore
Co-opted Members	: Mr Vincent Lim	Precision Valve Singapore Pte Ltd
	Mr Wong Kok Fee	Contract Manufacturing Services Pte Ltd

CONTENTS

	Page
Foreword - - - - -	5

SPECIFICATION

Section One. General

1. Scope - - - - -	6
2. Definitions - - - - -	6
3. Materials - - - - -	7
4. Construction - - - - -	7

Section Two. Unfilled containers

5. Performance - - - - -	7
6. Supply of unfilled containers which have been subjected to testing - - - - -	8

Section Three. Containers closed as in the filling process

7. Determination of critical closure dimensions - - - - -	9
8. Pressure resistance - - - - -	9

Section Four. Filled aerosol dispensers

9. Type testing - - - - -	10
10. Requirements - - - - -	10
11. Labelling and marking of aerosol dispensers - - - - -	11

APPENDICES

A. Method of test for pressure resistance - - - - -	13
B. Information to be supplied by the purchaser to the manufacturer/ supplier of unfilled containers and aerosol valves - - - - -	14

TABLE

1.	Test pressures	-	-	-	-	-	-	-	8
----	----------------	---	---	---	---	---	---	---	---

FIGURES

1.	Dimensions of aerosol can with tolerances	-	-	-	-	9
2.	A typical test apparatus for pressure resistance	-	-	-	-	13

SINGAPORE STANDARD

**SPECIFICATION FOR
NON-REFILLABLE METAL AEROSOL DISPENSERS
OF 50 ml TO 1400 ml CAPACITY AND UP TO 85 mm DIAMETER**

FOREWORD

This Singapore Standard was prepared by the Technical Committee on Non-refillable Metal Aerosol Dispensers of 50 ml to 1400 ml Capacity And Up To 85 mm Diameter, under the direction of the Packaging Materials Product Standards Committee. It is a revision of the Singapore Standard 175 which was published in 1977 and confirmed in 1984. It is based on BS 3914 : 1991 - Specification for Non-refillable Metal Aerosol Dispensers of 50 ml to 1400 ml Capacity and up to 85 mm Diameter.

This revision has been prepared to include requirements for containers closed as in the filling process. It is concerned with ensuring that the filled aerosol dispenser is safe in respect of pressure performance and integrity throughout its intended life, rather than with providing detailed specifications for materials and methods of construction. Specific requirements are included for the pressure resistance of the unfilled container, as made by the can manufacturer, and the selection and testing of aerosol dispensers to meet anticipated service requirements in terms of pressure resistance and compatibility with contents. Criteria are established with regard to the closing of the aerosol dispenser and there is a requirement that every filled aerosol dispenser is subjected to a pressure test as an integral part of the manufacturing process.

To ensure safety in use, it is important that a suitable scheme of process and quality control is adopted to verify that both unfilled and filled containers comply with the performance requirements specified.

In view of the worldwide concern on the use of chlorofluorocarbons (CFCs) as propellants, manufacturers are encouraged to follow the guidelines set out by the Montreal Protocol of 1987, which calls for strict limitations in the production and consumption of controlled CFCs and halons.

Special attention is drawn to the need to check legal requirements, both those relating to aerosol dispensers in general and those which may relate to specific contents.

In preparing the specification, reference was made to the following standards:

- | | | |
|----|-----------------------|---|
| 1. | BS 3914 : 1991 | Specification for Non-refillable Metal Aerosol Dispensers of 50 ml to 1400 ml Capacity and Up to 85 mm Diameter |
| 2. | BS 7289 : 1990 | Specification for Dimensions of Three-piece Tinplate Aerosol Cans |
| 3. | DIN 55500 (June 1978) | Aerosol Package; 25-mm-Opening of Means of Packaging; Measures |

Acknowledgement is made for the use of information from the above references.

Attention is drawn to the possibility that some of the elements of this Singapore Standard may be the subject of patent rights. Enterprise Singapore shall not be held responsible for identifying any or all of such patent rights.

NOTE

1. *Singapore Standards (SSs) and Technical References (TRs) are reviewed periodically to keep abreast of technical changes, technological developments and industry practices. The changes are documented through the issue of either amendments or revisions.*
2. *An SS or TR is voluntary in nature except when it is made mandatory by a regulatory authority. It can also be cited in contracts making its application a business necessity. Users are advised to assess and determine whether the SS or TR is suitable for their intended use or purpose. If required, they should refer to the relevant professionals or experts for advice on the use of the document. Enterprise Singapore shall not be liable for any damages whether directly or indirectly suffered by anyone or any organisation as a result of the use of any SS or TR.*
3. *Compliance with a SS or TR does not exempt users from any legal obligations.*

SECTION ONE

GENERAL

1. SCOPE

This standard specifies requirements for materials, construction, performance, labelling and marking for non-refillable metal aerosol dispensers from 50 ml up to 1400 ml maximum brimful capacity and up to 85 mm internal diameter, pressurized by liquefied, dissolved or compressed propellant gases but excluding compartmented aerosol dispensers.

The maximum equilibrium gauge pressure of the contents at 55°C is restricted to 23 bar¹⁾ for group 1 containers and to 17.6 bar for group 2 containers (see Subclauses 2.5 and 2.6).

NOTE. The titles of the publications referred to in this standard are listed at the end of the standard.

¹⁾ 1 bar = 10^5 N/m² = 100 kPa.