NFPA 262 Standard Method of Test for Fire and Smoke Characteristics of Wires and Cables 1994 Edition

National Fire Protection Association, 1 Batterymarch Park, PO Box 9101, Quincy, MA 02269-9101

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There is a concern that the growing use of synthetic materials may produce more or additional toxic products of combustion in a fire environment. The Board has, therefore, asked all NFPA technical committees to review the documents for which they are responsible to be sure that the documents respond to this current concern. To assist the committees in meeting this request, the Board has appointed an advisory committee to provide specific guidance to the technical committees on questions relating to assessing the hazards of the products of combustion.

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1994 Edition

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f this document has been approved by the American National

editorial are indicated by a vertical rule in the margin of the pages . These lines are included as an aid to the user in identifying ious edition.

Origin and Development of NFPA 262

covered by this standard was originally developed by Underwrit- and published as UL 910, *Standard for Safety Test for Flame- Density Values for Electrical and Optical- Fiber Cables Used in Spaces ntal Air*. It is an adaptation of the Steiner tunnel test (NFPA 255, *of Surface Burning Characteristics of Building Materials*, ASTM E84, *r Surface Burning Characteristics of Building Materials*, UL 723, *Tests aracteristics of Building Materials*), which was designed to provide ting the potential for fire spread along cables and wires housed in ironmental space. The original 1985 edition was reconfirmed in ı contains minor editorial changes.

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Fire and Smoke Characteristics of Wires and Cables

1994 Edition

This edition of NFPA 262, *Standard Method of Test for Fire and Smoke Characteristics of Wires and Cables*, was prepared by the Technical Committee on Fire Tests and acted on by the National Fire Protection Association, Inc., at its Annual Meeting held May 16–18, 1994, in San Francisco, CA. It was issued by the Standards Council on July 14, 1994, with an effective date of August 5, 1994, and supersedes all previous editions.

The 1994 edition of this document has been approved by the American National Standards Institute.

Changes other than editorial are indicated by a vertical rule in the margin of the pages on which they appear. These lines are included as an aid to the user in identifying changes from the previous edition.

Origin and Development of NFPA 262

The test procedure covered by this standard was originally developed by Underwriters Laboratories Inc. and published as UL 910, *Standard for Safety Test for Flame-Propagation and Smoke- Density Values for Electrical and Optical- Fiber Cables Used in Spaces Transporting Environmental Air*. It is an adaptation of the Steiner tunnel test (NFPA 255, *Standard Method of Test of Surface Burning Characteristics of Building Materials*, ASTM E84, *Standard Test Method for Surface Burning Characteristics of Building Materials*, UL 723, *Tests for Surface Burning Characteristics of Building Materials*), which was designed to provide information for evaluating the potential for fire spread along cables and wires housed in a plenum or other environmental space. The original 1985 edition was reconfirmed in 1990. The 1994 edition contains minor editorial changes.

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Contents

NFPA 262

Standard Method of Test for

Fire and Smoke Characteristics of Wires and Cables

1994 Edition

NOTICE: An asterisk (*) following the number or letter designating a paragraph indicates explanatory material on that paragraph in Appendix A.

Information on referenced publications can be found in Chapter 7 and Appendix B.

Chapter 1 General

1-1 Scope. This test method is for determining values of flame spread distance and smoke density for insulated, jacketed, or both, electrical wires and cables and optical fiber cables that are to be installed in plenums and other spaces used for environmental air without the wires and cables being enclosed in raceways, in accordance with the applicable provisions of Sections 725-2, 760-2, 770-2, 800-49, and 820-49 of NFPA 70, *National Electrical Code*.®

1-2 Significance. This test is designed to provide comparative test data on wiring or cable intended for use in plenums or other environmental air handling spaces. Such data are used to evaluate the potential for the spread of fire along electrical cables or wires or along optical fiber cables and the potential for the development of high smoke levels in these spaces if the wires and cables are exposed to fire. The test method has been correlated with the results of tests on wiring exposed to fires in simulated plenums.

1-3 Purpose.

1-3.1 The purpose of the test is to measure and record the fire and smoke characteristics of wiring or cable by measuring the flame spread distance along the test specimens, and the light transmittance of the smoke developed, when exposed to the test fire.

1-3.2 Smoke density as well as flame spread shall be recorded in this test. However, there is not necessarily a relationship between these measurements.

1-3.3 This test method does not investigate circuit integrity characteristics or other such functionality performances during or after the fire test.

1-4* Summary of Test Method. This test method shall use an apparatus similar to that specified in NFPA 255, *Standard Method of Test of Surface Burning Characteristics of Building Materials*. A special specimen holder shall be used to expose the test specimens; the holder, 11.25 in. (286 mm) wide and approximately 4.25 in. (108 mm) down from the ceiling of the test chamber, shall be filled with one layer of test specimens. The specimens shall be exposed to a 300,000 Btu/hr (87.9 kW) fire, 4.5 ft (1.4 m) long, for a period of 20 minutes, with an initial draft of 240 ft/min (73 m/min) through the chamber. The travel distance of the flame along the specimen and the light transmittance at the end of the chamber shall be reported. The light transmittance shall be converted to a peak and average optical density.

Chapter 2 Test Equipment

2-1 Fire-Test Chamber.

2-1.1* The fire-test chamber shall consist of a horizontal duct having the shape and size shown in Figures 2-1.1(a), (b), and (c). The sides and base of the duct shall be lined with insulating masonry faced with a row of refractory fire brick, as illustrated in Figure 2-1.1(b). One side shall be provided with a row of double-pane [inside pane mounted flush with inner wall — see Figure 2-1.1(b)], pressure-tight observation windows (as described in Sections 4-2 and 4-3) located so that the entire length of the specimen being tested can be observed from outside the fire-test chamber.

2-1.2* The ledges shall be fabricated of structural metal.

2-1.3* To provide air turbulence for combustion, turbulence-inducing baffling shall be provided by positioning six refractory fire bricks [long dimension vertical and 4.5-in. (114-mm) dimension parallel to the wall] along the side walls of the chamber at distances of 7.0, 12.0, and 20.0 ft ± 0.5 ft (2.1, 3.6, and 6.1 m ± 0.2 m) on the window side and 4.5, 9.5, and 16.0 ft ± 0.5 ft (1.4, 2.9, and 4.9 m ± 0.2 m) on the opposite side.

2-1.4 The top shall consist of a removable metal-and-mineral insulation composite unit with insulation consisting of nominal 2.0-in. (50.8-mm) thick mineral-composition material. The top unit, shown in Figure 2-1.1(b), shall completely cover the fire-test chamber. The mineral-composition material shall have physical characteristics comparable to the following:

Maximum effective use temperature of at least	1200°F (650°C)
Bulk density	21 lb/ft^3 (336 kg/m^3)
Thermal conductivity at 300°F to 700°F (149°C to 371°C)	0.50–0.71 Btu • in/h • ft^2 • °F (0.072–0.102 W/m^2 • K)
KpC product*	1 to 4 Btu^2 • in/ft^5 • h • °F^2 (1 × 10^4 to 4 × 10^4 W^2 • s/m^4 • K)

*KpC is equal to the thermal conductivity times the density times the specific heat.

The entire top-panel unit shall be protected with flat sections of high-density [nominally 110 lb/ft^3 (1760 kg/m^3)] 0.25-in. (6-mm) mineral-fiber/cement board maintained in an unwarped and uncracked condition through continued replacement. While in place, the top panel shall be completely sealed against the leakage of air into the fire-test chamber during the test.

2-1.5 The ladder-type cable tray used to support the test specimens is shown in Figures 2-1.1(b) and (c). The tray is fabricated from cold-rolled steel having 50,000 psi (350 MPa) minimum tensile strength. The solid-bar-stock side rails are as shown in Section S-S in Figure 2-1.1(c). The C-shaped channel rungs are as shown in Section Q-Q in Figure 2-1.1(c). Each rung is 11.25 in. (286 mm) long. The rungs are welded to the side rails 9.0 in. (229 mm) on centers along the tray length. The tray, which shall be permitted to consist of several sections, shall have a total assembled length of 23.9 ft (7.29 m) and shall be supported with 16 supports equally spaced along the length of the tray. The supports [*see Figure 2-1.1(c)*] are fabricated from bar steel.

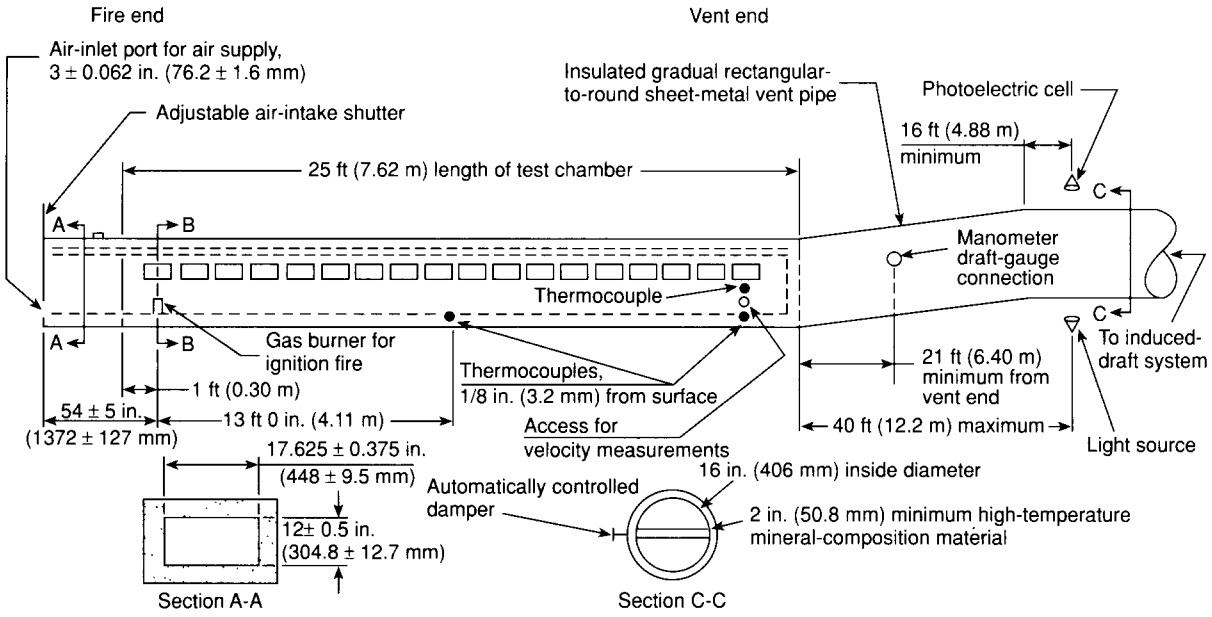

Figure 2-1.1(a) Details of fire-test chamber Sections A-A and C-C.

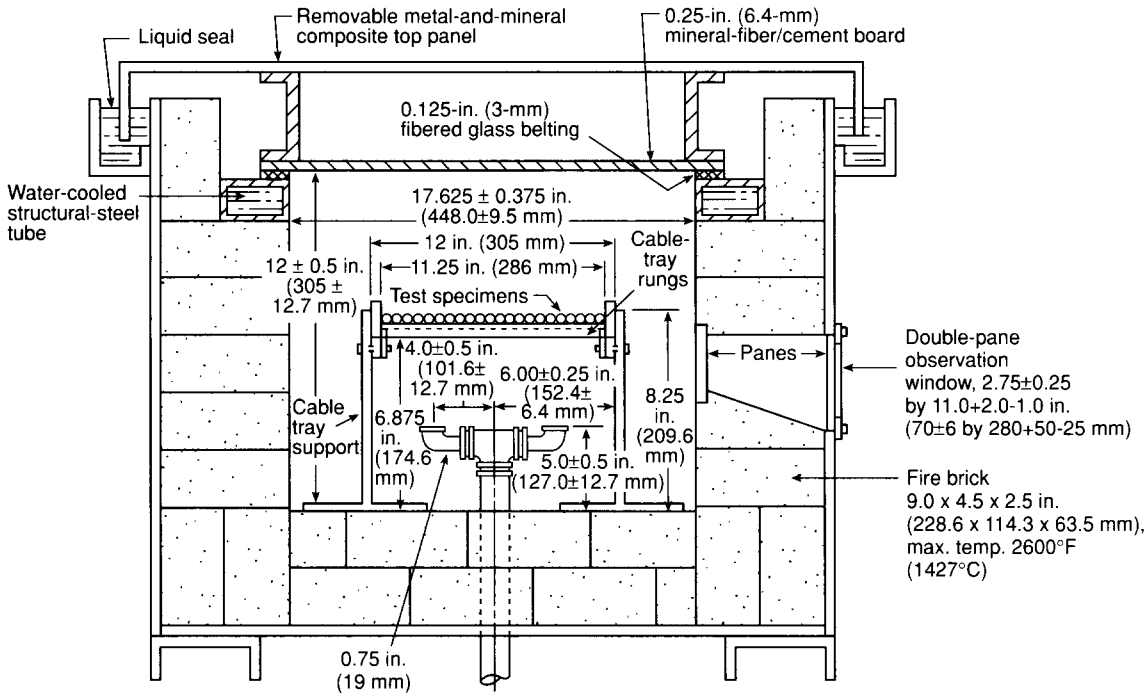

Figure 2-1.1(b) Details of fire-test chamber Section B-B.

2-1.6 One end of the test chamber, designated as the fire end in Figure 2-1.1(a), is provided with two gas burners delivering flames upward that engulf the cross section of the test specimens midway between two rungs of the cable tray. As shown in Figure 2-1.1(b), the burners are positioned transversely to each side of the centerline of the furnace so that the flame is evenly distributed over the width of the specimens.

2-1.7 The controls used to maintain a constant flow of gas to the burners are to consist of a pressure regulator, a gas meter calibrated to read in increments of not more than 0.1 ft^3 (2.8 dm^3), a gauge to indicate gas pressure in inches of water column (Pa), a quick-acting gas shutoff valve, a gas-metering valve, and an orifice plate in combination with a manometer to assist in maintaining uniform gas flow conditions. An air intake fitted with a vertically sliding

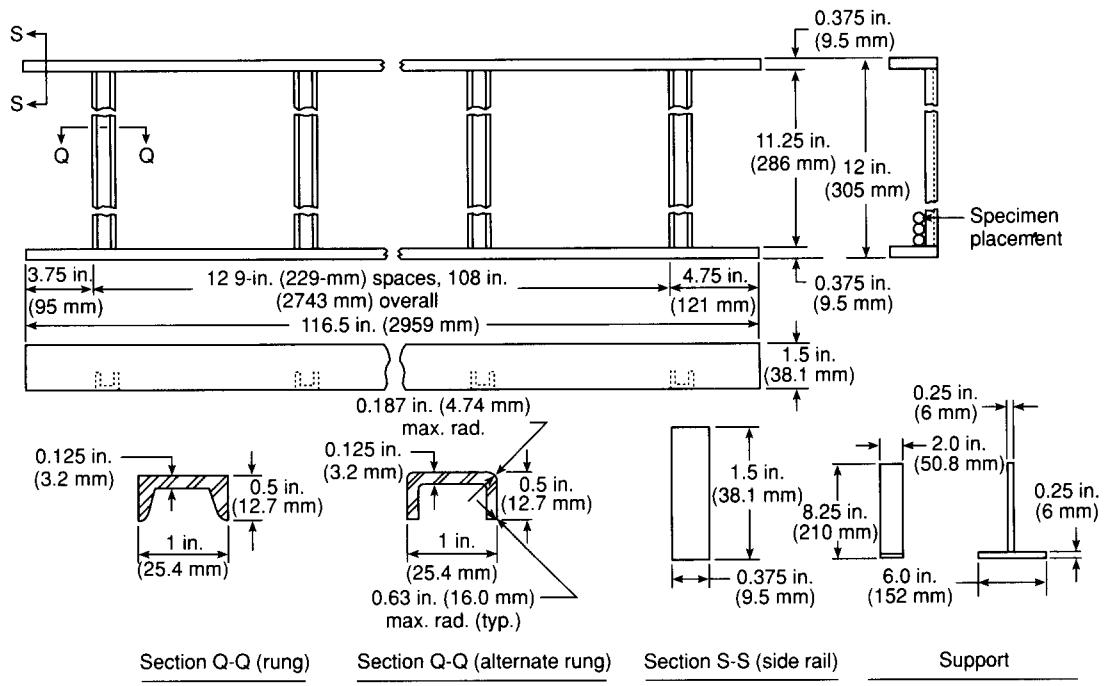

Figure 2-1.1(c) Details of steel cable tray and supports.

shutter extending the entire width of the test chamber shall be provided at the fire end. The shutter shall be positioned to provide an air-inlet port as shown in Figure 2-1.1(a). A draft gauge manometer to indicate static pressure shall be connected approximately midway in the section between the air intake and the burners, as shown in Figure 2-1.1(a).

2-1.8 The other end of the test chamber, designated as the vent end in Figure 2-1.1(a), shall be fitted with a rectangular-to-round transition piece, which is in turn to be fitted to a round flue pipe. The movement of air shall be by induced draft. The draft-inducing system shall have a total draft capacity of at least 0.15 in. of water column (37 Pa) with the specimens in place, with the shutter at the fire end open to its normal position, and with the damper [*see Section C-C in Figure 2-1.1(a)*] in the fully open position.

2-1.9 The damper shall be installed in the vent pipe downstream of the smoke-indicating attachment described in 2-2.1.

2-1.10 An automatic draft-regulator controller shall be permitted to be mounted in the vent pipe downstream of the manual damper. Other manual, automatic, or special draft-regulation devices shall be permitted to be incorporated to maintain airflow control throughout each test run.

2-1.11 The room in which the test chamber is located shall have provision for a free inflow of air to maintain the room at atmospheric pressure throughout each test run.

2-2 Smoke Measurement.

2-2.1* A light source shall be mounted on a horizontal section of the vent pipe (*see Figure 2-2.1*) at a point at which (a) it is preceded by a straight run of round pipe at least 12 diameters or 16 ft (4.88 m) from the vent end of the rectangular-to-round transition section, and (b) it is not affected by flame from the test chamber. The light beam shall be directed upward along the vertical axis of the vent pipe. The vent pipe shall be insulated with high-temperature mineral-composition material from the vent end of the chamber to the photometer location. A photoelectric cell having an output directly proportional to the amount of light received shall be mounted over the light source with an overall light-to-cell path length of 36.0 in. ± 2.0 in. (914 mm ± 51 mm). The light source and photocell shall be located such that they are open to the environment of the test room. The cylindrical light beam shall pass through 3-in. (76-mm) diameter openings at the top and bottom of the 16-in. (406-mm) diameter duct, with the resultant light beam centered on the photocell. The cell shall be connected to recording devices for indicating changes in the attenuation of incident light by passing smoke, by particulate matter, and by other effluents.

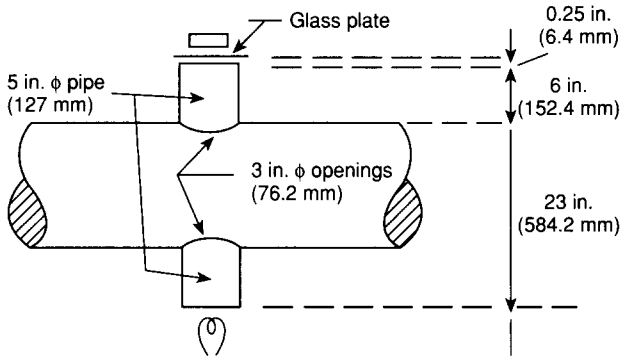

Figure 2-2.1 Light source mounting.

2-2.2 The output of the photoelectric cell shall be connected to a recording device having an accuracy within ± 1 percent of full scale to process the signal into a continuous record of smoke obscuration.

2-2.3 Linearity of the photometer system shall be verified periodically by interrupting the light beam with calibrated neutral density filters. The filters shall cover the full range of the recording instrument. Transmittance values measured by the photometer, using neutral density filters, shall be within ± 3 percent of the calibrated value for each filter.

2-3 Temperature Measurement.

2-3.1 A No. 18 AWG thermocouple [nominal wire cross section of 1620 CM (0.823 mm^2)] with 0.375 in. ± 0.125 in. (10 mm ± 3 mm) of the junction exposed in the fire-chamber air shall be inserted through the floor of the test chamber so that the tip is 1.000 in. ± 0.031 in. (25 mm ± 1 mm) below the top surface of the gasketing tape and within 12 in. (300 mm) of the vent end of the test chamber at the center of the width of the chamber.

2-3.2 A No. 18 AWG thermocouple [nominal wire cross section of 1620 CM (0.823 mm^2)] embedded 0.125 in. (3 mm) below the floor surface of the test chamber shall be mounted in refractory or portland cement (carefully dried to keep it from cracking) at distances of 13.5 ft (4.11 m) and 24.0 ft (7.32 in.) from the fire end of the test chamber.

Chapter 3 Test Specimens

3-1 Specimen. Cable specimens in 24.0-ft (7.32-m) lengths shall be installed in a single layer across the bottom of the cable tray as shown in Figure 2-1.1(b). The specimens shall lie in the tray in parallel and in straight rows without any space between adjacent specimens other than that needed for the cable fasteners described in Section 3-2. The number of cable specimens shall equal the measured inside width of the rack divided by the cable diameter rounded to the nearest lower whole number of specimens that fit considering the presence of cable fasteners.

3-2 Securing. Bare copper or soft steel tie wires not larger than No. 18 AWG [nominal wire cross section of 1620 CM (0.823 mm^2)] shall be permitted to be used to fasten the cable specimens to the rungs of the cable tray wherever a tie is necessary to keep the cable in contact with the rung straight and parallel with all of the other cable specimens and to minimize movement during the test. A tie shall not be used in any manner that alters the ability of the cable to transmit gases or vapors, or both, longitudinally through the core of the cable.

3-3 Identification. Properties applicable to identification of the cable specimens shall be determined and recorded.

Chapter 4 Calibration of Test Equipment

4-1 Chamber. One 0.25-in. (6.4-mm) mineral-fiber/cement board shall be placed on the ledge of the furnace chamber as shown in Figure 2-1.1(b). The removable top of the test chamber shall be placed in position.

4-2 Leakage Test. With the board in position and with the removable top in place, the draft shall be established to produce a 0.15-in. water column reading (37 Pa) on the draft manometer with the fire-end shutter open 3 in. ± 0.063 in. (76 mm ± 2 mm) and with the manual damper in the fully open position. Then, the fire-end shutter shall be closed and sealed. The manometer reading shall increase to at least a 0.375-in. water column (93 Pa), indicating that no excessive air leakage exists.

4-3 Supplemental Leakage Test. In addition, a supplemental leakage test shall be conducted periodically by activating a smoke bomb in the fire chamber while the fire shutter and exhaust duct beyond the differential manometer tube are sealed. The bomb shall be ignited and the chamber shall be pressurized to a 0.375-in. ± 0.150 in. water column (93 Pa ± 37 Pa). All points of leakage observed in the form of escaping smoke particles shall be sealed.

4-4 Draft. A draft reading shall be established within a range of 0.055 in. to 0.085 in. water column (13 Pa to 21 Pa). The required draft-gauge reading shall be maintained by regulating the manual damper. The air velocity at each of seven points, each located 12 in. (300 mm) from the vent end, shall be recorded. These points shall be determined by dividing the width of the tunnel into seven equal sections and recording the velocity at the geometric center of each section. The average velocity shall be 240 ft/min ± 5 ft/min (73.2 m/min ± 1.5 m/min).

4-5 Air Supply. The air supply shall be maintained at 70.0°F ± 5.0°F (21.0°C ± 2.8°C), and the relative humidity shall be kept at 50 percent ± 5 percent.

4-6 Test Fire. The test fire that produces approximately 300,000 Btu (thermochemical)/hr (87.9 kW) shall be fueled with bottled methane gas of uniform quality and with a heating value of approximately 1000 Btu (thermochemical)/ft^3 (37.3 MJ/m^3). The gas supply shall be initially adjusted to approximately 5000 Btu (thermochemical)/min (87.9 kW). The gas pressure, the pressure differential across the orifice plate, and the volume of gas used shall be recorded in each test. A length of coiled copper tubing shall be inserted into the gas line between the supply and the metering connection to compensate for possible errors in the indicated flow because of reductions in the gas temperature associated with the pressure drop and expansion across the regulator. Other applicable means of correction shall be permitted to be used. With the draft and the gas supplies adjusted as indicated in Section 4-4 and in this section, the test flame shall extend downstream to a distance of 4.5 ft (1.4 m) over the specimens, with negligible upstream coverage.

4-7 Preheat. The test chamber shall be preheated with the mineral-fiber/cement board and the removable top in place and with the fuel supply adjusted to the required flow. The preheating shall be continued until the temperature indicated by the floor thermocouple at 24.0 ft (7.32 m) reaches 150°F ± 5°F (66°C ± 3°C). During the preheat test, the temperatures indicated by the thermocouple at the vent end of the test chamber shall be recorded at 15-second intervals and shall be compared to the preheat temperatures taken at the same intervals from the representative curve of temperature as a function of time shown in Figure 4-7. The preheating is for the purpose of establishing the conditions that exist following successive tests and to indicate the control of the heat input into the test chamber. If appreciable variation from the temperatures shown in the representative preheat curve occurs because of variations in the characteristics of the gas used, adjustments in the fuel supply shall be made before proceeding with the red oak calibration tests.

4-8 Testing. The furnace shall cool after each test. As soon as the floor thermocouple at 14 ft (4.2 m) shows a

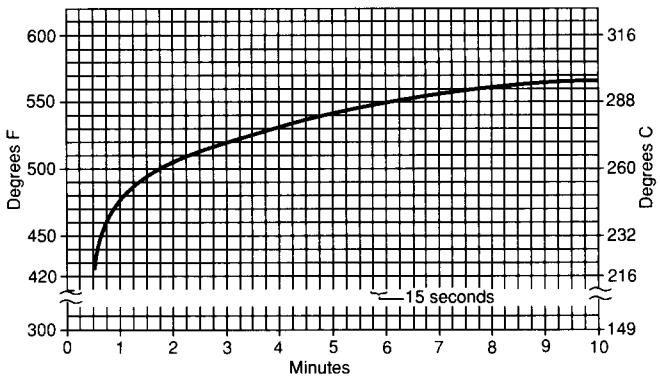

Figure 4-7 Representative preheat curve.

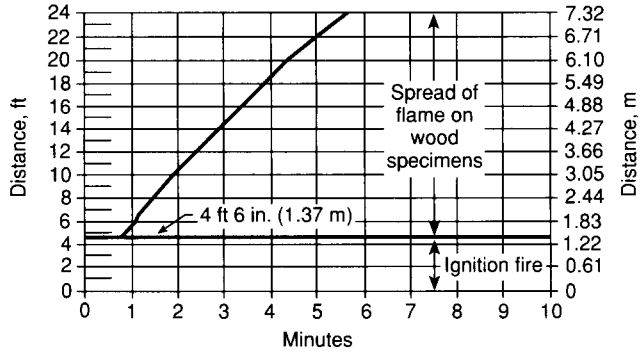

Figure 4-11(a) Representative curve of flame spread for red oak.

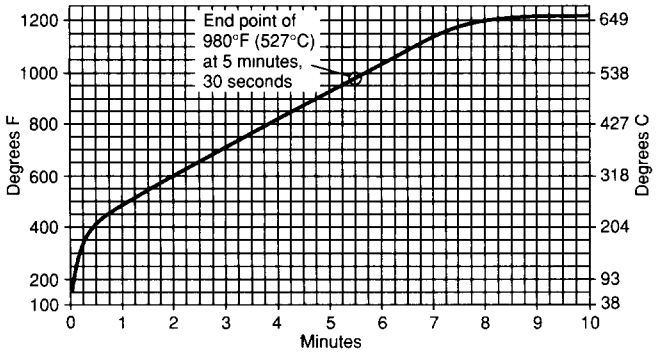

Figure 4-11(b) Representative curve of temperature at the 24.0-ft (7.32-m) location for red oak specimen.

temperature of 105°F ± 5°F (41°C ± 3°C), the next set of specimens shall be placed in position for test.

4-9 Calibration Test. With the test equipment adjusted and conditioned as described in Sections 4-2, 4-4, 4-5, and 4-7, a test or series of tests shall be made using nominally $^{25}/_{32}$-in. (19.8-mm) select-grade red oak flooring in place of the mineral-fiber/cement board specified in Section 4-1. Prior to the testing, the wood shall be conditioned to a moisture content of 6 to 8 percent as determined by the 221°F (105°C) oven method (Method A) described in ASTM D4442, *Test Methods for Direct Moisture Content Measurement of Wood and Wood-Base Materials*. Observations shall be made continually, and the time shall be recorded when the flame reaches the end of the specimen [that is, 19.5 ft (5.94 m) from the end of the ignition fire]. The end

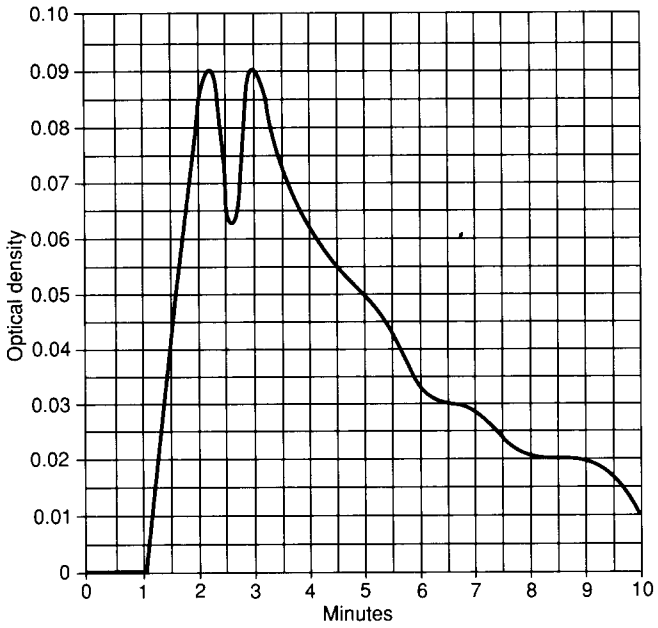

Figure 4-11(c) Representative curve of optical density for red oak.

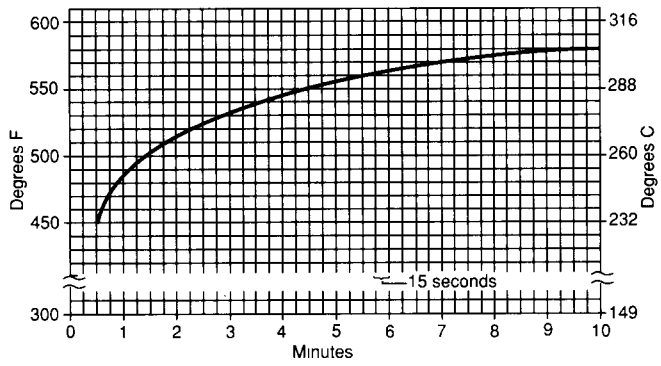

Figure 4-12 Representative curve of temperature at the 24.0-ft (7.32-m) location for mineral-fiber/cement board.

of the ignition fire shall be considered as being 4.5 ft (1.4 m) from the burners. The flame shall reach the end point in 5.5 minutes ± 15 seconds. The flame shall be judged to have reached the end point when the vent end thermocouple registers a temperature of 980°F (527°C). The temperature measured by the thermocouple near the vent end shall be recorded at least every 30 seconds. The photoelectric cell output shall be recorded immediately before the test and at least every 15 seconds during the test.

4-10 Calibration Time. Calibration tests shall be conducted for 10 minutes.

4-11 Recording. The temperature and changes in photoelectric cell readings shall be recorded electronically or plotted separately on coordinate paper. Figures 4-11(a), (b), and (c) are representative curves for red oak for the flame spread, the thermocouple temperature at the 24.0-ft (7.32-m) location, and the optical density.

4-12 Specimen Testing. Following the calibration test(s) for red oak, a similar test or tests shall be conducted on specimens of 0.25-in. (6-mm) mineral-fiber/cement board. The temperature readings shall be plotted separately on

coordinate paper. Figure 4-12 is a representative curve for mineral-fiber/cement board for the temperature recorded by the thermocouple at the 24.0-ft (7.32-m) location.

Chapter 5 Test Procedure

5-1 Procedure.

5-1.1 The cable tray and supports shall be placed in the test chamber as shown in Figure 2-1.1(b) and described in 2-1.5 and 2-1.6 with the end 1.0 in. (25 mm) downstream from the centerline of the burners.

5-1.2 The furnace shall be preheated as described in Section 4-7.

5-1.3 The furnace shall be cooled as described in Section 4-8.

5-1.4 The specimens shall be installed as described in Section 3-1.

5-1.5 The removable test chamber top shall be placed in position on top of the furnace side ledge.

5-1.6 The test equipment shall be adjusted and conditioned as described in Sections 4-2, 4-4, 4-5, and 4-7 (with the open-cable test specimens in place).

5-1.7 The test gas flame shall be ignited. The distance and time of maximum flame front shall be observed and recorded. The test shall be continued for 20 minutes.

5-1.8 The photoelectric cell output shall be recorded immediately prior to the test and continuously during the test.

5-1.9 The gas pressure, the pressure differential across the orifice plate, and the volume of gas used shall be recorded for the duration of the test.

5-1.10 After the gas supply to the ignition flame is shut off, smoldering and other conditions within the furnace shall be observed and recorded, and the specimens then shall be removed for examination.

Chapter 6 Report

6-1 Report Layout. The report shall include all of the following for each test:

(a) A detailed description of the open-cable specimens tested;

(b) The number of lengths used as specimens for the test;

(c) The graph of flame distance beyond 4.5 ft (1.4 m) versus time for the duration of the test. Figure 6-1(a) is a representative flame spread curve. The graph shall also show the representative flame spread curve of red oak [*see Figure 4-11(a)*];

(d) The graph of the optical density of the smoke generated during the test versus time for the duration of the test:

$$\text{Optical density} = \log_{10} T_0/T$$

where T_0 is the initial light transmission and T is the light transmission during the test, which varies with the amount of smoke. Figure 6-1(b) is a representative smoke curve. The graph shall also show the representative optical density curve of red oak [*see Figure 4-11(c)*];

(e) The peak and average optical density measured and calculated for the entire test period;

(f) Observations of the condition of the test specimens after completion of the test; and

(g) The weight (mass) of nonmetallic components normalized to a figure based on 1000 ft (300 m) of tray length. For example, if the weight (mass) of a 1-ft (0.3-m) length of specimen cable, minus the metallic-component weight, is 0.016 lb (0.0073 kg), and there are 15 cables in the tray, the normalized value is 0.016 × 15 × 1000 = 240 lb per 1000 ft of tray (32.85 kg per 300 m of tray).

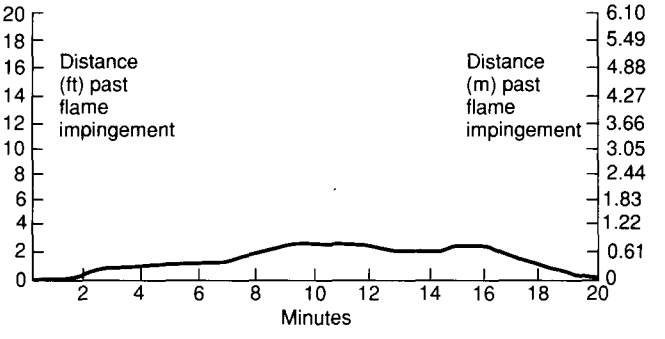

Figure 6-1(a) Representative flame spread curve of test specimen.

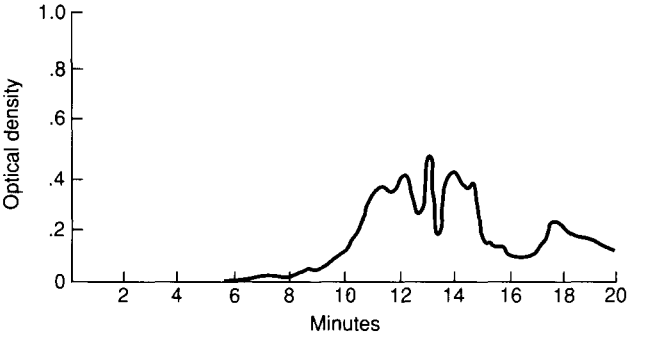

Figure 6-1(b) Representative optical density curve of test specimen.

Chapter 7 Referenced Publications

7-1 The following documents or portions thereof are referenced within this standard and shall be considered part of the requirements of this document. The edition indicated for each reference is the current edition as of the date of the NFPA issuance of this document.

7-1.1 NFPA Publications. National Fire Protection Association, 1 Batterymarch Park, P.O. Box 9101, Quincy, MA 02269-9101.

NFPA 70, *National Electrical Code*, 1993 edition.

NFPA 255, *Standard Method of Test of Surface Burning Characteristics of Building Materials*, 1990 edition.

7-1.2 Other Publication.

7-1.2.1 ASTM Publication. American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103-1187.

ASTM D4442, *Test Methods for Direct Moisture Content Measurement of Wood and Wood-Base Materials*, 1992 edition.

Appendix A Explanatory Material

This Appendix is not a part of the requirements of this NFPA document but is included for informational purposes only.

A-1-4 For procedures for determining the fire-resistive performance of building construction assemblies incorporating electrical wiring and cables, see NFPA 251, *Standard Methods of Fire Tests of Building Construction and Materials.*

A-2-1.1 The operation and calibration of this equipment is based on the use of A. P. Green G-26 refractories. A glass acceptable for the double-pane, pressure-tight observation windows is Vycor 100-percent silica glass, nominally 0.25 in. (6 mm) thick, or an equivalent.

A-2-1.2 Water-cooled structural-steel tubing may be permitted to be used for this purpose.

A-2-1.3 The operation and calibration of the equipment is based on the use of A. P. Green G-26 refractories.

A-2-2.1 An acceptable light source is a General Electric Model 4405 12-V sealed-beam clear auto spot lamp. A meter that may be permitted to be used for a photoelectric cell is a Weston Instruments No. 856BB photronic cell with an overall light-to-cell path length of 36.0 in. ± 2.0 in. (914 mm ± 51 mm).

Appendix B Referenced Publications

B-1 The following documents or portions thereof are referenced within this standard for informational purposes only and thus are not considered part of the requirements of this document. The edition indicated for each reference is the current edition as of the date of the NFPA issuance of this document.

B-1.1 NFPA Publication. National Fire Protection Association, 1 Batterymarch Park, P.O. Box 9101, Quincy, MA 02269-9101.

NFPA 251, *Standard Methods of Fire Tests of Building Construction and Materials*, 1990 edition.

Index

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Since 1896, one of the primary purposes of the NFPA has been to develop and update the standards covering all areas of fire safety.

Calls for Proposals
The code adoption process takes place twice each year and begins with a call for proposals from the public to amend existing codes and standards or to develop the content of new fire safety documents.

Report on Proposals
Upon receipt of public proposals, the technical committee members meet to review, consider, and act on the proposals. The public proposals – together with the committee action on each proposal and committee-generated proposals – are published in the NFPA's Report on Proposals (ROP). The ROP is then subject to public review and comment.

Report on Comments
These public comments are considered and acted upon by the appropriate technical committees. All public comments – together with the committee action on each comment – are published as the Committee's supplementary report in the NFPA's Report on Comments (ROC).

The committee's report and supplementary report are then presented for adoption and open debate at either of NFPA's semi-annual meetings held throughout the United States and Canada.

Association Action
The Association meeting may, subject to review and issuance by the NFPA Standards Council, (a) adopt a report as published, (b) adopt a report as amended, contingent upon subsequent approval by the committee, (c) return a report to committee for further study, and (d) return a portion of a report to committee.

Standards Council Action
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Voting Procedures
Voting at an NFPA Annual or Fall Meeting is restricted to members of record for 180 days prior to the opening of the first general session of the meeting, except that individuals who join the Association at an Annual or Fall Meeting are entitled to vote at the next Fall or Annual Meeting.

"Members" are defined by Article 3.2 of the Bylaws as individuals, firms, corporations, trade or professional associations, institutes, fire departments, fire brigades, and other public or private agencies desiring to advance the purposes of the Association. Each member shall have one vote in the affairs of the Association. Under Article 4.5 of the Bylaws, the vote of such a member shall be cast by that member individually or by an employee designated in writing by the member of record who has registered for the meeting. Such a designated person shall not be eligible to represent more than one voting privilege on each issue, nor cast more than one vote on each issue.

Any member who wishes to designate an employee to cast that member's vote at an Association meeting in place of that member must provide that employee with written authorization to represent the member at the meeting. The authorization must be on company letterhead signed by the member of record, with the membership number indicated, and the authorization must be recorded with the President of NFPA or his designee before the start of the opening general session of the Meeting. That employee, irrespective of his or her own personal membership status, shall be privileged to cast only one vote on each issue before the Association.

Sequence of Events Leading to Publication of an NFPA Committee Document

Call for proposals to amend existing document or for recommendations on new document.

▼

Committee meets to act on proposals, to develop its own proposals, and to prepare its report.

▼

Committee votes on proposals by letter ballot. If two-thirds approve, report goes forward. Lacking two-thirds approval, report returns to committee.

▼

Report is published for public review and comment. (Report on Proposals - ROP)

▼

Committee meets to act on each public comment received.

▼

Committee votes on comments by letter ballot. If two-thirds approve, supplementary report goes forward. Lacking two-thirds approval, supplementary report returns to committee.

▼

Supplementary report is published for public review. (Report on Comments - ROC).

▼

NFPA membership meets (Annual or Fall Meeting) and acts on committee report (ROP and ROC).

▼

Committee votes on any amendments to report approved at NFPA Annual or Fall Meeting.

▼

Complaints to Standards Council on Association action must be filed within 20 days of the NFPA Annual or Fall Meeting.

▼

Standards Council decides, based on all evidence, whether or not to issue standard or to take other action, including hearing any complaints.

▼

Appeals to Board of Directors on Standards Council action must be filed within 20 days of Council action.

FORM FOR PROPOSALS ON NFPA TECHNICAL COMMITTEE DOCUMENTS

Mail to: Secretary, Standards Council
National Fire Protection Association, 1 Batterymarch Park, Quincy, Massachusetts 02269-9101
Fax No. 617-770-3500

Note: All proposals must be received by 5:00 p.m. EST/EDST on the published proposal-closing date.

If you need further information on the standards-making process, please contact the Standards Administration Department at 617-984-7249.

Date 9/18/93 **Name** John B. Smith **Tel. No.** 617-555-1212

Company _____

Street Address 9 Seattle St., Seattle, WA 02255

Please Indicate Organization Represented (if any) Fire Marshals Assn. of North America

1. a) NFPA Document Title National Fire Alarm Code **NFPA No. & Year** NFPA 72, 1993 ed.

b) Section/Paragraph 1-5.8.1 (Exception No.1)

FOR OFFICE USE ONLY
Log # _____
Date Rec'd _____

2. Proposal recommends: (Check one)
- ☐ **new text**
- ☐ **revised text**
- ☒ **deleted text**

3. Proposal (include proposed new or revised wording, or identification of wording to be deleted):

Delete exception.

SAMPLE

4. Statement of Problem and Substantiation for Proposal: (Note: State the problem that will be resolved by your recommendation; give the specific reason for your proposal including copies of tests, research papers, fire experience, etc. If more than 200 words, it may be abstracted for publication.)

A properly installed and maintained system should be free of ground faults. The occurrence of one or more ground faults should be required to cause a "trouble" signal because it indicates a condition that could contribute to future malfunction of the system. Ground fault protection has been widely available on these systems for years and its cost is negligible. Requiring it on all systems will promote better installations, maintenance and reliability.

5. ☒ **This Proposal is original material.** (Note: Original material is considered to be the submitter's own idea based on or as a result of his/her own experience, thought, or research and, to the best of his/her knowledge. is not copied from another source.)

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Signature (Required)

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