



Roundslings—Synthetic fibre



This Australian Standard® was prepared by Committee ME-025, Lifting Tackle. It was approved on behalf of the Council of Standards Australia on 12 March 2018. This Standard was published on 10 April 2018.

The following are represented on Committee ME-025:

- Australian Chamber of Commerce and Industry
 - Australian Die Casting Association
 - Australian Industry Group
 - Chamber of Commerce and Industry Queensland
 - Crane Industry Council of Australia
 - Department of Defence (Australian Government)
 - Engineers Australia
 - Institute of Quarrying Australia
 - Lifting Equipment Engineers Association
 - National Association of Testing Authorities Australia
 - SafeWork NSW
 - WorkSafe Victoria
-

This Standard was issued in draft form for comment as DR AS 4497:2017.

Standards Australia wishes to acknowledge the participation of the expert individuals that contributed to the development of this Standard through their representation on the Committee and through the public comment period.

Keeping Standards up-to-date

Australian Standards® are living documents that reflect progress in science, technology and systems. To maintain their currency, all Standards are periodically reviewed, and new editions are published. Between editions, amendments may be issued.

Standards may also be withdrawn. It is important that readers assure themselves they are using a current Standard, which should include any amendments that may have been published since the Standard was published.

Detailed information about Australian Standards, drafts, amendments and new projects can be found by visiting www.standards.org.au

Standards Australia welcomes suggestions for improvements, and encourages readers to notify us immediately of any apparent inaccuracies or ambiguities. Contact us via email at mail@standards.org.au, or write to Standards Australia, GPO Box 476, Sydney, NSW 2001.

Australian Standard[®]

Roundslings—Synthetic fibre

Originated as AS 4497.1—1997 and AS 4497.2—1997.
Revised and redesignated as AS 4497:2018.

COPYRIGHT

© Standards Australia Limited

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.

Published by SAI Global Limited under licence from Standards Australia Limited, GPO Box 476, Sydney, NSW 2001, Australia

ISBN 978 1 76072 035 3

PREFACE

This Standard was prepared by the Standards Australia Committee ME-025, Lifting Tackle, to supersede AS 4497.1 *Roundslings—Synthetic fibre, Part 1: Product specification* and AS 4497.2 *Roundslings—Synthetic fibre, Part 2: Care and use*.

The objective of this Standard is to combine the two previously separate Parts for manufacturing and safe use into a single document.

This revision also incorporates the following changes:

- (a) New figures throughout the Standard.
- (b) New clauses on the following:
 - (i) Competent persons.
 - (ii) Effective lengths.
 - (iii) Protective pads and corners.
 - (iv) End fittings and interfacing components.
 - (v) Markings.
 - (vi) Working load limit tags/labels.
 - (vii) Colour and stripes.
 - (viii) Materials including high modulus polyethylene (HMPE).
 - (ix) Cut protection.
 - (x) Engineered lifts.
 - (xi) Connecting to the loads.
- (c) New Table 6, Working load limits, storage, inspection and discard.
- (d) Two new appendices, Appendix D, *Visual inspection checklist* (normative), and Appendix E, *Symmetry of loading* (informative).

The terms ‘normative’ and ‘informative’ have been used in this Standard to define the application of the appendix 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

	<i>Page</i>
SECTION 1 SCOPE AND GENERAL	
1.1 SCOPE AND APPLICATION.....	4
1.2 REFERENCED DOCUMENTS.....	4
1.3 DEFINITIONS.....	4
1.4 COMPETENT PERSON REQUIREMENTS.....	8
SECTION 2 DESIGN, MANUFACTURING AND MECHANICAL PROPERTIES	
2.1 MATERIAL.....	11
2.2 DESIGN AND MANUFACTURE.....	11
SECTION 3 TESTING	
3.1 TESTING OF MECHANICAL PROPERTIES.....	20
3.2 DESTRUCTION TEST REGIME AND ACCEPTANCE CRITERIA.....	20
3.3 PROOF TESTING.....	20
SECTION 4 CARE AND USE	
4.1 INTRODUCTION.....	22
4.2 WORKING LOAD LIMIT (WLL).....	22
4.3 CHOICE OF APPROPRIATE SLING FOR THE APPLICATION.....	22
4.4 PRECAUTIONS.....	23
4.5 PLANNING.....	23
4.6 PROTECTIVE SLEEVES, PADS AND CORNERS.....	23
4.7 CUT PROTECTION.....	24
4.8 WEAR AND ABRASION PROTECTION.....	25
4.9 CONNECTING TO A HOOK OR LOAD.....	25
4.10 CONNECTING TO A HOOK OR FITTING.....	27
4.11 MULTI-LEG SLINGS.....	28
4.12 CHOKE HITCHES.....	29
4.13 BASKET HITCHES.....	31
4.14 WORKING LOAD LIMIT (WLL).....	33
4.15 LOAD EQUALISING DEVICES.....	34
4.16 STORAGE.....	38
4.17 INSPECTION.....	39
4.18 DISCARD CRITERIA.....	40
4.19 REPAIRS.....	43
4.20 CLEANING.....	43
APPENDICES	
A STANDARDS FOR COMPONENTS USED IN LIFTING SYSTEMS.....	44
B INFORMATION SUPPLIED WITH ENQUIRIES AND ORDERS.....	45
C CONDITIONS FOR APPLICATION OF TEST FORCES.....	46
D VISUAL INSPECTION CHECKLIST.....	48
E SYMMETRY OF LOADING.....	50

STANDARDS AUSTRALIA

Australian Standard
Roundslings—Synthetic fibre

SECTION 1 SCOPE AND GENERAL

1.1 SCOPE AND APPLICATION

1.1.1 Scope

This Standard specifies requirements and recommendations for manufacture, care and use of roundslings made of synthetic fibre, which may include end fittings that are intended for lifting purposes.

This Standard does not address the use of roundslings for the lifting of personnel.

1.1.2 Application

Section 2 specifies requirements and recommendations to manufacturers and importers on the design and manufacture of new roundslings.

NOTE: This Section does not cover repairs to roundslings.

Section 3 provides the test methods for verification of product conformity.

Section 4 provides requirements and recommendations on the selection, care and use of roundslings that are aimed at all parties including end users and inspectors of roundslings.

1.2 REFERENCED DOCUMENTS

The following documents are referred to in this Standard:

NOTE: See also Appendix A for a full list of Standards for components used in lifting systems.

AS

2193	Calibration and classification of force-measuring systems
2741	Shackles
3585	End fittings for synthetic flat-webbing and round slings
3776	Lifting components for Grade T(80) and V(100) chain slings
3777	Shank hooks and large eye hooks—Maximum 60 t
3850	Prefabricated concrete elements (series)
4991	Lifting devices

AS ISO/IEC

17025	General requirements for the competence of testing and calibration laboratories
-------	---

1.3 DEFINITIONS

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

1.3.1 Choke hitch

The hitch or reeved sling where one end of the sling is passed around the load and through the other eye and placed onto the hook—the sling then bites down onto the load.