

AS 4758.3:2022



Lifejackets

Part 3: Test methods



AS 4758.3:2022

This Australian Standard ® was prepared by CS-060, Lifejackets and Personal Safety Equipment for Small Craft. It was approved on behalf of the Council of Standards Australia on 23 February 2022.

This Standard was published on 4 March 2022.

The following are represented on Committee CS-060:

- Australian Chamber of Commerce and Industry
- Australian Sailing
- Boating Industry Association
- Engineers Australia
- Marine and Safety Tasmania
- Maritime Safety Queensland
- Maritime Safety Victoria
- NSW Police Force
- Paddle Australia
- QLD Water Police
- Royal Life Saving Society Australia
- Surf Life Saving Australia
- Tasmania Maritime Network
- Transport for NSW
- VicLab (Testing Interests Australia)

This Standard was issued in draft form for comment as DR AS 4758.3:2021.

Keeping Standards up-to-date

Ensure you have the latest versions of our publications and keep up-to-date about Amendments, Rulings, Withdrawals, and new projects by visiting:

www.standards.org.au

ISBN 978 1 76113 679 5

Lifejackets

Part 3: Test methods

Originated as AS 4758.3—2008.
Previous edition AS 4758.3:2015.
Third edition 2022.

© Standards Australia Limited 2022

All rights are reserved. No part of this work may be reproduced or copied in any form or by any means, electronic or mechanical, including photocopying, without the written permission of the publisher, unless otherwise permitted under the Copyright Act 1968 (Cth).

Preface

This Standard was prepared by the Australian members of Joint Standards Australia/Standards New Zealand Committee CS-060, Lifejackets and Personal Safety Equipment for Small Craft, to supersede AS 4758.3:2015.

AS 4758.3:2015 will also remain current for 12 months after the date of publication of this document and after this time it will be superseded by AS 4758.3:2022. Regulatory authorities that reference this document in regulation may apply these requirements at a different time. Users of this document should consult with these authorities to confirm their requirements.

The objective of this document is to provide manufacturers with the methods for testing the performance of lifejackets [also known as “personal flotation devices” (PFDs)].

The major changes in this edition are as follows:

- (a) Rotating shock bin test for hybrid and fully inflatable lifejackets.
- (b) Performance testing.

This document is Part 3 of the following series:

AS 4758.1, *Lifejackets, Part 1: General requirements*

AS 4758.2, *Lifejackets, Part 2: Materials and components — Requirements and test methods*

AS 4758.3, *Lifejackets, Part 3: Test methods* (this document)

The terms “normative” and “informative” are used in Standards to define the application of the appendices to which they apply. A “normative” appendix is an integral part of a Standard, whereas an “informative” appendix is only for information and guidance.

Contents

Preface	ii
Section 1 Scope and general	1
1.1 Scope	1
1.2 Normative references	1
1.3 Terms and definitions	1
Section 2 Resistance to water and oil	2
2.1 Resistance to water	2
2.1.1 Principle	2
2.1.2 Apparatus	2
2.1.3 Procedure	2
2.1.4 Report	2
2.2 Resistance to oil	2
2.2.1 Principle	2
2.2.2 Apparatus	2
2.2.3 Procedure	3
2.2.4 Report	3
Section 3 Strength	4
3.1 Horizontal strength	4
3.1.1 Principle	4
3.1.2 Apparatus	4
3.1.3 Procedure	4
3.1.4 Report	4
3.2 Vertical strength	5
3.2.1 Principle	5
3.2.2 Apparatus	5
3.2.3 Procedure	6
3.2.4 Report	6
3.3 Rotating shock bin test for hybrid and fully inflatable lifejackets	7
3.3.1 Acknowledgements	7
3.3.2 Principle	7
3.3.3 Apparatus	8
3.3.4 Procedure	8
3.3.5 Report	9
Section 4 Buoyancy	10
4.1 Principle	10
4.2 Apparatus	10
4.3 Procedure	10
4.4 Report	11
Section 5 Inflatable buoyancy chambers	12
5.1 Principle	12
5.2 Apparatus	12
5.3 Procedure	12
5.4 Report	12
Section 6 General performance	13
6.1 Temperature cycling	13
6.1.1 Principle	13
6.1.2 Apparatus	13
6.1.3 Procedure	13
6.1.4 Report	13
6.2 Oral inflation	13
6.2.1 Principle	13
6.2.2 Test subjects	14

6.2.3	Procedure	14
6.2.4	Report	14
6.3	Double inflation	14
6.3.1	Principle	14
6.3.2	Apparatus	14
6.3.3	Procedure	14
6.3.4	Report	14
6.4	Inadvertent inflation	15
6.4.1	Principle	15
6.4.2	Apparatus	15
6.4.3	Procedure	15
6.4.4	Report	15
Section 7	In-water performance	17
7.1	General	17
7.2	Test observer and test subjects	17
7.2.1	Test observer	17
7.2.2	Test subjects	17
7.3	Donning	18
7.3.1	Principle	18
7.3.2	Test subjects	18
7.3.3	Procedure	18
7.3.4	Report	19
7.4	Water entry	19
7.4.1	Principle	19
7.4.2	Test subjects	19
7.4.3	Apparatus	19
7.4.4	Procedure	19
7.4.5	Report	20
7.5	Self-righting	20
7.5.1	Principle	20
7.5.2	Test subjects	20
7.5.3	Apparatus	20
7.5.4	Procedure	20
7.5.5	Report	21
7.6	Vertical stability	21
7.6.1	Principle	21
7.6.2	Test subjects	21
7.6.3	Apparatus	21
7.6.4	Procedure	21
7.6.5	Report	22
7.7	In-water stability	22
7.7.1	Principle	22
7.7.2	Test subjects	22
7.7.3	Apparatus	22
7.7.4	Procedure	23
7.7.5	Report	23
7.8	Freeboard	23
7.8.1	Principle	23
7.8.2	Test subjects	23
7.8.3	Apparatus	23
7.8.4	Procedure	24
7.8.5	Report	24
7.9	Spray hood carbon dioxide level	24
7.9.1	Principle	24
7.9.2	Test subjects	24
7.9.3	Apparatus	25
7.9.4	Procedure	25
7.9.5	Report	25

7.10	Automatic inflation	25
7.10.1	Principle	25
7.10.2	Test subjects	25
7.10.3	Apparatus	25
7.10.4	Procedure	26
7.10.5	Report	26
Appendix A	(normative) Child manikins	27
Bibliography	32

NOTES

Australian Standard®

Lifejackets

Part 3: Test methods

Section 1 Scope and general

1.1 Scope

This document specifies the methods of test for lifejackets with buoyancy classifications of level 275, level 150, level 100, level 50, level 50 S, level 25 and restricted use suitable for use by adults and children.

1.2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document.

NOTE Documents referenced for informative purposes are listed in the Bibliography.

AS 3570, Automotive diesel fuel

AS 4758.1, Lifejackets, Part 1: General requirements

AS 4758.2, Lifejackets, Part 2: Materials and components — Requirements and test methods

1.3 Terms and definitions

For the purpose of this document, the definitions given in AS 4758.1 and AS 4758.2 apply.