



Examination Standard for Dry Pipe Valves

Class Number 1021

December 2020

Foreword

This standard is intended to verify that the products and services described will meet stated conditions of performance, safety, and quality useful to the ends of property conservation. The purpose of this standard is to present the criteria for examination of various types of products and services.

Examination in accordance with this standard shall demonstrate compliance and verify that quality control in manufacturing shall ensure a consistent and reliable product.

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1. INTRODUCTION

1.1 Purpose

- 1.1.1 This standard states testing and certification requirements for dry pipe valves.
- 1.1.2 Testing and certification criteria may include, but are not limited to, performance requirements, marking requirements, examination of manufacturing facility(ies), audit of quality assurance procedures, and a surveillance audit program.

1.2 Scope

A dry pipe valve is installed in the water supply line to a dry pipe sprinkler system. The sprinkler piping downstream of the dry pipe valve contains air under pressure instead of water as in a wet system. When one or more sprinklers operate, air escapes, the dry pipe valve trips and water is admitted to the system.

1.3 Basis for Requirements

- 1.3.1 The requirements of this standard are based on experience, research and testing, and/or the standards of other organizations. The advice of manufacturers, users, trade associations, jurisdictions and/or loss control specialists was also considered.
- 1.3.2 The requirements of this standard reflect tests and practices used to examine characteristics of indicating valves for the purpose of obtaining certification. Indicating valves having characteristics not anticipated by this standard may be certified if performance equal, or superior, to that required by this standard is demonstrated.

1.4 Basis for Certification

Certification is based upon satisfactory evaluation of the product and the manufacturer in the following areas:

- 1.4.1 Examination and tests on production samples shall be performed to evaluate:
 - The suitability of the product;
 - The performance of the product as specified by the manufacturer and required for certification; and as far as practical,
 - The durability and reliability of the product.
- 1.4.2 An examination of the manufacturing facilities and audit of quality control procedures shall be made to evaluate the manufacturer's ability to consistently produce the product which was examined and tested. Subsequent surveillance may be required by the certification agency in accordance with the certification scheme to ensure ongoing compliance.

1.5 Basis for Continued Certification

- 1.5.1 The basis for continual certification may include, but is not limited to, the following based upon the certification scheme and requirements of the certification agency:
 - Production or availability of the product as currently certified;
 - The continued use of acceptable quality assurance procedures;
 - Satisfactory field experience;
 - Compliance with the terms stipulated in the certification;

- Satisfactory re-examination of production samples for continued conformity to requirements; and,
- Satisfactory surveillance audits conducted as part of the certification agency's product surveillance program.

1.6 Effective Date

The effective date of this certification standard mandates that all products tested for certification after the effective date shall satisfy the requirements of this standard.

The effective date of this standard is eighteen (18) months after the publication date of the standard for compliance with all requirements.

1.7 System of Units

Units of measurement used in this standard are United States (U.S.) customary units. These are followed by their arithmetic equivalents in International System (SI) units, enclosed in parentheses. The first value stated shall be regarded as the requirement. The converted equivalent value may be approximate. Conversion of U.S. customary units is in accordance with ANSI/IEEE/ASTM SI 10.

One unit of measurement (liters), outside of, but recognized by SI, is commonly used in international fire protection and is used in this standard.

1.8 Normative References

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the cited edition applies.

ASTM D 471 - 2006, *Standard Test Method for Rubber Property - Effect of Liquids*
ASTM D 572 - 2004, *Standard Test Method for Rubber - Deterioration by Heat and Oxygen*
FM Global Property Loss Prevention Data Sheets
IEEE/ASTM SI 10 - 2002, *American National Standard for Use of the International System of Units (SI): The Modern Metric System*
ISO/IEC 17025 - 2005, *General Requirements for the Competence of Testing and Calibration Laboratories*
NFPA 13 - 2007, *Standard for the Installation of Sprinkler Systems*

1.9 Terms and Definitions

For purposes of this standard, the following terms apply:

Accepted

This term refers to installations acceptable to the authority enforcing the applicable installation rules. Acceptance is based upon an overall evaluation of the installation. Acceptance is not a characteristic of a product. A product accepted for one installation may not be acceptable elsewhere.

Rated Working Pressure

The maximum sustained pressure at or below which the valve shall operate trouble free. This pressure also sets the basis for the testing described in Section 4, Performance Requirements.