

July 24, 2017

1

UL 2351A

**Outline of Investigation for Nozzle Adaptors with Integral Filter for Fire
Protection Service**

Issue Number: 1

July 24, 2017

Summary of Topics

This first issue of the Outline of Investigation for Nozzle Adaptors with Integral Filter for Fire Protection Service, UL 2351A, covers requirements for nozzle adaptors with integral filter for use in water spray fixed systems for fire protection service.

UL's Outlines of Investigation are copyrighted by UL LLC. Neither a printed nor electronic copy of an Outline of Investigation should be altered in any way. All of UL's Outlines of Investigation and all copyrights, ownerships, and rights regarding those Outlines of Investigation shall remain the sole and exclusive property of UL LLC.

COPYRIGHT © 2017 UL LLC

**UL COPYRIGHTED MATERIAL –
NOT AUTHORIZED FOR FURTHER REPRODUCTION OR
DISTRIBUTION WITHOUT PERMISSION FROM UL**



Documents
Document Sharing Hub

No Text on This Page

*UL COPYRIGHTED MATERIAL –
NOT AUTHORIZED FOR FURTHER REPRODUCTION OR
DISTRIBUTION WITHOUT PERMISSION FROM UL*



Documents

Document Sharing Hub

CONTENTS

INTRODUCTION

1 Scope	4
2 Units of Measurement	4
3 Components	4
4 References	5
5 Glossary	5

CONSTRUCTION

6 General	6
7 Rated Pressure	6
8 Materials	6

PERFORMANCE

9 General	7
10 Hydrostatic Strength Test	7
11 Clogging Test	7
12 Equivalent Length Determination	8
13 Discharge Coefficient Determination	9
14 Flow Endurance Test	11
15 30-Day Corrosion Tests	11
15.1 General	11
15.2 20 Percent salt spray	12
15.3 Moist hydrogen sulfide air mixture	12
15.4 Moist carbon dioxide-sulfur dioxide air mixture	12
16 90-Day Moist Air Test	12
17 Elastomeric Parts (Except Gaskets) Test	13

MARKINGS

18 General	13
------------------	----

INSTALLATION INSTRUCTIONS

19 General	14
------------------	----

UL COPYRIGHTED MATERIAL –
NOT AUTHORIZED FOR FURTHER REPRODUCTION OR
DISTRIBUTION WITHOUT PERMISSION FROM UL



Documents

Document Sharing Hub

INTRODUCTION

1 Scope

1.1 These requirements cover nozzle adaptors with filter for use in water spray fixed systems intended for fire protection service.

1.2 Requirements for installation of water spray systems are included in the Standard for Water Spray Fixed Systems for Fire Protection, NFPA 15. Water spray fixed systems are intended to be inspected, tested and maintained in accordance with the Standard for the Inspection, Testing and Maintenance of Water-Based Fire Protection Systems, NFPA 25.

2 Units of Measurement

2.1 Values stated without parentheses are the requirement. Values in parentheses are explanatory or approximate information.

3 Components

3.1 Except as indicated in 3.2, a component of a product covered by this Outline of Investigation shall comply with the requirements for that component.

3.2 A component is not required to comply with a specific requirement that:

- a) Involves a feature or characteristic not required in the application of the component in the product covered by this Outline of Investigation, or
- b) Is superseded by a requirement in this Outline of Investigation.

3.3 A component shall be used in accordance with its rating established for the intended conditions of use.

3.4 Specific components are incomplete in construction features or restricted in performance capabilities. Such components are intended for use only under limited conditions, such as certain temperatures not exceeding specified limits, and shall be used only under those specific conditions.

UL COPYRIGHTED MATERIAL –
NOT AUTHORIZED FOR FURTHER REPRODUCTION OR
DISTRIBUTION WITHOUT PERMISSION FROM UL



Documents
Document Sharing Hub

4 References

4.1 Any undated reference to a code or standard appearing in the requirements of this Outline of Investigation, shall be interpreted as referring to the latest edition of that code or standard.

5 Glossary

5.1 For the purpose of this outline, the following definitions apply.

5.2 DISCHARGE COEFFICIENT "K" – Coefficient of discharge in the formula,

$$K = \frac{Q}{\sqrt{p}}$$

in which:

Q is the flow in gallons per minute, and

p is the pressure in pounds per square inch gauge.

In SI units:

Q is the flow in liters per minute; and

p is the pressure in bar

5.3 FILTER – An element of a nozzle adaptor assembly that provides a level of protection against nozzle clogging.

5.4 NOZZLE ADAPTOR WITH INTEGRAL FILTER (NOZZLE ADAPTOR or ADAPTOR) – A device designed to reduce the potential for an orifice or orifices of a water spray nozzle to become obstructed during discharge.

5.5 RATED PRESSURE – The maximum working pressure intended to be applied to the nozzle adaptor with integral filter.