



UL 1690

STANDARD FOR SAFETY

Data-Processing Cable

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UL Standard for Safety for Data-Processing Cable, UL 1690

Fourth Edition, Dated July 7, 2015

Summary of Topics

This revision of ANSI/UL 1690 dated August 7, 2020 is being issued to update the title page to reflect the most recent designation as a Reaffirmed American National Standard (ANS). No technical changes have been made.

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 requirements are substantially in accordance with Proposal(s) on this subject dated May 15, 2020.

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JULY 7, 2015
(Title Page Reprinted: August 7, 2020)



ANSI/UL 1690-2006 (R2020)

1

UL 1690

Standard for Data-Processing Cable

First Edition – December, 1993
Second Edition – April, 1999
Third Edition – August, 2006

Fourth Edition

July 7, 2015

This ANSI/UL Standard for Safety consists of the Fourth Edition including revisions through August 7, 2020.

The most recent designation of ANSI/UL 1690 as a Reaffirmed American National Standard (ANS) occurred on August 7, 2020. 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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CONTENTS

INTRODUCTION

1	Scope	5
2	Units of Measurement	6
3	References	6

CONSTRUCTION

4	Materials	6
5	Conductors	6
6	Size, Temper, and Assembly	7
7	Conductor Diameter and Cross-Sectional Area	7
8	Metal Coating	7
9	Separator	8
10	Joints	8
11	Resistance	9
12	Stranding	9
13	Insulation	11
	13.1 Material and Application	11
	13.2 Properties	14
	13.3 Thicknesses	15
14	Optical-Fiber Member(s)	20
15	Assembly	20
	15.1 Optical-fiber member(s)	20
	15.2 Circuit and grounding conductors	20
	15.3 Fillers	21
	15.4 Binders	21
	15.5 Shield	22
16	Overall Jacket	22
	16.1 Material and application	22
	16.2 Properties	23
	16.3 Thicknesses	24

PERFORMANCE

17	Continuity Test of Conductors	27
18	Heat Shock Test	27
19	Deformation Test	28
20	Cold Bend Test of Insulation	30
21	Cold Bend Test of Complete Cable	32
22	Spark and Dielectric Withstand Test Alternatives for Type DP-3 Series Cables	32
23	Spark Test after Insulating for Type DP-1 and DP-2 Series Cables	33
24	Dielectric Voltage-Withstand Test for Type DP-1 and DP-2 Series Cables	33
25	Insulation Resistance Test at 60.0°F (15.6°C)	34
26	Test Procedure for Determining the Multiplying-Factor Column for Adjusting Insulation Resistance	36
27	Crushing Resistance Test of Insulation	38
28	Changes in Construction	39
29	Smoke and Fire Testing of Type DP-1P, DP-2P, and DP-3P Cable	39
30	Vertical-Tray Flame Test on Type DP-1, DP-2, and DP-3 Cables	39
	30.1 General	39
	30.2 UL test	39
	30.3 FT4/IEEE 1202 test	40

30.4	Vertical-tray fire and smoke release test for DP-1, DP-2, and DP-3 cables with optional "-LS" marking	40
31	Durability Test of Ink Printing	40

MARKINGS

32	Intervals	40
33	Coding	40
34	Information on or in the Cable	41
35	Information on the Tag, Reel, or Carton	43
36	Multiple Markings	43
37	Date of Manufacture	44
38	Compact-Stranded Copper Conductors	44

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INTRODUCTION

1 Scope

1.1 These requirements cover electrical cables consisting of one or more current-carrying copper, aluminum, or copper-clad aluminum conductors with or without either or both grounding conductor(s), and one or more optical-fiber members, all under an overall jacket. These electrical and composite electrical/optical-fiber cables are intended for use (optical and electrical functions associated in the case of a hybrid cable) in accordance with Article 645 and other applicable parts of the National Electrical Code (NEC) under the raised floor of a computer room.

Cables complying with these requirements are:

Type DP-1 – Voltage Rating 600 volts, Flame Test: [1.2](#) (b)

Type DP-1P – Same as Type DP-1 except Flame Test: [1.2](#) (a)

Type DP-2 – Voltage Rating: 300 volts, Flame Test: [1.2](#) (b)

Type DP-2P – Same as Type DP-2 except Flame Test: [1.2](#) (a)

Type DP-3 – Voltage Rating none – for use in signaling circuits meeting the following requirements for maximum available voltage, current and power.

30 volts ac max.

60 volts dc max.

42.4 volts peak max.

100 VA max.

8 amps max.

and/or

other circuits for use in

inherently limited power

sources in accordance with

the requirements in the Standard

for Safety of Information Technology

Equipment – UL 60950

Flame Test: [1.2](#) (b)

Type DP-3P – Same as Type DP-3 except Flame Test: [1.2](#) (a)

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

a) TYPE DP-1P, DP-2P and DP-3P CABLES – These cables 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 1.52 m, a peak optical density of smoke produced of 0.5 or less (32 percent light transmission), and an average optical density of smoke produced of 0.15 or less.

b) TYPE DP-1, DP-2, and DP-3 CABLES – Cables comply with a 70,000 Btu/h (20.5 kW) vertical-tray flame test. The cable manufacturer chooses one of the following tests:

1) THE UL TEST REFERENCED IN [30.2.1](#) – This paragraph applies the test method described as the UL Flame Exposure (smoke measurements are not applicable) in the Standard for Vertical-Tray Fire-Propagation and Smoke-Release Test for Electrical and Optical-Fiber Cables, UL 1685. For compliance, this test damages less than 8 feet (244 cm) of cable.