

Australian Standard<sup>®</sup>

**Galvanized steel wire strand**

STANDARDS  
Australia



This Australian Standard® was prepared by Committee ME-007, Steel Wire Ropes. It was approved on behalf of the Council of Standards Australia on 13 September 2004. This Standard was published on 4 January 2005.

---

The following are represented on Committee ME-007:

- Australian Chamber of Commerce and Industry
  - Institute of Materials Engineering Australasia
  - Shipping Australia
- 

This Standard was issued in draft form for comment as DR 04064.

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Standards may also be withdrawn.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](http://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](mailto:mail@standards.org.au), or write to Standards Australia, GPO Box 476, Sydney, NSW 2001.

---

Australian Standard<sup>®</sup>

**Galvanized steel wire strand**

Originally as AS 2841—1986.  
Second edition 2005.  
Revised incorporating Amendment No. 1 (February 2011).

**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 0 7337 6424 X

## PREFACE

This Standard was prepared by the Standards Australia Committee ME-007, Steel Wire Ropes to supersede AS 2841—1986.

*This Standard incorporates Amendment No. 1 (February 2011). The changes required by the Amendment are indicated in the text by a marginal bar and amendment number against the clause, note, table, figure or part thereof affected.*

The objective of this Standard is to provide a consistent set of specifications for galvanized steel wire strand to aid communication between manufacturers, users and regulators of these products.

The designation system used to describe the mechanical properties and construction of the strand is generally taken from ISO 17893, *Steel wire ropes—Vocabulary, designations and classifications*. An obvious departure is the Australian terminology for Spiral Strand is ‘Strand’.

The term ‘informative’ has been used in this Standard to define the application of the appendix to which it applies. An ‘informative’ appendix is only for information and guidance.

## CONTENTS

	<i>Page</i>
SECTION 1 SCOPE AND GENERAL	
1.1 SCOPE .....	4
1.2 REFERENCED DOCUMENTS .....	4
1.3 DEFINITIONS .....	4
1.4 DESIGNATION .....	5
1.5 STANDARD CONSTRUCTIONS .....	6
SECTION 2 MATERIALS	
2.1 WIRE GRADE .....	9
2.2 GALVANIZING.....	9
2.3 LUBRICANT .....	9
SECTION 3 MANUFACTURE	
3.1 CORE .....	10
3.2 DIRECTION OF LAY OF STRAND .....	10
3.3 LENGTH OF LAY .....	10
3.4 FORMING.....	10
3.5 JOINTS.....	10
3.6 FREEDOM FROM DEFECTS .....	11
3.7 FINISHED DIMENSIONS .....	11
3.8 MASS OF STRAND.....	11
3.9 LUBRICATION .....	11
3.10 SEIZING .....	11
3.11 PACKING .....	11
3.12 MARKING .....	12
SECTION 4 TESTS	
4.1 TESTS ON COMPLETE STRAND.....	13
4.2 TESTS ON WIRES FROM STRAND.....	14
4.3 TEST CERTIFICATES .....	15
APPENDICES	
A PURCHASING GUIDELINES.....	16
B TESTS.....	18

STANDARDS AUSTRALIA

---

**Australian Standard**  
**Galvanized steel wire strand**

---

SECTION 1 SCOPE AND GENERAL

**1.1 SCOPE**

This Standard specifies requirements for galvanized round steel strand of the constructions given in Tables 1.1 and 1.2 and which are used for structural, and general purpose applications.

This Standard excludes strand for concrete stressing and for automobiles and aeroplanes.

**1.2 REFERENCED DOCUMENTS**

The following Standards are referred to in this Standard:

AS

1391 Methods for tensile testing of metals

1394 Round steel wire for ropes

2193 Calibration and grading of force-measuring systems

**1.3 DEFINITIONS**

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

**1.3.1 Minimum breaking force**

The tensile force that a sample of the strand must withstand without breaking when loaded in the prescribed manner.

**1.3.2 Measured breaking force**

The maximum tensile force measured when a sample of strand is tested to destruction using the prescribed method.

**1.3.3 Contra-lay**

Strand with more than one layer in which at least one layer of wires is laid in the opposite direction to the other layers.

**1.3.4 Core**

The central member of a strand, which may be one of the following:

(a) A single wire (king).

(b) A group of wires.

**1.3.5 Galvanized strand**

Strand manufactured from zinc-coated or zinc alloy-coated wire produced in accordance with AS 1394.

**1.3.6 Grade of wire**

The minimum value of the tensile strength of the wire in megapascals (MPa), expressed as a number.