



UL 482

Underwriters Laboratories Inc. Standard for Safety

Portable Sun/Heat Lamps



Documents
Document Sharing Hub

UL Standard for Safety for Portable Sun/Heat Lamps, UL 482

Ninth Edition, Dated September 2, 2005

Summary of Topics

These revisions to ANSI/UL 482 are being issued to address universal upkeep of UL Standards for Safety. These revisions are considered to be non-substantive and not subject to UL's STP process.

Text that has been changed in any manner or impacted by UL's electronic publishing system 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.

A reference to UL 60730-1 and/or a Part 2 standard from that series has been added to this standard. The addition of this reference provides an alternate standard for investigating components currently covered by UL 873 until October 19, 2016. This added reference will facilitate the use of components that have been investigated to the UL 60730 series. Such components have been determined to fulfill the requirements of the legacy standards.

UL 60730-1 (4th Edition) becomes effective on October 19, 2016. All components that were previously investigated to the requirements in UL 873 will have to comply with the requirements in either UL 60730-1 and/or a Part 2 standard from that series in order to maintain UL Listing or Recognition, as appropriate. UL 873 legacy control standard will be withdrawn on October 19, 2016.

This is intended to provide end product manufacturers with sufficient time to a) address the impact of the standards changes during normal design changes over the intervening years, b) submit any modified products for investigation, and c) implement any necessary changes in production.

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.

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.

Users 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 judgment (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.

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.

No Text on This Page

SEPTEMBER 2, 2005
(Title Page Reprinted: March 18, 2010)



ANSI/UL 482-2005 (R2009)

1

UL 482

Standard for Portable Sun/Heat Lamps

The First and the Second editions were titled Standard for Therapeutic Lamps.

First Edition – May, 1957
Second Edition – May, 1973
Third Edition – August, 1974
Fourth Edition – October, 1975
Fifth Edition – April, 1981
Sixth Edition – July, 1987
Seventh Edition – May, 1994
Eighth Edition – May, 1999

Ninth Edition

September 2, 2005

This ANSI/UL Standard for Safety consists of the Ninth edition including revisions through March 18, 2010.

The most recent designation of ANSI/UL 482 as a Reaffirmed American National Standard (ANS) occurred on December 11, 2009. ANSI approval for a standard does not include the Cover Page, Transmittal Pages, Title Page, or effective date information.

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>.

UL's Standards for Safety are copyrighted by UL. Neither a printed nor electronic copy of a Standard 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.

COPYRIGHT © 2010 UNDERWRITERS LABORATORIES INC.

No Text on This Page

CONTENTS

INTRODUCTION

1 Scope	6
2 Components	6
3 Units of Measurement	7
4 References	7

CONSTRUCTION

5 General	7
6 Frame and Enclosure	7
7 Mechanical Assembly	10
8 Corrosion Protection	10
9 Electrical Potentials	11
10 Cords and Plugs	11
11 Bushings	12
12 Internal Wiring	13
13 Insulating Materials	13
14 Lampholders	14
15 Switches and Interlocks	14
16 Timers	14
17 Protective Eyewear	15
18 Spacings	15
19 Grounding	16

PERFORMANCE

20 General	16
21 Leakage Current Test	16
22 Input Test	18
23 Irradiance Ratio Test	18
24 Temperature Test – Normal Operation	19
25 Endurance Test	23
26 Temperature Test – Abnormal Operation	23
27 Strain Relief Test	25
28 Adhesion of Labels Test	25
29 Dielectric Voltage-Withstand Test	26

MANUFACTURING AND PRODUCTION-LINE TESTS

30 Production-Line Dielectric Voltage-Withstand Test	26
31 Production-Line Grounding Continuity Test	27

RATINGS

32 General	28
------------------	----

MARKINGS

33 Specifics	28
--------------------	----

APPENDIX A

Standards for Components.....	A1
-------------------------------	----

No Text on This Page

INTRODUCTION

1 Scope

1.1 This Standard covers sun lamps, heat lamps and combination sun and heat lamps rated at not more than 125 V. A sun lamp is intended for production of ultraviolet radiation for skin tanning. A heat lamp is intended for production of infrared radiation. A combination sun and heat lamp is intended for production of both ultraviolet and infrared radiation. In the text of this Standard, the term sun/heat lamp is intended to cover all types.

1.2 This Standard covers portable sun/heat lamps intended for use by nontechnically qualified persons in homes, sports facilities, health spas and similar establishments and intended for connection to a power-supply circuit by a flexible cord for use in accordance with the National Electrical Code, ANSI/NFPA 70.

1.3 This Standard does not cover lamps intended primarily to provide illumination (although some visible radiation may be produced during the operation of a sun/heat lamp).

1.4 This Standard does not cover sun or heat lamps intended for professional use. Professional use lamps are those for use by technically qualified persons in hospitals, nursing homes, medical care centers, clinics, medical offices, laboratories, and similar establishments for therapeutic purposes. The therapeutic lamps are covered by the requirements for medical and dental equipment.

1.5 Ultraviolet lamps intended for high intensity, short duration – 2 minute maximum first exposure time for most sensitive skin – operation will be subject to an appropriate investigation for any additional requirements as are applicable to a lamp with this feature.

1.6 This Standard does not cover bulbs alone but complete appliances.

2 Components

2.1 Except as indicated in 2.2, a component of a product covered by this Standard shall comply with the requirements for that component. See Appendix A for a list of standards covering components generally used in the products covered by this Standard.

2.2 A component is not required to comply with a specific requirement that:

- a) Involves a feature or characteristic not required in the application of the component in the product covered by this standard, or
- b) Is superseded by a requirement in this standard.

2.3 A component shall be used in accordance with its rating established for the intended conditions of use.

2.4 Specific components are incomplete in construction features or restricted in performance capabilities. Such components are intended for use only under limited conditions, such as certain temperatures not exceeding specified limits, and shall be used only under those specific conditions.

3 Units of Measurement

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

3.2 Unless indicated otherwise all voltage and current values mentioned in this Standard are root-mean-square (rms).

4 References

4.1 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.

CONSTRUCTION

5 General

5.1 Portable sun lamps are subject to the Radiation Control for Health and Safety Act of 1968, and the Federal Food, Drug and Cosmetic Act, as amended by the Safe Medical Act of 1990 and the Medical Device Amendments of 1992.

6 Frame and Enclosure

6.1 A sun/heat lamp shall be so formed and assembled that it has the strength and rigidity necessary to resist the abuses to which it is likely to be subjected without increasing its risk of fire, electric shock, or injury to persons due to total or partial collapse with resulting reduction of spacings, loosening or displacement of parts, or other serious defects.

6.2 A sun/heat lamp shall have an enclosure of metal or of noncombustible, nonabsorptive insulating material such as glass, marble, phenolic composition, or of a material determined to be acceptable for the application.

6.3 Among the factors taken into consideration when determining the acceptability of a nonmetallic enclosure are:

- a) The mechanical strength,
- b) Resistance to impact,
- c) Moisture-absorptive properties,
- d) Combustibility and resistance to ignition from electrical sources,
- e) Dielectric strength, insulation resistance, and resistance to arc tracking, and
- f) Resistance to distortion and creeping at temperatures to which the material may be subjected under conditions of intended or abnormal usage.

The material is not to display a loss of these properties beyond the minimum acceptable level as a result of aging. See the requirements in the Standard for Polymeric Materials – Use in Electrical Equipment Evaluations, UL 746C.

6.4 The continuity of the grounding system shall not rely on the dimensional integrity of the nonmetallic material.

6.5 Electrical parts of a sun/heat lamp shall be so located or enclosed that protection against unintentional contact with uninsulated live parts, other than the contacts of a lampholder, is provided.

6.6 An opening in an enclosure that contains live or current-carrying parts shall prevent entrance of a 1 inch (25.4 mm) diameter rod and is acceptable if a probe as illustrated in Figure 6.1, inserted through the opening, cannot touch any uninsulated live part or coated-magnet wire that may cause an electric shock. The probe shall be applied in all possible articulated positions before, during, and after insertion.