

Underwriters Laboratories Inc.
333 Pfingsten Road
Northbrook, IL 60062

UL Standard for Safety
for

D-C Fuses for Industrial Use, UL 198L

Third Edition, Dated May 15, 1995

Revisions: This file contains revisions through and including May 16, 1995.

Announcement Bulletin: This file contains the announcement bulletin dated November 11, 1994 issued for this Standard. The announcement bulletin is located at the end of the file.

UL provides this publication "as is" without warranty of any kind, either expressed or implied, including but not limited to, the implied warranties of merchantability or fitness. 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's Standards-on-Diskette are copyrighted by UL, and neither the distribution diskette nor the file for the Standard on the distribution diskette should be altered in any way.

If a single-user version Standards-on-Diskette was purchased, one copy of the Standard may be stored on the hard disk of a single personal computer, or one back-up copy of the diskette may be made as a working diskette. The original distribution diskette should be stored in a safe place.

If a multiple-user version Standards-on-Diskette 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. The number of concurrent users shall not exceed the number of users authorized for the Standards-on-Diskette version. The original distribution diskette should be stored in a safe place.

The master file for the Standards-on-Diskette 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 a Standards-on-Diskette.

Only one copy of the Standard may be printed from each single-user version of a Standards-on-Diskette. Only one copy of the Standard may be printed for each authorized user of a multiple-user version of a Standards-on-Diskette.

The requirements in this Standard are now in effect, except for those paragraphs, sections, tables, and figures 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.

Copyright 1995 Underwriters Laboratories Inc.

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

Page	Date
1	May 15, 1995
2	—
3, 4	May 15, 1995
5—7	May 16, 1995
8	May 15, 1995
9	May 16, 1995

MAY 15, 1995



1

UL 198L

Standard for

D-C Fuses For Industrial Use

First Edition — July, 1981
Second Edition — March, 1988

Third Edition

May 15, 1995

Approval as an American National Standard (ANSI) covers the numbered paragraphs on pages dated May 15, 1995. These pages should not be discarded when revised or additional pages are issued if it is desired to retain the ANSI approved text.

An effective date included as a note immediately following certain requirements is one established by Underwriters Laboratories Inc.

Approved as ANSI/UL 198L - 1987, August 14, 1987
Approved as ANSI/UL 198L - 1994, November 17, 1994

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 published set of revision pages.

ISBN 1-55989-815-1

COPYRIGHT © 1981, 1995 UNDERWRITERS LABORATORIES INC.

CONTENTS

FOREWORD

INTRODUCTION

1 Scope	5
2 Units of Measurement	5
3 Undated References	5

PERFORMANCE

4 General	5
5 Overload Test	6
6 Time-Delay Test	8
7 Interrupting-Ability Test	8
8 Maximum Energy Test	8

RATING

9 Details	9
-----------------	---

MARKING

10 Details	9
------------------	---

FOREWORD

A. This Standard contains basic requirements for products covered by Underwriters Laboratories Inc. (UL) under its Follow-Up Service for this category within the limitations given below and in the Scope section of this Standard. These requirements are based upon sound engineering principles, research, records of tests and field experience, and an appreciation of the problems of manufacture, installation, and use derived from consultation with and information obtained from manufacturers, users, inspection authorities, and others having specialized experience. They are subject to revision as further experience and investigation may show is necessary or desirable.

B. The observance of the requirements of this Standard by a manufacturer is one of the conditions of the continued coverage of the manufacturer's product.

C. A product which complies with the text of this Standard will not necessarily be judged to comply with the Standard if, when examined and tested, it is found to have other features which impair the level of safety contemplated by these requirements.

D. A product employing materials or having forms of construction differing from those detailed in the requirements of this Standard may be examined and tested according to the intent of the requirements and, if found to be substantially equivalent, may be judged to comply with the Standard.

E. UL, in performing its functions in accordance with its objectives, does not assume or undertake to discharge any responsibility of the manufacturer or any other party. The opinions and findings of UL represent its professional judgment given with due consideration to the necessary limitations of practical operation and state of the art at the time the Standard is processed. UL shall not be responsible to anyone for the use of or reliance upon this Standard by anyone. UL shall not incur any obligation or liability for damages, including consequential damages, arising out of or in connection with the use, interpretation of, or reliance upon this Standard.

F. Many tests required by the Standards of UL are inherently hazardous and adequate safeguards for personnel and property shall be employed in conducting such tests.

INTRODUCTION

1 Scope

1.1 These requirements cover D-C rated Class G, H, renewable H, and K fuses for industrial use in accordance with the National Electrical Code, NFPA 70.

1.1 revised May 16, 1995

1.2 D-C mine-duty fuses used for the protection of trailing cables are covered in the Standard for Mine-Duty Fuses, UL 198M.

1.3 These requirements supplement the requirements for the respective fuse Class specified in:

- a) The Standard for Class H Fuses, UL 198B,
- b) The Standard for High-Interrupting-Capacity Fuses, Current-Limiting Types, UL 198C, and
- c) The Standard for Class K Fuses, UL 198D.

1.3 revised May 16, 1995

1.4 A product that contains features, characteristics, components, materials, or systems new or different from those covered by the requirements in this standard, and that involves a risk of fire, electric shock, or injury to persons shall be evaluated using the appropriate additional component and end-product requirements as determined necessary to maintain the acceptable level of safety as originally anticipated by the intent of this standard. A product whose features, characteristics, components, materials, or systems conflict with specific requirements or provisions of this standard cannot be judged to comply with this standard. Where considered appropriate, revision of requirements shall be proposed and adopted in conformance with the methods employed for development, revision, and implementation of this standard.

2 Units of Measurement

2.1 If a value for measurement is followed by a value in other units in parentheses, the second value may be only approximate. The first stated value is the requirement.

3 Undated 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.

PERFORMANCE

4 General

4.1 The required tests and number of samples needed are summarized in Table 4.1.