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NATIONAL STANDARD

ANSI/CAN/UL/ULC 1254:2022

STANDARD FOR SAFETY

Pre-Engineered and Engineered Dry and Pre-Engineered Wet Chemical Extinguishing System Units

Approved American National Standard
ANSI
ANSI/UL 1254-2022

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UL Standard for Safety for Pre-Engineered and Engineered Dry and Pre-Engineered Wet Chemical Extinguishing System Units, ANSI/CAN/UL/ULC 1254

Sixth Edition, Dated April 3, 2019

Summary of Topics

This revision of ANSI/CAN/UL/ULC 1254 dated February 9, 2022 is being issued to revise the title of the standard, include Engineered Dry Chemical Extinguishing System Units and changes to salt spray applicability: 1.1 – 1.3, 5.1A, 5.7A, 5.23A, 6.1A, 6.1B, 6.2, Section 32A, Section 33A, 38.2A, 38.4, Section 45A, 65.1, 65.2, Section 65A

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 new and revised requirements are substantially in accordance with Proposal(s) on this subject dated August 6, 2021 and December 3, 2021.

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April 3, 2019

This ANSI/CAN/UL/ULC Standard for Safety consists of the Sixth edition including revisions through February 9, 2022.

The most recent designation of ANSI/UL 1254 as an American National Standard (ANSI) occurred on February 9, 2022. ANSI approval for a standard does not include the Cover Page, Transmittal Pages, Title Page, Preface or SCC Foreword.

This standard has been designated as a National Standard of Canada (NSC) on February 9, 2022.

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Preface

This is the Sixth Edition of the ANSI/CAN/UL/ULC 1254, Standard for Pre-Engineered and Engineered Dry and Pre-Engineered Wet Chemical Extinguishing System Units.

UL is accredited by the American National Standards Institute (ANSI) and the Standards Council of Canada (SCC) as a Standards Development Organization (SDO). ULC Standards is accredited by the Standards Council of Canada (SCC) as a Standards Development Organization (SDO).

This Standard has been developed in compliance with the requirements of ANSI and SCC for accreditation of a Standards Development Organization.

This ANSI/CAN/UL/ULC 1254 Standard is under continuous maintenance, whereby each revision is approved in compliance with the requirements of ANSI and SCC for accreditation of a Standards Development Organization. In the event that no revisions are issued for a period of four years from the date of publication, action to revise, reaffirm, or withdraw the standard shall be initiated.

In Canada, there are two official languages, English and French. All safety warnings must be in French and English. Attention is drawn to the possibility that some Canadian authorities may require additional markings and/or installation instructions to be in both official languages.

Annexes A and B, identified as normative, forms a mandatory part of this Standard.

In Canada, there are two official languages, English and French. All safety warnings must be in French and English. Attention is drawn to the possibility that some Canadian authorities may require additional markings and/or installation instructions to be in both official languages.

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.

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This Edition of the Standard has been formally approved by the UL Standards Technical Panel (STP) on Extinguishing Systems, STP 300.

This list represents the STP 300 membership when the final text in this standard was balloted. Since that time, changes in the membership may have occurred.

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This Standard is intended to be used for conformity assessment.

The intended primary application of this standard is stated in its scope. It is important to note that it remains the responsibility of the user of the standard to judge its suitability for this particular application.

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INTRODUCTION

1 Scope

1.1 These requirements cover the construction and operation of fixed pre-engineered and engineered dry chemical fire extinguishing system units and fixed automatic extinguisher units intended to be designed, installed, inspected, maintained, and tested in accordance with the Standard for Dry Chemical Extinguishing Systems, NFPA 17 and with the National Fire Code of Canada, as applicable; and; fixed pre-engineered wet chemical fire extinguishing system units intended to be used in accordance with the Standard for Wet Chemical Extinguishing Systems, NFPA 17A; and with the National Fire Code of Canada, as applicable.

1.2 Automatic extinguisher units do not have a manual means of operation and are intended to be used in accordance with the manufacturer's installation instructions. Automatic extinguisher units are not intended for use as a substitute for pre-engineered or engineered extinguishing system units, or for protection of fire risks larger than those specified in the manufacturer's instructions for a single unit by using multiple units.

1.3 Pre-engineered or engineered dry chemical extinguishing system units covered by these requirements are intended to be used in the following fire protection systems:

a) Industrial Total Flooding Protection System – A system arranged to discharge dry chemical throughout the intended protected volume. See Fire Test – Total Flooding Protection System, Section 26.

b) Class B Local Application Protection System – A system arranged to discharge dry chemical directly onto a specific area of protection. This application of chemical is normally used where no fixed enclosure exists or an extinguishing system is unable to totally flood the fixed enclosure to achieve extinguishment. See Fire Test – Class B Local Application Protection System, Section 27.

c) Commercial Cooking Equipment Protection System – A system arranged to discharge dry chemical onto cooking surfaces of cooking appliances and into hood and duct systems used for ventilation of commercial cooking appliances. See the Standard for Fire Testing of Fire Extinguishing Systems for Protection of Commercial Cooking Equipment, UL 300.

d) Automobile Service Station Fueling Area Protection System – A system arranged to discharge dry chemical directly onto small spill fires that originate and are maintained within the protected area. See Fire Test – Automobile Service Station Fueling Area Protection System, Section 28.

e) Open-Face Paint Spray Booth Protection System – A system arranged to discharge dry chemical into paint spray working areas and into the plenum and duct systems used for ventilation of paint spraying operations. See Fire Test – Open-Face Point Spray Booth Protection System, Section 29.

f) Vehicle Paint Spray Booth – A system arranged to discharge dry chemical into paint spray working areas and onto the plenum and duct systems used for ventilation of paint spraying operations. See Fire Test – Vehicle Paint Spray Booth Protection System, Section 30.

g) Off-the-Road Vehicle Protection System – A system arranged to discharge dry chemical onto fire risk areas and into volumes of vehicles such as aboveground mobile mining equipment, and mobile earthmoving equipment. See Fire Test – Total Flooding Protection System, Section 26, and/or Fire Test– Class B Local Application Protection System, Section 27, as applicable.

1.4 Pre-engineered wet chemical extinguishing system units covered by these requirements are intended to be used in the following fire protection systems:

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a) Commercial Cooking Equipment Protection System – A system arranged to discharge wet chemical onto cooking surfaces of cooking appliances and into hood and duct systems used for ventilation of commercial cooking appliances. See the Standard for Fire Testing of Fire Extinguishing Systems for Protection of Commercial Cooking Equipment, UL 300.

b) Off-the-Road Vehicle Protection System – A system arranged to discharge wet chemical onto fire risk areas and into volumes of vehicles such as aboveground mobile mining equipment, and mobile earthmoving equipment. See Fire Test – Total Flooding Protection System, Section 26, and/or Fire Test – Class B Local Application Protection System, Section 27, as applicable.

1.5 In addition to the requirements of this standard, extinguishing system units that incorporate spot or linear heat detectors and that are intended for use in hazardous (classified) locations, as defined in the National Electrical Code (NEC), ANSI/NFPA 70, or the Canadian Electrical Code, Part I (CE Code, Part I), CSA C22.1, as applicable, are covered by one or more of the following standards:

NEC APPLICATIONS

- UL 913, Intrinsically Safe Apparatus and Associated Apparatus for Use in Class I, II, and III, Division 1, Hazardous (Classified) Locations
- UL 1203, Explosion-Proof and Dust-Ignition-Proof Electrical Equipment for Use in Hazardous (Classified) Locations
- UL 121201, Nonincendive Electrical Equipment for Use in Class I and II, Division 2 and Class III, Divisions 1 and 2 Hazardous (Classified) Locations
- UL 60079 series, Explosive Atmospheres

CE CODE, PART I, APPLICATIONS

- CAN/CSA-C22.2 No. 157, Intrinsically safe and non-incendive equipment for use in hazardous locations
- CAN/CSA-C22.2 No. 60079-11, Explosive atmospheres – Part 11: Equipment protection by intrinsic safety “i”, and CSA-C22.2 No. 60079-0, Explosive atmospheres – Part 0: Equipment – General requirements
- CSA-C22.2 No. 25, Enclosures for use in Class II, Division 1, Groups E, F, and G hazardous locations
- CSA-C22.2 No. 30, Explosion-proof enclosures for use in Class I hazardous locations
- CSA-C22.2 No. 213, Nonincendive electrical equipment for use in Class I and II, Division 2 and Class III, Divisions 1 and 2 hazardous (classified) locations
- CSA-C22.2 No. 60079-0, Explosive atmospheres

NOTE: Extinguishing system units that incorporate spot or linear heat detectors present a potential risk of explosion if used in hazardous (classified) locations due to the electrical and thermal energy associated with the electrical circuitry. Examples of locations that incorporate classified areas include automobile service stations (see Article 514 of the NEC and Section 20 of the CE Code), paint spray booths (see 516 of the NEC and Section 20 of the CE Code) and mines (see United States Code of Federal Regulations Title 30, Mineral Resources, and CSA M421, Use of electricity in mines).

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.

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