

Handbook

Management of electrical cable in mines and quarries



SA/SNZ HB 146:2018

This Joint Australian/New Zealand Handbook was prepared by Joint Technical Committee EL-023, Electrical Equipment in Mines and Quarries. It was approved on behalf of the Council of Standards Australia on 19 March 2018 and by the New Zealand Standards Approval Board on 18 April 2018.
This Handbook was published on 23 May 2018.

The following are represented on Committee EL-023:

Australian Cablemakers Association
Australian Chamber of Commerce and Industry
Australian Industry Group
Aviation and Marine Engineers Association
Construction Forestry Miners and Energy Union
Department of Mines, Industry Regulation and Safety (WA)
Department of Natural Resources, Mines and Energy (QLD)
Engineers Australia
National Association of Testing Authorities Australia
NSW Department of Industry , Skills and Regional Development
SafeWork NSW
University of Newcastle
Worksafe New Zealand

Keeping Standards up-to-date

Standards are living documents which 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 Standards may also be withdrawn.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 which may have been published since the Standard was purchased.

Detailed information about joint Australian/New Zealand Standards can be found by visiting the Standards Web Shop at www.saiglobal.com or Standards New Zealand web site at www.standards.govt.nz and looking up the relevant Standard in the on-line catalogue.

For more frequent listings or notification of revisions, amendments and withdrawals, Standards Australia and Standards New Zealand offer a number of update options. For information about these services, users should contact their respective national Standards organization.

We also welcome suggestions for improvement in our Standards, and especially encourage readers to notify us immediately of any apparent inaccuracies or ambiguities. Please address your comments to the Chief Executive of Standards Australia or the New Zealand Standards Executive at the address shown on the back cover.

SA/SNZ HB 146:2018

Handbook

Management of electrical cable in mines and quarries

First published as SA/SNZ HB 146:2018.

COPYRIGHT

© Standards Australia Limited

© The Crown in right of New Zealand, administered by the New Zealand Standards Executive

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 (Australia) or the Copyright Act 1994 (New Zealand).

Jointly published by SAI Global Limited under licence from Standards Australia Limited, GPO Box 476, Sydney, NSW 2001 and by Standards New Zealand, PO Box 1473, Wellington 6140.

ISBN 978 1 76072 058 2

PREFACE

This Handbook was prepared by working group EL 023-00-03 on behalf of the Joint Standards Australia/Standards New Zealand Committee EL-023, Electrical Equipment in Mines and Quarries. The working group recognizes the work completed on this Handbook by the previous Committee, EL 003-13.

The objective of this Handbook is to provide practical guidance on the management of electrical cables in mines and quarries and the health and safety of personnel.

This Handbook should be read in conjunction with the relevant Australian Standards applicable to mining cables and cable terminating devices.

CONTENTS

	<i>Page</i>
INTRODUCTION	5
SECTION 1 SCOPE AND GENERAL	
1.1 SCOPE.....	6
1.2 DEFINITIONS.....	6
SECTION 2 TOTAL ASSET MANAGEMENT APPROACH	
2.1 ASSET MANAGEMENT	9
2.2 WHERE DO I START?	9
2.3 WHO NEEDS TO BE INVOLVED?	10
2.4 LEGISLATION, STANDARDS AND GUIDELINES.....	10
2.5 RISK MANAGEMENT	10
SECTION 3 CABLE DESIGN	
3.1 GENERAL.....	11
3.2 CABLE FEATURES	11
3.3 CABLE TYPES	14
SECTION 4 HAZARDS ASSOCIATED WITH THE USE OF ELECTRICAL CABLES	
4.1 RISK MANAGEMENT	18
4.2 PROCESS FOR RISK MANAGEMENT OF PLANT	18
4.3 TYPICAL HAZARDS ASSOCIATED WITH CABLES	18
SECTION 5 SELECTION FOR USE	
5.1 GENERAL.....	20
5.2 SELECTION.....	20
5.3 CABLES FOR MINE TYPES—SELECTION GUIDE.....	22
5.4 INFORMATION REQUIRED FOR CABLE SELECTION.....	22
SECTION 6 INSTALLATION AND COMMISSIONING AT SITE	
6.1 GENERAL.....	23
6.2 TESTING ON SITE.....	23
6.3 INSTALLATION CONSIDERATIONS	24
SECTION 7 HANDLING AND OPERATION	
7.1 HANDLING AND OPERATION OF CABLE ASSEMBLIES.....	26
7.2 CABLE MANAGEMENT PLAN	26
7.3 COMMON CAUSES OF FAILURE.....	28
7.4 GUIDELINES FOR EFFICIENT, SAFE AND RELIABLE CABLE OPERATION...	28
7.5 UNDERGROUND SITUATIONS	35
7.6 CABLE HANDLING FOR UNDERGROUND SITUATIONS	38
7.7 SURFACE OPERATIONS	40
7.8 JOINING	43
SECTION 8 MAINTENANCE AND REPAIR	
8.1 GENERAL.....	44
8.2 RELIABILITY.....	44
8.3 CABLE DAMAGE	44
8.4 CABLE INSPECTIONS	49
8.5 REPORTING CABLE DAMAGE	50
8.6 REPAIRS.....	51

This is a free preview. Purchase the entire publication at the link below:

[Product Page](#)

-
- Looking for additional Standards? Visit Intertek Inform Infostore
 - Learn about LexConnect, All Jurisdictions, Standards referenced in Australian legislation
-