AS 2792—1992
Reconfirmed 2017

Australian Standard®

Fire hose—Delivery layflat

This Australian Standard was prepared by Committee FP/9, Fire Hydrant Installations. It was approved on behalf of the Council of Standards Australia on 5 May 1992 and published on 13 July 1992.

The following interests are represented on Committee FP/9:

Australian Assembly of Fire Authorities
Australian Fire Protection Association
Australian Uniform Building Regulations Coordinating Council
Australian Valve Manufacturers Association
Board of Works, Melbourne
Civil Aviation Authority
Commonwealth Fire Board
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STANDARDS AUSTRALIA

RECONFIRMATION

OF
AS 2792—1992
Fire hose—Delivery layflat

RECONFIRMATION NOTICE

Technical Committee FP-009 has reviewed the content of this publication and in accordance with Standards Australia procedures for reconfirmation, it has been determined that the publication is still valid and does not require change.

Certain documents referenced in the publication may have been amended since the original date of publication. Users are advised to ensure that they are using the latest versions of such documents as appropriate, unless advised otherwise in this Reconfirmation Notice.

Approved for reconfirmation in accordance with Standards Australia procedures for reconfirmation on 20 January 2017.

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NOTES

Australian Standard®

Fire hose—Delivery layflat

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PREFACE

This Standard was prepared by the Standards Australia Committee on Fire Hydrant Installations. It covers percolating and non–percolating delivery fire hose in various grades according to their intended working pressures and supersedes AS 2792—1985, *Fire hose—Delivery layflat* edition.

For some time a variety of specifications for fire hose have been used by various organizations. The committee examined these and accepted their broad principles, but has adapted some requirements to suit Australian conditions.

In the preparation of this Standard, account has been taken of the following documents:

Central Fire Brigades Advisory Council (England and Wales), Scottish Central Fire Brigades Advisory Council—Joint Committee on Design and Development of Appliance and Equipment: Specification JCDD/1/1, *Requirement specification for non–percolating delivery hose for fire brigade use (with or without an outer coating or jacket).*

Department of Defence: DEF(AUST) 5195, *Australian Defence standard for hose, synthetic fibre, rubber lined (fire fighting, delivery,* 38 mm, 50 mm, 63 mm *and* 70 mm) *specification.*

New South Wales Fire Brigades:
Requirement specification for non–percolating delivery hose for fire brigade use.

Department of Housing and Construction:
Specification for fire hose.

BS 6391: 1983, *Non–percolating layflat delivery hoses and hose assemblies for fire fighting purposes.*

Fire hose requires to be constructed to resist high pressures under working conditions. Consequently the assessment of the performance of hose under various test conditions specified is intended to be a measure of the reliability of the fire hose during its most arduous service.

Appendix R which gives a full length kink resistance test has been added to this revision of the Standard.

CONTENTS

FOREWORD

In the absence of a fixed fire protection system, the most convenient method of delivering water to a fire is by means of a flexible hose.

The first fire hose was made of leather with longitudinal seams hand-sewn or joined by rivets. This presented a number of problems including mass, lack of flexibility and the difficulty of repairing seams part way along the length.

Consequently in Scotland around 1850, a more flexible, lighter and seamless hand-woven flax hose was produced. The major disadvantage lay in the slow production rate, but this was overcome by the development of weaving machines which are now used for the manufacture of hose jackets.

This Standard is concerned with two types of fire hose commonly known as layflat fire hose, viz percolating and non-percolating.

Percolating hose may be made from natural fibre, or synthetic fibre, or blends of both which may be unlined or lined with natural or synthetic material or vulcanized natural rubber lining. Percolating hose is generally lighter than non-percolating hose of the same size, and because water seeps through the jacket, the hose provides a degree of self-protection against embers and flame when in use. For this reason percolating hose is not subject to the heat test. Further, the abrasion test cannot be satisfactorily carried out on a wet jacket and is not applied to percolating hose. The rate of percolation in a natural fibre hose is controlled by the swelling of the fibres as they absorb water. Because synthetic fibres have a lower water absorption, the rate of percolation is controlled by a thin lining.

The prime reason for using non-percolating hose is to minimize water damage to property from seepage. It may be used for the application of foam. Because the lining is thicker than in a percolating hose, the inner surface is smoother, resulting in lower pressure losses due to friction. Where resistance to abrasion or chemical attack is a factor, coated non-percolating hose should be considered.

STANDARDS AUSTRALIA

Australian Standard
Fire hose—Delivery layflat

SECTION 1 SCOPE AND GENERAL

1.1 SCOPE This Standard specifies the dimensional and performance requirements for layflat delivery fire hose of two types, viz percolating and non-percolating, intended for the delivery of water or foam.

NOTE: Guidelines for the purchasing of fire hose are given in Appendix A.

1.2 APPLICATION Layflat delivery fire hose shall comply with the general requirements of Section 2, and with the performance requirements of Section 3.

NOTE: Additional requirements, i.e. those properties for which requirements may be specified by the purchaser in addition to the requirements of Section 2 and Section 3, are set out in Appendix B.

1.3 REFERENCED AND RELATED DOCUMENTS A list of the documents referred to and related to in this Standard is given in Appendix C.

1.4 DEFINITIONS For the purpose of this Standard, the definitions below apply.

1.4.1 Coating An external surface application.

1.4.2 Informative An Appendix giving additional information, recommendations, guidelines or other non-mandatory statements.

1.4.3 Jacket The woven fabric construction of the hose.

1.4.4 Natural fibre Flax, hemp, cotton or a combination of these fibres.

1.4.5 Normative An Appendix which is essential to the understanding of the Standard.

1.4.6 Synthetic fibre Man-made fibre.

1.4.7 Warp The longitudinal threads of the jacket.

1.4.8 Weft The circumferential threads of the jacket.

1.4.9 Lining A vulcanized natural rubber or synthetic interior surface application.

1.4.10 Percolating hose Hose which is manufactured to allow water permeation through the jacket.

1.4.11 Non-percolating hose Hose which is manufactured to prevent water permeation through the jacket.

1.4.12 Extruded hose A non-percolating hose consisting of a jacket onto which the lining and coating are applied by an extrusion process.

1.4.13 Layflat A characteristic of softwall hose which assumes a flattened shape when empty.

1.5 CLASSIFICATION Fire hose shall be classified according to working pressure in accordance with Table 1.1.

TABLE 1.1
CLASSIFICATION OF FIRE HOSE

Class	Working pressure kPa	Proof test pressure kPa	Burst pressure (minimum), kPa
L (Low)	1 000	1 500	2 500
M (Medium)	1 400	2 100	3 500
H (High)	2 100	3 150	5 250