

UL 1242

Electrical Intermediate Metal Conduit – Steel

Document Was Downloaded By Rice, Shi SHIMISHENG
For Use By KUANTECH CO LTD
12039 : 8/7/2007 - 4:32 AM

UL COPYRIGHTED MATERIAL –
NOT AUTHORIZED FOR FURTHER REPRODUCTION OR
DISTRIBUTION WITHOUT PERMISSION FROM UL



Documents

Document Sharing Hub

Document Was Downloaded By Rice, Shi SHIMISHENG
For Use By KUANTECH CO LTD
12039 : 8/7/2007 - 4:32 AM

UL COPYRIGHTED MATERIAL –
NOT AUTHORIZED FOR FURTHER REPRODUCTION OR
DISTRIBUTION WITHOUT PERMISSION FROM UL



Documents

Document Sharing Hub

Underwriters Laboratories Inc. (UL)
333 Pfingsten Road
Northbrook, IL 60062-2096

UL Standard for Safety for Electrical Intermediate Metal Conduit – Steel, UL 1242

Fourth Edition, Dated February 16, 2006

Revisions: This Standard contains revisions through and including July 27, 2007.

Summary of Topics

A revision to the Conduit Identification Marking in paragraph 21.3 is being issued.

UL Standards for Safety are developed and maintained in the Standard Generalized Markup Language (SGML). SGML -- an international standard (ISO 8879-1986) -- is a descriptive markup language that describes a document's structure and purpose, rather than its physical appearance on a page. Due to formatting differences resulting from the use of UL's new electronic publishing system, please note that additional pages (on which no requirements have been changed) may be included in revision pages due to relocation of existing text and reformatting of the Standard.

Text that has been changed in any manner is marked with a vertical line in the margin. Changes in requirements are marked with a vertical line in the margin and are followed by an effective date note indicating the date of publication or the date on which the changed requirement becomes effective.

The revised requirements are substantially in accordance with UL's Proposal(s) on this subject dated June 8, 2007.

The revisions dated July 27, 2007 include a reprinted title page (page1) for this Standard.

As indicated on the title page (page 1), this UL Standard for Safety is an American National Standard. Attention is directed to the note on the title page of this Standard outlining the procedures to be followed to retain the approved text of this ANSI/UL Standard.

As indicated on the title page (page1), this UL Standard for Safety has been adopted by the Department of Defense.

The UL Foreword is no longer located within the UL Standard. For information concerning the use and application of the requirements contained in this Standard, the current version of the UL Foreword is located on ULStandardsInfoNet at: <http://ulstandardsinfo.net/ulforeword.html>

The master for this Standard at UL's Northbrook Office is the official document insofar as it relates to a UL service and the compliance of a product with respect to the requirements for that product and service, or if there are questions regarding the accuracy of this Standard.

UL's Standards for Safety are copyrighted by UL. Neither a printed copy of a Standard, nor the distribution diskette for a Standard-on-Diskette and the file for the Standard on the distribution diskette should be altered in any way. All of UL's Standards and all copyrights, ownerships, and rights regarding those Standards shall remain the sole and exclusive property of UL.

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form by any means, electronic, mechanical photocopying, recording, or otherwise without prior permission of UL.

Revisions of UL Standards for Safety are issued from time to time. A UL Standard for Safety is current only if it incorporates the most recently adopted revisions.

UL provides this Standard "as is" without warranty of any kind, either expressed or implied, including but not limited to, the implied warranties of merchantability or fitness for any purpose.

In no event will UL be liable for any special, incidental, consequential, indirect or similar damages, including loss of profits, lost savings, loss of data, or any other damages arising out of the use of or the inability to use this Standard, even if UL or an authorized UL representative has been advised of the possibility of such damage. In no event shall UL's liability for any damage ever exceed the price paid for this Standard, regardless of the form of the claim.

UL will attempt to answer support requests concerning electronic versions of its Standards. However, this support service is offered on a reasonable efforts basis only, and UL may not be able to resolve every support request. UL supports the electronic versions of its Standards only if they are used under the conditions and operating systems for which it is intended. UL's support policies may change from time-to-time without notification.

UL reserves the right to change the format, presentation, file types and formats, delivery methods and formats, and the like of both its printed and electronic Standards without prior notice.

Purchasers of the electronic versions of UL's Standards for Safety agree to defend, indemnify, and hold UL harmless from and against any loss, expense, liability, damage, claim, or judgement (including reasonable attorney's fees) resulting from any error or deviation introduced while purchaser is storing an electronic Standard on the purchaser's computer system.

If a single-user version electronic Standard was purchased, one copy of this Standard may be stored on the hard disk of a single personal computer, or on a single LAN file-server or the permanent storage device of a multiple-user computer in such a manner that this Standard may only be accessed by one user at a time and for which there is no possibility of multiple concurrent access.

If a multiple-user version electronic Standard was purchased, one copy of the Standard may be stored on a single LAN file-server, or on the permanent storage device of a multiple-user computer, or on an Intranet server. The number of concurrent users shall not exceed the number of users authorized.

Electronic Standards are intended for on-line use, such as for viewing the requirements of a Standard, conducting a word search, and the like. Only one copy of the Standard may be printed from each single-user version of an electronic Standard. Only one copy of the Standard may be printed for each authorized user of a multiple-user version of an electronic Standard. Because of differences in the computer/software/printer setup used by UL and those of electronic Standards purchasers, the printed copy obtained by a purchaser may not look exactly like the on-line screen view or the printed Standard.

An employee of an organization purchasing a UL Standard can make a copy of the page or pages being viewed for their own fair and/or practical internal use.

The requirements in this Standard are now in effect, except for those paragraphs, sections, tables, figures, and/or other elements of the Standard having future effective dates as indicated in the note following the affected item. The prior text for requirements that have been revised and that have a future effective date are located after the Standard, and are preceded by a "SUPERSEDED REQUIREMENTS" notice.

New product submittals made prior to a specified future effective date will be judged under all of the requirements in this Standard including those requirements with a specified future effective date, unless the applicant specifically requests that the product be judged under the current requirements. However, if

UL COPYRIGHTED MATERIAL –
NOT AUTHORIZED FOR FURTHER REPRODUCTION OR
DISTRIBUTION WITHOUT PERMISSION FROM UL



Documents

Document Sharing Hub

the applicant elects this option, it should be noted that compliance with all the requirements in this Standard will be required as a condition of continued Listing and Follow-Up Services after the effective date, and understanding of this should be signified in writing.

Copyright © 2007 Underwriters Laboratories Inc.

This Standard consists of pages dated as shown in the following checklist:

Page	Date
1.....	July 27, 2007
2-25	February 16, 2006
26	June 2, 2006
27.....	July 27, 2007
28	February 16, 2006

Document Was Downloaded By Rice, Shi SHIMISHENG
For Use By KUANTECH CO LTD
12039 : 8/7/2007 - 4:32 AM
UL COPYRIGHTED MATERIAL –

NOT AUTHORIZED FOR FURTHER REPRODUCTION OR
DISTRIBUTION WITHOUT PERMISSION FROM UL



Documents

Document Sharing Hub

No Text on This Page

Document Was Downloaded By Rice, Shi SHIMISHENG
For Use By KUANTECH CO LTD
12039 : 8/7/2007 - 4:32 AM

UL COPYRIGHTED MATERIAL –
NOT AUTHORIZED FOR FURTHER REPRODUCTION OR
DISTRIBUTION WITHOUT PERMISSION FROM UL



Documents

Document Sharing Hub

FEBRUARY 16, 2006
(Title Page Reprinted: July 27, 2007)



ANSI/UL 1242-2007

1

UL 1242

Standard for Electrical Intermediate Metal Conduit – Steel

First Edition – October, 1983
Second Edition – July, 1996
Third Edition – July, 2000

Fourth Edition

February 16, 2006

The most recent designation of ANSI/UL 1242 as an American National Standard (ANSI) occurred on July 20, 2007.

This ANSI/UL Standard for Safety, which consists of the Fourth Edition, with revisions through July 27, 2007 is under continuous maintenance, whereby each revision is ANSI approved upon publication.

An effective date included as a note immediately following certain requirements is one established by Underwriters Laboratories Inc. and is not part of the ANSI standard.

The Department of Defense (DoD) has adopted UL 1242 on May 21, 1984. The publication of revised pages or a new edition of this Standard will not invalidate the DoD adoption.

Revisions of this Standard will be made by issuing revised or additional pages bearing their date of issue. A UL Standard is current only if it incorporates the most recently adopted revisions, all of which are itemized on the transmittal notice that accompanies the latest set of revised requirements. Comments or proposals for revisions on any part of the Standard may be submitted to UL at any time. Proposals should be submitted via a Proposal Request in UL's On-Line Collaborative Standards Development System (CSDS) at <http://csds.ul.com>.

COPYRIGHT © 2006, 2007 UNDERWRITERS LABORATORIES INC.

UL COPYRIGHTED MATERIAL –

**NOT AUTHORIZED FOR FURTHER REPRODUCTION OR
DISTRIBUTION WITHOUT PERMISSION FROM UL**



Documents

Document Sharing Hub

No Text on This Page

Document Was Downloaded By Rice, Shi SHIMISHENG
For Use By KUANTECH CO LTD
12039 : 8/7/2007 - 4:32 AM

UL COPYRIGHTED MATERIAL –
NOT AUTHORIZED FOR FURTHER REPRODUCTION OR
DISTRIBUTION WITHOUT PERMISSION FROM UL



Documents
Document Sharing Hub

CONTENTS

INTRODUCTION

1 Scope	5
2 Units of Measurement	5
3 References	5
4 Glossary	5

CONSTRUCTION

5 General	6
6 Protective Coatings	6
6.1 General	6
6.2 Surface treatments	6
6.3 Supplementary coatings	7
6.4 Alternate corrosion-resistant coatings	7
7 Threading and Chamfering	7
7.1 General	7
7.2 Protection of threads	8
7.3 Dimensions of threads	8
7.4 Taper of threads	9
8 Thread Gauging	9
9 Straight Conduit	10
10 Nipples	11
11 Elbows	11
12 Couplings	12

PERFORMANCE

13 Identification of Compounds	14
14 Bending	14
14.1 Ambient temperature	14
14.2 Low temperature	15
15 Protective Coatings	15
15.1 Zinc coating	15
15.2 Alternate corrosion-resistant coatings	17
15.3 Organic coatings	20
16 Tensile Strength and Adhesion	21
17 Cold Impact Test	22
18 Flammability Test	22
18.1 General	22
18.2 Preparations	22
18.3 Conduct of the test	25
19 Beam-Strength	25
20 Threaded-Conduit Pullout	26

MARKINGS

21 Details	27
------------------	----

UL COPYRIGHTED MATERIAL –
NOT AUTHORIZED FOR FURTHER REPRODUCTION OR
DISTRIBUTION WITHOUT PERMISSION FROM UL



Documents
Document Sharing Hub

EXAMINATION OF FINISHED PRODUCT BY MANUFACTURER

22 General	28
------------------	----

Document Was Downloaded By Rice, Shi SHIMISHENG
For Use By KUANTECH CO LTD
12039 : 8/7/2007 - 4:32 AM

UL COPYRIGHTED MATERIAL –
NOT AUTHORIZED FOR FURTHER REPRODUCTION OR
DISTRIBUTION WITHOUT PERMISSION FROM UL



Documents

Document Sharing Hub

INTRODUCTION

1 Scope

1.1 These requirements cover steel electrical intermediate metal conduit (IMC), nipples, elbows, and couplings. This conduit is provided in trade sizes 1/2 – 4 (16 – 103), for use as a metal raceway for the installation of wires and cables in accordance with the National Electrical Code (NEC), NFPA 70. The values in parentheses are metric designators of conduit.

1.2 Steel intermediate metal conduit is provided with an exterior coating of zinc or a zinc-based, nonmetallic, or other alternate corrosion-resistant material and an interior coating of an organic or zinc material. Each of these exterior and interior coatings provides an acceptable level of corrosion resistance in normally corrosive environments. It is the user's responsibility to determine the appropriate product for the application.

2 Units of Measurement

2.1 Values stated without parentheses are the requirement. Values in parentheses are explanatory or approximate information.

3 References

3.1 Any undated reference to a code or standard appearing in the requirements of this standard shall be interpreted as referring to the latest edition of that code or standard.

4 Glossary

4.1 For purposes of this standard the following definitions apply.

4.2 COATING(S), ALTERNATE CORROSION-RESISTANT – A coating(s) (other than one consisting solely of zinc) that, upon evaluation, has demonstrated the ability to provide the level of corrosion resistance required on the exterior of conduit. Coatings may include zinc. See 15.2.

4.3 COATING(S), ORGANIC – A coating(s) (other than one consisting solely of zinc) that, upon evaluation, has demonstrated the ability to provide the level of corrosion resistance necessary where the coating is not subject to physical damage, such as on the interior of conduit. The coatings may include zinc. See 15.3.

4.4 COATING(S), ZINC – A coating consisting solely of zinc, that, upon evaluation, has demonstrated the ability to provide the level of corrosion resistance required for the exterior or interior of the conduit as applicable. See 15.1.

UL COPYRIGHTED MATERIAL –

NOT AUTHORIZED FOR FURTHER REPRODUCTION OR
DISTRIBUTION WITHOUT PERMISSION FROM UL



Documents

Document Sharing Hub