

**NFPA®**

# 1126

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**Standard for the  
Use of Pyrotechnics Before  
a Proximate Audience**

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**2016**



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## NFPA® 1126

### Standard for the

## Use of Pyrotechnics Before a Proximate Audience

### 2016 Edition

This edition of NFPA 1126, *Standard for the Use of Pyrotechnics Before a Proximate Audience*, was prepared by the Technical Committee on Special Effects. It was issued by the Standards Council on May 26, 2015, with an effective date of June 15, 2015, and supersedes all previous editions.

This edition of NFPA 1126 was approved as an American National Standard on June 15, 2015.

### Origin and Development of NFPA 1126

The first edition of NFPA 1126, *Standard for the Use of Pyrotechnics Before a Proximate Audience*, was published in 1992. It was developed by the Pyrotechnics Committee in response to a recognized need for a document to provide guidance to public safety officials for the safe use of pyrotechnic special effects at both indoor and outdoor locations. The purpose of this standard is to provide requirements for reasonable protection for pyrotechnic operators, performers, support personnel, and proximate audiences where pyrotechnic special effects are used indoors and outdoors.

For the 1996 edition, several new definitions were added, including *producer* and *venue manager*, that related to requirements in Chapter 4 of the document. In Chapter 5, the requirements relating to labeling of pyrotechnic preloads were revised for clarity and conformance with the NFPA *Manual of Style*. Revisions to Chapter 6 regarding use of pyrotechnics incorporated the tentative interim amendment addressing measures to safeguard the safety of performers.

The 2001 edition represented the first edition completed by the Committee on Special Effects, which now has responsibility for both flame and pyrotechnic special effects before a proximate audience. The previous editions of NFPA 1126 were the responsibility of the Committee on Pyrotechnics, but when the flame special effects activity was initiated (NFPA 160, *Standard for Flame Effects Before an Audience*), NFPA 1126 was assigned to this new committee. The primary revision in the 2001 edition was making the requirements consistent with NFPA's other proximate audience document, NFPA 160, since many users are involved in both types of special effects.

The 2006 edition included a complete revision of the standard, with editorial changes in accordance with the *Manual of Style for NFPA Technical Committee Documents* and several key technical changes. The committee added new definitions and revised existing definitions for consistency with the NFPA Glossary of Terms and with the other pyrotechnics documents. The standard was also revised to include new requirements on operator licensing that makes the document consistent with requirements for flame effect operators.

The 2011 edition incorporated amendments to the Application section to clarify two aspects. First, reference to NFPA 140, *Standard on Motion Picture and Television Production Studio Soundstages, Approved Production Facilities, and Production Locations*, was added to clarify that NFPA 140 applies when pyrotechnics are used in proximate situations where no audience is present. Second, the Committee clarified that use of firearms in motion pictures, television, or other entertainment is not covered by NFPA 1126. The Committee modified definitions used by all NFPA pyrotechnics documents for consistency and amended the requirements pertaining to power sources used as part of the firing systems to protect against ground faults in the firing circuitry.

The 2016 edition of NFPA 1126 defines a hybrid flame effect and adds requirements for their use. It also indicates which portions of hybrid flame effects are covered by NFPA 1126 and which are covered by NFPA 160, since both documents apply. Annex material has been added to provide further guidance on the simultaneous application of the two documents to hybrid flame effects. This edition also clarifies when and how special effects are covered in air shows and provides a reference for the use of such effects.

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**Committee Scope:** This Committee shall have primary responsibility for documents on the controlled use of flame, pyrotechnics, or other means of special effects for entertainment, exhibition, demonstration, or simulation before a proximate audience; and the design, fabrication, installation, testing, control, operation, and maintenance of user equipment, fuel storage, and sources for special effects before a proximate audience. This Committee does not have responsibility for documents on hazards other than those involving a proximate audience and the life safety considerations of the audience.

## Contents

|                                                                          |         |                                                                                                |          |
|--------------------------------------------------------------------------|---------|------------------------------------------------------------------------------------------------|----------|
| <b>Chapter 1 Administration</b> .....                                    | 1126- 5 | 6.3 Content of Plans. ....                                                                     | 1126- 9  |
| 1.1 Scope. ....                                                          | 1126- 5 | 6.4 Pyrotechnics Demonstration. ....                                                           | 1126- 9  |
| 1.2 Purpose. ....                                                        | 1126- 5 | 6.5 Qualifications of Operators and Assistants. ....                                           | 1126- 10 |
| 1.3 Application. ....                                                    | 1126- 5 |                                                                                                |          |
| 1.4 Retroactivity. ....                                                  | 1126- 6 | <b>Chapter 7 Requirements for Manufacturers of Pyrotechnics and Associated Equipment</b> ..... | 1126- 10 |
| 1.5 Equivalency. ....                                                    | 1126- 6 | 7.1 Pyrotechnic Product Information. ....                                                      | 1126- 10 |
| <b>Chapter 2 Referenced Publications</b> .....                           | 1126- 6 | 7.2 Identification of Pyrotechnic Devices or Binary Systems. ....                              | 1126- 10 |
| 2.1 General. ....                                                        | 1126- 6 | 7.3 Pyrotechnic Equipment. ....                                                                | 1126- 10 |
| 2.2 NFPA Publications. ....                                              | 1126- 6 | 7.4 Binary Materials. ....                                                                     | 1126- 10 |
| 2.3 Other Publications. ....                                             | 1126- 6 |                                                                                                |          |
| 2.4 References for Extracts in Mandatory Sections. ....                  | 1126- 7 | <b>Chapter 8 Use of Pyrotechnics</b> .....                                                     | 1126- 10 |
| <b>Chapter 3 Definitions</b> .....                                       | 1126- 7 | 8.1 General Fire Protection. ....                                                              | 1126- 10 |
| 3.1 General. ....                                                        | 1126- 7 | 8.2 Firing Prerequisites. ....                                                                 | 1126- 11 |
| 3.2 NFPA Official Definitions. ....                                      | 1126- 7 | 8.3 Firing Safeguards. ....                                                                    | 1126- 11 |
| 3.3 General Definitions. ....                                            | 1126- 7 | 8.4 Separation Distances for Audiences. ....                                                   | 1126- 12 |
| <b>Chapter 4 Transportation of Pyrotechnic Materials</b> .....           | 1126- 8 | 8.5 Safety Precautions. ....                                                                   | 1126- 12 |
| 4.1 Transportation. ....                                                 | 1126- 8 | 8.6 Performance. ....                                                                          | 1126- 12 |
| <b>Chapter 5 Storage of Pyrotechnic Materials and Devices</b> .....      | 1126- 8 | 8.7 Requirements After Performance. ....                                                       | 1126- 12 |
| 5.1 Storage Requirements. ....                                           | 1126- 8 | <b>Annex A Explanatory Material</b> .....                                                      | 1126- 13 |
| 5.2 In-Transit Requirements. ....                                        | 1126- 8 | <b>Annex B Inspection Requirements</b> .....                                                   | 1126- 16 |
| 5.3 Separation Distance from Unprotected Heat Source or Open Flame. .... | 1126- 9 | <b>Annex C Licensing Requirements for Pyrotechnic Operators</b> .....                          | 1126- 16 |
| <b>Chapter 6 Permit Requirements and Operator Qualifications</b> .....   | 1126- 9 | <b>Annex D Glossary</b> .....                                                                  | 1126- 16 |
| 6.1 Permit Requirements. ....                                            | 1126- 9 | <b>Annex E Informational References</b> .....                                                  | 1126- 18 |
| 6.2 Pyrotechnics Plans. ....                                             | 1126- 9 | <b>Index</b> .....                                                                             | 1126- 19 |

## NFPA 1126

## Standard for the

## Use of Pyrotechnics Before a Proximate Audience

2016 Edition

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**NOTICE:** An asterisk (\*) following the number or letter designating a paragraph indicates that explanatory material on the paragraph can be found in Annex A.

A reference in brackets [ ] following a section or paragraph indicates material that has been extracted from another NFPA document. As an aid to the user, the complete title and edition of the source documents for extracts in mandatory sections of the document are given in Chapter 2 and those for extracts in informational sections are given in Annex E. Extracted text may be edited for consistency and style and may include the revision of internal paragraph references and other references as appropriate. Requests for interpretations or revisions of extracted text shall be sent to the technical committee responsible for the source document.

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

## Chapter 1 Administration

**1.1 Scope.** This standard shall provide requirements for the protection of property, operators, performers, support personnel, and the viewing audiences where pyrotechnic effects are used indoors or outdoors with a proximate audience.

**1.2 Purpose.**

**1.2.1** The purpose of this standard shall be to provide minimum requirements to the operators and manufacturers for the safe operation of pyrotechnic effects.

**1.2.2\*** The purpose of this standard shall be to provide requirements for the reasonable protection of pyrotechnic operators, performers, support personnel, proximate audiences, property, and buildings where pyrotechnics are used indoors or outdoors from safety and fire hazards.

**1.2.2.1** The purpose of this standard shall be to provide guidelines to the authority having jurisdiction for approval of the use of pyrotechnics as specified in 1.2.2.

**1.2.2.2** The purpose of this standard shall be to provide requirements for local permits.

**1.3 Application.**

**1.3.1\*** This standard shall apply to the use of pyrotechnics in the performing arts in conjunction with theatrical, musical, or similar productions before a proximate audience, performers, or support personnel.

**1.3.2** This standard shall apply to the performance specifications, instructions, notifications, and labeling by the manufacturer of pyrotechnics materials, devices, equipment, and supplies.

**1.3.3** This standard shall apply to any indoor use of pyrotechnics.

**1.3.4** This standard shall apply to any hybrid flame effect used before a proximate audience.

**1.3.5 Application of NFPA 1123.**

**1.3.5.1** This standard shall apply to any outdoor use of pyrotechnics at distances less than those required by NFPA 1123.

**1.3.5.2** The use of pyrotechnics before a proximate audience shall not be construed as a display of fireworks as regulated by NFPA 1123, except that any use of aerial shells as regulated by NFPA 1123 shall comply with the provisions of that code.

**1.3.6 Application to Air Show Environments.**

**1.3.6.1** This standard shall apply to the installation and use of pyrotechnic devices on aircraft in a static display or as part of ground support acts during an air show when such devices are used at distances less than those specified in NFPA 1123.

**1.3.6.2** Devices mounted to aircraft shall be mounted in a secure manner to maintain their proper position and orientation and to prevent the unintentional separation of the device from the aircraft.

**1.3.6.3\*** This standard shall not apply to the use of pyrotechnic devices that have been mounted on aircraft once the aircraft is airborne and operating under the terms of a Federal Aviation Administration (FAA) waiver.

**1.3.6.4\*** This standard shall not apply to the use of ground-based effects utilizing explosives, liquid fuels, or other combustibles in air show environments.

**1.3.7 Application to the Entertainment Industry.**

**1.3.7.1** This standard shall apply to the video recording, audio recording, or filming of any television, radio, or movie production only where such production takes place before a proximate audience and includes the use of pyrotechnics.

**1.3.7.2** Where there is no audience present, NFPA 140 shall be used to regulate any pyrotechnic use.

**1.3.8** This standard shall apply to the rehearsal of any production in which pyrotechnics are used.

**1.3.9** This standard shall not apply to the manufacture, transportation, or storage of fireworks at a manufacturing facility.

**1.3.10** This standard shall not apply to the use of consumer fireworks by the general public.

**1.3.11\*** This standard shall not apply to the manufacture, transportation, storage, and use of explosives.

**1.3.12** This standard shall not apply to the transportation, handling, or use of pyrotechnics by the Armed Forces of the United States of America.

**1.3.13** This standard shall not apply to the transportation of pyrotechnic materials and devices approved and governed by U.S. Department of Transportation regulations.

**1.3.14\* Application to Training.**

**1.3.14.1** This standard shall not apply to the use of pyrotechnics in training by the fire service, law enforcement, or similar government agencies.

**1.3.14.2** This standard shall apply where there is a proximate audience that is not part of the live fire training evolution.

**1.3.15 Applicability of NFPA 101.**

**1.3.15.1** Facilities in or at which pyrotechnics are to be used or stored shall comply with the applicable provisions of NFPA 101.

**1.3.15.2** Pyrotechnics shall be permitted to be used in accordance with the provisions of NFPA 101, 13.7.3, where approved by the authority having jurisdiction.

**1.3.16\*** This standard shall not apply to the use of flammable liquids and flammable gases in the performing arts.

**1.3.17** This standard shall not apply to the manufacture of model rocket and high power rocket motors as covered in NFPA 1125.

**1.3.18\*** This standard shall not apply to the design, construction, limitation of propellant mass and power, and reliability of all rocket motors, other than fireworks rockets, produced commercially for sale to or use by the public for purposes of education, recreation, and sporting competition.

**1.3.19** This standard shall not apply to the sale and use of model rockets and model rocket motors used in conformance with NFPA 1122.

**1.3.20** This standard shall not apply to the sale and use of high power sport rockets and high power sport rocket motors used in conformance with NFPA 1127.

**1.3.21** This standard shall not apply to the use of firearms used in motion pictures, television, or other entertainment industries.

**1.3.22** This standard shall apply to any portion or component of any hybrid flame effect that utilizes materials, devices, and methodologies governed by this standard.

**1.3.23\*** This standard shall not apply to the use of flame effect materials as defined in NFPA 160.

**1.4 Retroactivity.** The provisions of this standard reflect a consensus of what is necessary to provide an acceptable degree of protection from the hazards addressed in this standard at the time the standard was issued.

**1.4.1** Unless otherwise specified, the provisions of this standard shall not apply to facilities, equipment, structures, or installations that existed or were approved for construction or

installation prior to the effective date of the standard. Where specified, the provisions of this standard shall be retroactive.

**1.4.2** In those cases where the authority having jurisdiction determines that the existing situation presents an unacceptable degree of risk, the authority having jurisdiction shall be permitted to apply retroactively any portions of this standard deemed appropriate.

**1.4.3** The retroactive requirements of this standard shall be permitted to be modified if their application clearly would be impractical in the judgment of the authority having jurisdiction, and only where it is clearly evident that a reasonable degree of safety is provided.

**1.5 Equivalency.** Nothing in this standard is intended to prevent the use of systems, methods, or devices of equivalent or superior quality, strength, fire resistance, effectiveness, durability, and safety over those prescribed by this standard.

**1.5.1** Technical documentation shall be submitted to the authority having jurisdiction to demonstrate equivalency.

**1.5.2** The system, method, or device shall be approved for the intended purpose by the authority having jurisdiction.

## 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.** National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169-7471.

NFPA 10, *Standard for Portable Fire Extinguishers*, 2013 edition.  
NFPA 72®, *National Fire Alarm and Signaling Code*, 2016

edition.

NFPA 101®, *Life Safety Code*®, 2015 edition.

NFPA 140, *Standard on Motion Picture and Television Production Studio Soundstages, Approved Production Facilities, and Production Locations*, 2013 edition.

NFPA 160, *Standard for the Use of Flame Effects Before an Audience*, 2016 edition.

NFPA 1122, *Code for Model Rocketry*, 2013 edition.

NFPA 1123, *Code for Fireworks Display*, 2014 edition.

NFPA 1125, *Code for the Manufacture of Model Rocket and High Power Rocket Motors*, 2012 edition.

NFPA 1127, *Code for High Power Rocketry*, 2013 edition.

### 2.3 Other Publications.

**2.3.1 U.S. Government Publications.** U.S. Government Printing Office, Washington, DC 20402.

Title 27, Code of Federal Regulations, Part 55, Bureau of Alcohol, Tobacco, Firearms and Explosives, "Explosives Law and Regulations."

Title 27, Code of Federal Regulations, Subpart K.

Title 49, Code of Federal Regulations, Part 171 to End.

### 2.3.2 Other Publications.

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