

UL 1054

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Special-Use Switches

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UL Standard for Safety for Special-Use Switches, UL 1054

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Revisions: This Standard contains revisions through and including February 29, 2000.

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.

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The revisions dated February 29, 2000 include a reprinted title page (page1) for this Standard.

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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 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 Recognition and Follow-Up Services after the effective date, and understanding of this should be signified in writing.

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2	February 12, 1999
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4	May 20, 1995
5	February 29, 2000
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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 which conflict with specific requirements of the Standard cannot be judged to comply with the Standard. A product employing materials or having forms of construction not addressed by this Standard may be examined and tested according to the intent of the requirements and, if found to meet the intent of this Standard, 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 manually operable and mechanically operable special-use switches:

- a) That are for use on direct current as well as on alternating current or on alternating current only, and
- b) For which the load ratings do not exceed 60 amperes at 250 volts or a lower potential and 30 amperes or 2 horsepower at 600 volts or a lower potential.

1.2 A special-use switch is intended for use in a device or appliance. A special-use switch is intended for factory installation in equipment and is not intended for field wiring other than replacement in original equipment. A vacuum-cleaner-handle switch, a heater switch, a radio or television switch, and a through-cord switch that has more than one on or one off position are examples of special-use switches.

1.2 revised January 26, 1996

1.3 These requirements do not cover through-cord switches with one on and one off position, special-use dimmer switches, or switches constructed so that they can be installed readily in a flush-device box or an outlet-box cover or can otherwise be used in a wiring system that complies with the National Electrical Code, NFPA 70.

1.3 revised January 26, 1996

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 to determine that the level of safety as originally anticipated by the intent of this Standard is maintained. A product whose features, characteristics, components, materials, or systems conflict with specific requirements or provisions of this Standard shall not be judged to comply with this Standard. Where appropriate, revision of requirements shall be proposed and adopted in conformance with the methods employed for development, revision, and implementation of this Standard.

1.4 revised February 29, 2000

2 Glossary

2.1 For the purpose of this standard the following definitions apply.

2.2 **ACTUATING MEMBER** – The part of the operating mechanism that extends outside the body of the switch and is intended to be exposed to contact by the operator.

2.3 **CURRENT-INRUSH FACTOR** – The number by which the normal (steady-state) peak current through a tungsten-filament-lamp load is multiplied to obtain the peak value of the inrush current through the load.

2.4 **PUSH-IN (SCREWLESS) TERMINAL** – A wire terminal that automatically locks a stripped conductor when it is inserted in the terminal.

2.5 **TELEVISION SWITCH** – A switch intended for use as a supply-circuit control switch in a radio or television-receiving appliance.

3 Components

3.1 A component of a product covered by this standard shall comply with the requirements for that component, and shall be used in accordance with its recognized rating and other limitations of use. A component need not comply with a specific requirement that:

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

3.2 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.

3.3 In the following text, a requirement that applies only to a switch for a specific use, such as in a heating appliance or in a radio or television-receiving appliance, is so identified by a specific reference in that requirement to the use involved. Absence of such specific reference or use of the term switch indicates that the requirement applies to all switches covered by this standard unless the context indicates otherwise.

4 General Requirements for All Switches

4.1 Requirements under this heading apply to all switches covered by this standard. They are supplemented in subsequent sections with requirements applying exclusively to heater switches, television switches, and special-use dimmer switches.

4.2 A switch shall employ materials that are acceptable for the intended use.

CONSTRUCTION

5 Enclosure

5.1 General

5.1.1 A metal enclosure of a switch shall not be less than 0.013 inch (0.33 mm) thick. Heavier metal shall be employed to provide strength and rigidity if the switch is rated more than 5 amperes-250 volts, 10 amperes-125 volts, or if the size or shape of the enclosure requires an increased metal thickness.

5.1.2 A switch intended to be exposed to a specific environment shall comply with the applicable requirements in the Standard for Enclosures for Electrical Equipment, UL 50.

5.1.2 added January 26, 1996

5.2 Lining

5.2.1 All conductive material on the inside surface of a part of the enclosure that is removable for wiring shall be lined completely with insulation not less than 1/32 inch (0.8 mm) thick. The thickness of the insulation is to be measured by means of a machinist's micrometer caliper having a flat-ended spindle and a rounded anvil.

Exception: The lining of a switch may be less than 1/32 inch (0.8 mm) thick if of a material – other than paper or fiber – that has been shown to be acceptable for the application, and may be omitted if there is a spacing of not less than 1/4 inch (6.4 mm) between any uninsulated live part and the metal enclosure.