

NFPA®

274

**Standard Test Method
to Evaluate Fire
Performance Characteristics
of Pipe Insulation**

2018



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NFPA® 274

Standard

**Test Method to Evaluate Fire Performance Characteristics of Pipe
Insulation**

2018 Edition

This edition of NFPA 274, *Standard Test Method to Evaluate Fire Performance Characteristics of Pipe Insulation*, was prepared by the Technical Committee on Fire Tests. It was issued by the Standards Council on November 10, 2017, with an effective date of November 30, 2017, and supersedes all previous editions.

This edition of NFPA 274 was approved as an American National Standard on November 30, 2017.

Origin and Development of NFPA 274

NFPA 274, *Test Method to Evaluate Fire Performance Characteristics of Pipe Insulation*, was developed by the Technical Committee on Fire Tests to fill the need for a standard method of determining the fire performance of pipe insulation materials. Other codes and standards have identified the issue of the installation of such materials in air-handling plenums. Although NFPA 274 does not prescribe pass/fail criteria, suggested acceptance criteria are provided in Annex B for consideration by the other referencing codes and standards.

The 2009 edition included a new requirement for a quantifiable determination of the presence of flames at the top of the exhaust chase using thermocouples.

The 2013 edition is a reconfirmation of the previous edition.

The 2018 edition includes updates to the latest referenced codes and standards.

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NFPA 274

Standard

Test Method to Evaluate Fire Performance Characteristics of Pipe Insulation

2018 Edition

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Information on referenced publications can be found in Chapter 2 and Annex D.

Chapter 1 Administration

1.1* Scope. This standard describes a test method for determining the heat release and the smoke generation of pipe insulation assemblies mounted on steel pipes in a full-scale pipe chase.

1.2 Purpose.

1.2.1 This is a test method for an examination of the complete insulation assembly, including elbows, in an actual configuration that is found in the end use application. This test method shall be used to ascertain the resulting fire performance characteristics of the insulation assembly when exposed to a standard flaming ignition source in a standard pipe chase.

1.2.2* The results from this procedure provide information that shall be permitted to be used as an aid in the selection of pipe insulation assemblies that provide less contribution of heat, flame, and smoke to fire scenarios. The configuration and flame exposure that the specimens incur during the test produce results that clearly differentiate between products.

1.3 Application.

1.3.1* This test procedure shall be used to determine performance of pipe insulation assemblies exposed to a flaming ignition source.

1.3.2 The specimens shall include any jackets, elbows, tapes, sealants, coatings, adhesives, or other accessories used with the insulation in practice.

1.3.3* The test shall determine the potential extent to which the pipe insulation assemblies contribute to fire growth and the potential for fire spread under the particular conditions simulated.

1.3.4 Full-size specimens of pipe insulation assemblies shall be enclosed in a pipe chase and exposed to a gas burner ignition source.

1.3.5 During the test, the gas burner shall be set at an output level of 20 kW for the first 3 minutes and subsequently 70 kW for an additional 7 minutes.

1.3.6* Measurements shall be made of heat release and smoke density.

1.3.7 The total heat released, the peak rate of heat release, and the total smoke released shall be determined from the heat release and smoke density measurements, respectively.

1.3.8 Observations shall be taken during the test of flame spread out the top of the chase and other visual events.

1.3.9 Post-test observations of the condition of the specimens shall be recorded.

1.4 Units and Formulas.

1.4.1 SI Units. Metric units of measurement in this standard are in accordance with the modernized metric system known as the International System of Units (SI).

1.4.2 Primary Values. The SI value for a measurement and the equivalent inch-pound value given in parentheses shall each be acceptable for use as primary units for satisfying the requirements of this standard.

Chapter 2 Referenced Publications

2.1 General. The documents or portions thereof listed in this chapter are referenced within this standard and shall be considered part of the requirements of this document.

2.2 NFPA Publications. (Reserved)

2.3 Other Publications.

Merriam-Webster's Collegiate Dictionary, 11th edition, Merriam-Webster, Inc., Springfield, MA, 2003.