



National Differences For

UL 60079-7

Explosive atmospheres – Part 7: Equipment protection by increased safety "e"

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Explosive atmospheres – Part 7: Equipment protection by increased safety "e"

Fifth Edition

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This revision of ANSI/UL 60079-7 is being issued to correct editorial references in 5.3.5.3.1DV and 6.2.3.2.3DV.

This document provides a single listing of the National Differences included in the UL adoption of the corresponding IEC standard.

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Preface

This document provides a single listing of the technical National Differences included in the UL adoption of the corresponding IEC standard.

In its IEC-based standards, UL uses the notations indicated below to identify national difference type, and these types are additionally noted in this document. The standard may not use all types of these deviations.

D1 - These are deviations which are based on basic safety principles and requirements, elimination of which would compromise safety for U.S. consumers and users of products.

D2 - These are deviations based on safety practices. These are deviations for IEC requirements that may be acceptable, but adopting the IEC requirements would require considerable retesting or redesign on the manufacturer's part.

DC - These are deviations based on the component standards and will not be deleted until a particular component standard is harmonized with the IEC component standard.

DE - These are deviations based on editorial comments or corrections.

DR - These are deviations based on the national regulatory requirements.

Each national difference contains a description of what the national difference entails. Typically one of the following words is used to explain how the text of the national difference is to be applied to the base IEC text:

Addition / Add - An addition entails adding a complete new numbered clause, subclause, table, figure, or annex. Addition is not meant to include adding select words to the base IEC text.

Deletion / Delete - A deletion entails complete deletion of an entire numbered clause, subclause, table, figure, or annex without any replacement text.

Modification / Modify - A modification is an altering of the existing base IEC text such as the addition, replacement or deletion of certain words or the replacement of an entire clause, subclause, table, figure, or annex of the base IEC text.

National Differences

1DV.1 DR Modification of Clause 1, first paragraph to replace with the following:

1DV.1.1 This ~~part of IEC 60079 standard~~ specifies the requirements for the design, construction, testing and marking of electrical equipment and Ex Components with type of protection increased safety “e” intended for use in explosive gas atmospheres.

1DV.2 DR Modification of Clause 1, eighth paragraph to replace with the following:

1DV.2.1 This standard supplements and modifies the general requirements of ~~IEC 60079-0~~ UL 60079-0. Where a requirement of this standard conflicts with a requirement of ~~IEC 60079-0~~ UL 60079-0, the requirement of this standard takes precedence.

1DV.3 DR Addition of 1DV.3.1

Where references are made to other IEC 60079 standards, the referenced requirements found in these standards apply as modified by any applicable U.S. National Differences.

2DV DR Modification of Clause 2 references to replace with the following:

ANSI C78.1, Fluorescent Lamps – Rapid Start Types – Dimensional and Electrical Characteristics

ANSI C81.61, Electric Lamp Bases

ANSI C81.62, Lampholders for Bases

ANSI/NFPA 70, National Electrical Code® (NEC®)

IEC 60034-1, Rotating electrical machines – Part 1: Rating and performance

IEC 60034-29, Rotating electrical machines – Part 29: Equivalent loading and superposition techniques – indirect loading to determine temperature rise

IEC 60044-6, Instrument transformers – Part 6: Requirements for protective current transformers for transient performance

IEC 60061-1, Lamp caps and holders together with gauges for the control of interchangeability and safety. Part 1: Lamp caps

IEC 60061-2, Lamp caps and holders together with gauges for the control of interchangeability and safety – Part 2: Lampholders

IEC 60064, Tungsten filament lamps for domestic and similar general lighting purposes – Performance requirements

IEC 60068-2-6, Environmental testing – Part 2-6: Tests – Test Fc: Vibration (sinusoidal)

IEC 60068-2-27:2008, Environmental testing – Part 2-27: Tests – Test Ea and guidance: Shock

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IEC 60068-2-42, *Environmental testing – Part 2-42: Tests – Test Kc: Sulphur dioxide test for contacts and connections*

IEC 60079-0, *Explosive atmospheres – Part 0: Equipment – General requirements*

IEC 60079-1, *Explosive atmospheres – Part 1: Equipment protection by flameproof enclosures "d"*

IEC 60079-11, *Explosive atmospheres – Part 11: Equipment protection by intrinsic safety "i"*

IEC 60079-30-1, *Explosive atmospheres – Part 30-1: Electrical resistance trace heating – General and testing requirements*

IEC/IEEE 60079-30-1, *Explosive atmospheres – Part 30-1: Electrical resistance trace heating – General and testing requirements*

IEC 60081, *Double-Capped Fluorescent Lamps – Performance Specification*

IEC 60085, *Electrical insulation – Thermal evaluation and designation*

IEC 60112, *Method for the determination of the proof and the comparative tracking indices of solid insulating materials*

IEC 60216-1, *Electrical insulating materials – Thermal endurance properties – Part 1: Ageing procedures and evaluation of test results*

IEC 60216-2, *Electrical insulating materials – Thermal endurance properties – Part 2: Determination of thermal endurance properties of electrical insulating materials – Choice of test criteria*

IEC 60228, *Conductors of insulated cables*

IEC 60238, *Edison screw lampholders*

IEC 60317-3:2004, *Specifications for particular types of winding wires – Part 3: Polyester enamelled round copper wire, class 155*

IEC 60317-3:2004/AMD1:2010

IEC 60317-8, *Specifications for particular types of winding wires – Part 8: Polyesterimide enamelled round copper wire, class 180*

IEC 60317-13, *Specifications for particular types of winding wires – Part 13: Polyester or polyesterimide overcoated with polyamide-imide enamelled round copper wire, class 200*

IEC 60317-46, *Specifications for particular types of winding wires – Part 46: Aromatic polyimide enamelled round copper wire, class 240*

IEC 60400, *Lampholders for tubular fluorescent lamps and starterholders*

IEC 60432-1, *Incandescent lamps – Safety specifications – Part 1: Tungsten filament lamps for domestic and similar general lighting purposes*

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IEC 60432-2, Incandescent lamps – Safety specifications – Part 2: Tungsten halogen lamps for domestic and similar general lighting purposes

IEC 60432-3, Incandescent lamps – Safety specifications – Part 3: Tungsten halogen lamps (non-vehicle)

IEC 60529, Degrees of protection provided by enclosures (IP Code)

IEC 60598-1, Luminaires – Part 1: General requirements and tests

IEC 60664-1, Insulation coordination for equipment within low-voltage systems – Part 1: Principles, requirements and tests

IEC 60947-1, Low-voltage switchgear and controlgear – Part 1: General rules

~~**IEC 60947-7-1**, Low-voltage switchgear and controlgear – Part 7-1: Ancillary equipment – Terminal blocks for copper conductors~~

~~**IEC 60947-7-2**, Low-voltage switchgear and controlgear – Part 7-2: Ancillary equipment – Protective conductor terminal blocks for copper conductors~~

~~**IEC 60947-7-4**, Low-voltage switchgear and controlgear – Part 7-4: Ancillary equipment – PCB terminal blocks for copper conductors~~

IEC 60998-2-4, Connecting devices for low-voltage circuits for household and similar purposes – Part 2-4: Particular requirements for twist-on connecting devices

~~**IEC 60999-1**, Connecting devices – Electrical copper conductors – Safety requirements for screw-type and screwless-type clamping units – Part 1: General requirements and particular requirements for clamping units for conductors from 0,2 mm² up to 35 mm² (included)~~

~~**IEC 60999-2**, Connecting devices – Electrical copper conductors – Safety requirements for screw-type and screwless-type clamping units – Part 2: Particular requirements for clamping units for conductors above 35 mm² up to 300 mm² (included)~~

IEC 61184, Bayonet lampholders

IEC 61195, Double-capped fluorescent lamps – Safety specifications

IEC 61347-1, Lamp controlgear – Part 1: General and safety requirements

IEC 61347-2-3, Lamp control gear – Part 2-3: Particular requirements for a.c. and/or d.c. supplied electronic control gear for fluorescent lamps

IEC 62035, Discharge lamps (excluding fluorescent lamps) – Safety specifications

ISO 2859-1, Sampling procedures for inspection by attributes – Part 1: Sampling schemes indexed by acceptance quality limit (AQL) for lot-by-lot inspection

ISO 527-2, Plastics – Determination of tensile properties – Part 2: Test conditions for moulding and extrusion plastics

ISO 178, Plastics – Determination of flexural properties

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UL 486E *Equipment Wiring Terminal for Use with Aluminum and/or Copper Conductors*

UL 508 *Industrial Control Equipment*

UL 746A *Polymeric Materials – Short Term Property Evaluations*

UL 746B *Polymeric Materials – Long Term Property Evaluations*

UL 840 *Insulation Coordination Including Clearances and Creepage Distances for Electrical Equipment*

UL 844 *Luminaires for Use in Hazardous (Classified) Locations*

UL 1059 *Terminal Blocks*

UL 1598 *Luminaires*

UL 2238 *Cable Assemblies and Fittings for Industrial Control and Signal Distribution*

UL 2237 *Multi-Point Interconnection Power Cable Assemblies for Industrial Machinery*

UL 8750 *Light Emitting Diode (LED) Equipment for Use in Lighting Products*

UL 60079-0 *Explosive Atmospheres Part 0: Equipment – General Requirements*

UL 60079-1 *Explosive Atmospheres – Part 1: Equipment Protection by Flameproof Enclosures "d"*

UL 60079-11 *Explosive Atmospheres – Part 11: Equipment Protection by Intrinsic Safety "i"*

UL 60079-15 *Explosive Atmospheres – Part 15: Construction, Test and Marking of Type of Protection "n" Electrical Apparatus*

UL 60947-1 *Low Voltage Switchgear and Controlgear – Part 1: General Rules*

UL 60947-7-1 *Low Voltage Switchgear and Controlgear – Part 7-1: Ancillary Equipment – Terminal Blocks for Copper Conductors*

UL 60947-7-2 *Low Voltage Switchgear and Controlgear – Part 7-2: Ancillary Equipment – Protective Conductors Terminal Blocks for Copper Conductors*

UL 60947-7-4 *Low Voltage Switchgear and Controlgear – Part 7-4: Ancillary Equipment – PCB Terminal Blocks for Copper Conductors*

3DV DR Modification of Clause 3 to replace with the following:

For the purposes of this document standard, the terms and definitions given in IEC 60079-0 UL 60079-0, as well as the following apply.

NOTE For the definitions of any other terms, particularly those of a more general nature, please refer to IEC 60050-426 or other appropriate parts of IEC 60050, *International Electrotechnical Vocabulary*.

3.13.1DV DR Modification of Clause 3.13.1, Note 1 to replace with the following:

Note 1 to entry: Electric trace heating systems are addressed by IEC/IEEE 60079-30-1 or IEC/IEEE 60079-30-1 or IEEE 515.

3.13.2DV DR Modification of Clause 3.13.2, to Add Note 2 as follows:

Note 2 to entry: Where references are made to a "resistance heating device", the reference is intended to be read as "resistance heating equipment" to align with the NEC® definitions of device and equipment.

3.19DV DR Modification of Clause 3.19, Note 1 to replace with the following:

Note 1 to entry: For additional information on trace heaters, see IEC/IEEE 60079-30-1.

4.1DV DR Modification of Clause 4.1 to replace with the following:

Electrical equipment with Type of Protection increased safety "e" shall be one of the following:

- Level of Protection "eb" (EPL "Mb" or "Gb"); or
- Level of Protection "ec" (EPL "Gc").

The requirements of this clause apply, unless otherwise stated in Clause 5, to all electrical equipment and Ex Components with Type of Protection "e".

Equipment evaluated as Level of Protection "ec" may include manually operated arcing or sparking components located within an enclosure that have been considered to be not accessible in normal operation without the use of a tool (see fastener general requirements of UL 60079-0. The function of these components and their location in an enclosure as noted above shall be specifically identified in the schedule documents prepared in accordance with the documentation requirements of UL 60079-0.