Australian/New Zealand Standard™

Spray painting booths, designated spray painting areas and paint mixing rooms

Part 1: Design, construction and testing





AS/NZS 4114.1:2003

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee EL-014, Electrical Equipment in Hazardous Areas. It was approved on behalf of the Council of Standards Australia on 30 December 2002 and on behalf of the Council of Standards New Zealand on 13 December 2002. It was published on 11 February 2003.

The following are represented on Committee EL-014:

Association of Consulting Engineers Australia Auckland Regional Chamber of Commerce Australian Association of Certification Bodies

Australian Association of Certification Bodies
Australian Chamber of Commerce and Industry

Australian Coal Association

Australian Electrical and Electronic Manufacturers Association

Australian Gas Association

Australian Industry Group

Australian Institute of Petroleum

Australian Institute of Refrigeration Air Conditioning and Heating

Department of Mineral Resources, N.S.W.

Department of Mines and Energy, Qld

Electricity Supply Association of Australia

Institute of Electrical Inspectors

Institute of Instrumentation and Control Australia

Institution of Engineers Australia

Ministry of Economic Development (New Zealand)

National Electrical and Communications Association

New Zealand Association of Marine, Aviation and Power Engineers

New Zealand Employers and Manufacturers Association

New Zealand Hazardous Areas Electrical Coordinating Committee

Regulatory authorities (electrical)

WorkCover New South Wales

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 Standards may also be withdrawn.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 Australia web site at www.standards.com.au or Standards New Zealand web site at www.standards.co.nz and looking up the relevant Standard in the on-line catalogue.

Alternatively, both organizations publish an annual printed Catalogue with full details of all current Standards. 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 either Standards Australia International or Standards New Zealand at the address shown on the back cover.

AS/NZS 4114.1:2003

Australian/New Zealand Standard™

Spray painting booths, designated spray painting areas and paint mixing rooms

Part 1: Design, construction and testing

Originated as part of AS/NZS 4114(Int):1993. Previous edition AS/NZS 4114.1:1995. Second edition 2003.

COPYRIGHT

© Standards Australia/Standards New Zealand

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.

Jointly published by Standards Australia International Ltd, GPO Box 5420, Sydney, NSW 2001 and Standards New Zealand, Private Bag 2439, Wellington 6020

PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee EL-014, Electrical Equipment in Hazardous Areas to supersede AS/NZS 4114.1:1995, Spray painting booths, Part 1: Design, construction and testing.

This Standard is intended for the guidance of manufacturers, designers, users, statutory authorities and others associated with the construction of spray painting booths.

Major changes to the 1995 edition incorporated in this revised edition are based on industry comments received and are as follows:

- (a) The title was reviewed and reads 'Spray painting booths, designated spray painting areas and paint mixing rooms'.
- (b) New definitions were added.
- (c) Diagrams for the different airflow systems (Clause 1.6) were added.
- (d) Diagrams for external exhaust fans (Clause 2.10) were added.
- (e) Infrared heating (Clause 3.4.5) was added.
- (f) Diagrams for examples of air supply/exhaust systems (Clause 4.2.2.1) were added.
- (g) Spray cycle airflow rates (Clause 4.2.2.3) were fully reviewed.
- (h) Clause 5.3.2—System requirements was substantially expanded to include detailed requirements for heat exchangers and heat exchanger flues.
- (i) Method to determine airflow velocity (Clause 7.5) was added.
- (j) Appendix A—Relevant authorities was updated.
- (k) A new Appendix B—Paint mixing rooms was added; it contains all the requirements for the different types of such rooms.

This Standard is Part One of a Series which consists of the following:

AS/NZS

- 4114 Spray painting booths, designated spray painting areas and paint mixing rooms
- 4114.1 Part 1: Design, construction and testing (this Standard)
- 4114.2 Part 2: Selection, installation and maintenance

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

		Page
SECTIO	ON 1 SCOPE AND GENERAL	
1.1	SCOPE	5
1.1	APPLICATION	
1.3	REFERENCED DOCUMENTS	
1.4	DEFINITIONS	
1.5	TYPES OF SPRAY PAINTING BOOTHS	
1.6	AIRFLOW SYSTEMS	
1.7	CLASSIFICATION OF HAZARDOUS AREAS	
CECTIC	NI 2 DECICN AND CONCEDUCTION	
	ON 2 DESIGN AND CONSTRUCTION GENERAL	1.1
2.1		
2.2	MATERIALS	
2.3	INTERIOR SURFACES	
2.4	EXPANSION	
2.5	DOORS ENTRY/EXIT OF TUNNEL OR PRODUCTION BOOTHS	
2.6		
2.7	GUARDING OF MOVING PARTS	
2.8	SHELVES	
2.9	EQUIPOTENTIAL BONDING	
2.10	DUCTS	12
SECTIO	ON 3 SPECIFIC REQUIREMENTS	
3.1	GENERAL	14
3.2	OPERATION	
3.3	BOOTH CONSTRUCTION	
3.4	ELECTRICAL APPARATUS	
٥٠.		
SECTIO	ON 4 VENTILATION OF SPRAY PAINTING BOOTHS	
4.1	GENERAL	17
4.2	AIRFLOW	17
4.3	CONTROL SYSTEMS	20
4.4	EXHAUST AIR	20
	ON 5 SPRAY PAINTING BOOTH OPERATION	
5.1	GENERAL	
5.2	CYCLE	
5.3	HEATING SYSTEM	22
SECTIO	ON 6 MARKINGS	
6.1	GENERAL	25
6.2		
6.3	WARNING SIGN	
0.5	(1114.12.00 01011	23
SECTIO	ON 7 VERIFICATION AND TESTS	
7.1	GENERAL	26
7.2	VERIFICATION OF DOCUMENTS AND DESIGN	26
7.3	RUNNING TEST	26
7.4	VENTILATION SYSTEM TEST	26
7.5	AIRFLOW TESTING	26



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

Product Page

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