

***DO NOT DISTRIBUTE THIS
DOCUMENT UNTIL YOU HAVE
DISCUSSED THE PROPOSED EVENT
WITH THE APPLICANT/PERFORMER
AND DETERMINED THAT IT IS
FEASIBLE***

Z.1 HOW TO USE THIS ATTACHMENT

This attachment contains information related to fire dancing and similar performances using fire. For events using pyrotechnic devices, including spark machines, see Attachment B.

In addition to the generic event information listed in the “Submittal Requirements” section in Guideline S-01, the information in the “Additional Submittal Requirements” section of this attachment must be provided with your permit application.

The “Technical Information” section outlines information and safety provisions that apply to fire dancing and similar performances in general. The specifications and code provisions for many of the items listed as submittal requirements can be found here, so review of the entire attachment is recommended as you prepare your special event application. As you organize and set up your event, go over the information in this attachment with the crew, operational personnel, and other responsible parties to facilitate a successful fire safety inspection and a safe and code-compliant event.

Z.2 ADDITIONAL SUBMITTAL REQUIREMENTS

In addition to the standard special event information listed under the “Submittal Requirements” section in Guideline S-01, the information listed in this “Additional Submittal Requirements” section shall be provided as part of the application for all events that include fireworks.

Depending on the scope of the event or other considerations, the inspector reviewing the project may need more information in order to complete an evaluation of the event and provide conditions of approval to mitigate the potential hazards.

Exterior Plans

Include the following on the site plan:

- Location of the stage or performance area
- Location of steps, ramps, or other items that may present a trip hazard
- Type of surface in the performance area (concrete, wood, grass, etc.)
- Location of the audience and distance from the performance area
- Location of trees, planters, and other areas containing vegetation or other readily combustible materials and distance from the performance area
- Location of fire hydrants and fire lanes
- Structures (including overhangs and eaves) and overhead obstructions such as trees and telephone/electrical lines that may be located in or near the performance or audience areas.
- Parking lots, walkways, and other areas accessible to the public
- Security fencing, ropes, or other barriers

- Location of exits, if the audience, performer, and/or support staff are not able to disperse freely in an evacuation
- Spin-off areas, prop staging and storage areas, and fuel storage area
- Location of fire extinguishers, fire blankets, or other means of extinguishing accidental fires
- Location of a net or other barrier if the performance involves spinning, juggling, or throwing of burning props

Other Information

- A description of all props that will be used
- Type of fire-retardant used on costumes and stage/decorative materials; provide a copy of the manufacturer's application instructions
- Method of extinguishing props (fire blanket, bucket of water, wet towels, etc.)
- Method of securing or supervising fuel, prop staging and used prop areas
- Method of spinning off excess fuel and devices or equipment used

TECHNICAL INFORMATION

Z.3 SCOPE

The information in this attachment is intended to provide general regulations and procedures to ensure a minimum level of public safety for fire dancing and other performances using fire.

Z.4 DEFINITIONS

The following definitions are provided to facilitate communication between the applicant and fire inspector and the appropriate application of these guidelines. As terms may vary among individual performers, a photo of the prop is recommended where it does not match those provided below:

Poi: A pair of roughly arm-length chains with handles attached to one end, and bundle of wicking material on the other.

Staff: A metal or wooden tube ranging from 1–2 m long with wicking material applied to one or both ends. Staffs are typically used individually or in pairs. Juggling three or more is also possible.

Dragonstaff: A metal or wooden tube around 2 m long where each end consists of three or more wicks arranged in a wheel. Dragon staves are more often rolled on the body rather than spun.

Fire hoop: hoop with spokes and wicking material attached.

Fan: A large metal fan with one or more wicks attached to the edges.

Fire umbrella: an umbrella-like performance prop that can be constructed in a variety of ways.

Fire meteor: A long length of chain or rope with wicks, or small bowls of liquid fuel, attached to both ends.

Nunchaku: Nunchaku with wicking material, usually at either end.

Fire stick: A stick with wicks on both ends of the central stick.

Torch: A club or baton, with a wick on one end, and swung or tossed end-over-end like juggling clubs.

Fire knife: Short stave with blade attached to the end and wicking material applied to the blade.

Fire rope dart: A wick, sometimes wrapped around a steel spike, at the end of a rope or chain ranging from 6–15 feet long, with a ring or other handle on the opposite end.

Fire wand: a short metal rod, usually 28 inches long with two wicks on each end and a length of fire-resistant string threaded through the middle. The wand is balanced to stay upright and gives the appearance that it is levitating around the user. It is also known as a levitation wand, levi-stick or flow wand.

Fire sword: either a real sword modified for fire, or one specifically built for the purpose of fire shows with a fiberglass center wrapped in Kevlar wick.

Fire orb: 2 rings or handles with a wick attached between them by a thin wire. Also known as a fire bug or Chi ball.

Fire fingers: Short and thin torches attached to individual fingers.

Palm torches: Small torches with a flat base meant to be held upright in the palm of the hand.

Fire hip belt: A motorcycle chain belt with five spokes extending at equal intervals with wicking on the ends.

Fire whip: Lengths of braided aramid fiber tapered to make a bullwhip, usually with a metal handle about 12 inches long. The whip can be cracked to create large plumes of fire.

Fire rope/snake: Similar to poi, but has a short 3–5 inch chain attaching the handles to a 12 inch or longer Kevlar or Technora rope.

Fire jump rope: A jump rope made of Kevlar or Technora.

Fire ball: Specially constructed juggling balls, either solid balls dipped in fuel and juggled with protective gloves, or ones designed to contain the flame in the center of the ball.

Wearable fire: Headdresses, hip belts, arm bands, or other garments made typically of metal with Kevlar or Technora torches attached worn while fire dancing.

Z.5 GENERAL REQUIREMENTS

Fire dancing and similar performances shall comply with the following:

General requirements

- A minimum of 15 feet shall be provided between the audience and performance area. This distance shall be measured from the closest position of any ignited prop or flame effect during the performance.
- Where the performance involves spinning, juggling, or throwing of burning props, a net shall be provided to protect the audience and shall be raised during portions of the performance where flaming props have the potential to be accidentally thrown, knocked, or dropped into the seating/viewing area. The top of the net shall be at least as tall as highest point the prop would normally reach during the performance or 10 feet, whichever is more.
- Fuel used should be compatible with the type of flooring to minimize slip hazards (i.e., oil-based fuel should not be used when performing on non-porous surfaces)

Control of ignition sources

- Fire performances are not allowed inside of or within 20 feet of a tent, canopy, or membrane structure.
- Performances and effects shall not take place within 25 feet of readily combustible materials. Vegetation within this area that is capable of rapid ignition and spread of fire such as ornamental grasses and woody groundcover and shrubs shall be well irrigated and stay wet throughout the duration of the performance.
- Drapes, curtains, netting, and other similar or decorative materials in and near the performance area shall be inherently flame resistant or treated with fire retardant. Apply fire retardant according to manufacturer's instructions.
- All costumes and stage materials (including set pieces, orchestra pit covers, masking, props, and holders for flame effects, such as torches) within three feet of a flame shall be made of flame-resistant materials or treated with fire retardant. This distance is industry practice and may need to be increased according to the nature and size of the effect. Apply fire retardant, and re-apply after costumes are laundered or dry cleaned, according to manufacturer's instructions.
- Performers and crew in the vicinity of the flame effect shall be protected by clothing or other means suitable for their exposure to flame effects. Hair shall be tied back. For people handling flame effects, loose or billowy sleeves shall be rolled up and/or gloves or gauntlets shall be worn to minimize the potential for clothing to catch fire.
- Buckets of water, damp towels, or other approved methods of extinguishing props immediately after use shall be provided. If a fire blanket is used for extinguishing props, it shall not also be used for extinguishing accidental fires.

Fuel, Spin-off, and Prop Staging/Storage

- Gasoline, white gas, or any Class I flammable liquid shall not be used as the fuel source.
- Fuel storage shall be kept in an approved container at least 25 feet away from the performance and the audience. The quantity of fuel stored shall only suffice for a single performance.
- Spin-off shall be done in an approved location and manner, and with approved equipment, to minimize the potential for excess fuel to drip onto the floor or be propelled from props.
- No smoking shall be allowed within 20 feet of open fuel containers, spin-off areas, prop staging or storage areas, or fuel storage areas.
- Flammable flame effect materials and loaded devices in holding areas should be secured or supervised continuously by an attendant trained in emergency response procedures.
- All flammable flame effect materials and loaded devices that have been removed from storage areas in anticipation of immediate use should be stored in a temporary holding area acceptable to the fire inspector.
- Torches and other devices that may contain fuel residue should be stored away from ignition sources in a metal, vented cabinet that is separate from the storage of flammables and combustibles. Alternatively, fuel residue may be burned off before the device is stored; however, during this period all flame effect precautions must remain in place.

Fire Protection Equipment

- At least one fire extinguisher with a minimum 4-A:20-B rating shall be readily available and within 30 feet of the performance. The fire extinguisher shall be constantly attended by a competent adult trained in the use of portable fire extinguishers. Alternatively, a fire extinguisher with a minimum rating of 2-A:10-B shall be placed on each side of the performance area. Extinguishers shall either be new or serviced within the past year.

Exiting Requirements

- The performance area shall not block access to emergency exits.
- Where there are more than 200 seats arranged in rows, the seats shall be fastened together in groups of not less than three with zip-ties or by another approved method.

Additional requirements may apply if deemed necessary by the fire inspector based on the hazards present.