UL 13

STANDARD FOR SAFETY

Power-Limited Circuit Cables

UL Standard for Safety for Power-Limited Circuit Cables, UL 13

Fourth Edition, Dated March 18, 2015

SUMMARY OF TOPICS

This revision of ANSI/UL 13 dated October 13, 2021 includes changes in the following requirements:

– Carbon-Arc Exposure; 29.1

– Laser Marking on Cable Surface; 47.2

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.

The revised requirements are substantially in accordance with Proposal(s) on this subject dated September 3, 2021.

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Standard for Power-Limited Circuit Cables

First Edition – November, 1990
Second Edition – February, 1996
Third Edition – July, 2007

Fourth Edition

March 18, 2015

This ANSI/UL Standard for Safety consists of the Fourth Edition including revisions through October 13, 2021.

The most recent designation of ANSI/UL 13 as an American National Standard (ANSI) occurred on October 13, 2021. ANSI approval for a standard does not include the Cover Page, Transmittal Pages, and Title Page.

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 https://csds.ul.com.

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INTRODUCTION

1 Scope

1.1 These requirements cover 60 – 250°C (140 – 482°F) single- and multiple-conductor power-limited circuit cables for use as fixed wiring within buildings (some are also marked for direct burial) principally for Class 3 and Class 2 circuits as described in Article 725 and other applicable parts of the National Electrical Code (NEC). Cables covered by these requirements are:

a) Types CL3P and CL2P (plenum cables),

b) Types CL3R and CL2R (riser cables),

c) Types CL3 and CL2 (commercial cables for other than plenum, riser, or tray uses),

d) Types CL3X and CL2X (cables for limited use), and

e) Type PLTC (cable for non-plenum and non-riser Class 3 and Class 2 circuits in general and in trays).

1.2 Cables for Class 3 circuits are rated for 300 volts but are not so marked. Cables for Class 2 circuits do not have a voltage rating. See 47.1(h).

1.3 A cable that contains one or more electromagnetic shields may be surface marked or have a marker tape to indicate that it is "shielded". A cable that contains one or more optical-fiber members has "-OF" supplementing the type letters and is marked in accordance with 48.1(d). A cable may consist of or contain one or more coaxial members.

1.4 The overall jacket on a cable that has "sun res" or "sunlight resistant" in a surface marking or on a marker tape complies with a 720-h sunlight-resistance test. The overall jacket on all Type PLTC cable is required to comply with this 720-h test, so Type PLTC cable may be marked "sun res" or "sunlight resistant" but is not required to be so marked.

1.5 A cable that has "dir bur", "direct burial", or "for direct burial" in a surface marking or on a marker tape complies with a 1000-lbf crushing test. Direct-burial cable with wire armor, a metal braid, interlocked metal armor, or a smooth or corrugated metal sheath has a jacket over the metal covering.

1.6 Smoke and fire considerations are as follows for the cables covered in these requirements:

a) TYPE CL3P and CL2P CABLES – Cables that are intended for installation in accordance with section 725.82 (A) of the National Electrical Code, ANSI/NFPA 70, in a duct, plenum, or other space used to transport environmental air without the cables being enclosed in a raceway in that space are to be tested for smoke and flame characteristics in accordance with the National Fire Protection Association Standard Method of Test for Flame Travel and Smoke of Wires and Cables for Use in Air-Handling Spaces, ANSI/NFPA 262. A cable that complies exhibits a maximum flame-propagation distance that is not greater than 5 ft, 0 in or 152 cm, a peak optical density of smoke produced of 0.50 or less (32 percent light transmission), and an average optical density of smoke produced of 0.15 or less.

b) TYPE CL3R and CL2R CABLES – Cables that are intended for use in vertical runs in a shaft, or for installations in which the cables penetrate more than one floor, as specified in Section 725.82 (B) of the National Electrical Code, ANSI/NFPA 70, are to be tested for flame-propagation characteristics in accordance with the Standard for Test for Flame-Propagation Height of Electrical and Optical-Fiber Cables Installed Vertically in Shafts, UL 1666. A cable that complies has a flame-propagation height less than 12 ft, 0 in or 366 cm and temperatures are 850.0°F (454.4°C) or less at a height of 12 ft, 0 in or 366 cm.