



Draft for reaffirmation review

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Recommendations to prevent falls on or off movable parade floats, movable stages, and similar moving platforms

Approved by ANSI's Board of Standards Review on _____

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Voting members:**Observer members:****Interest category codes:**

CP = custom-market producer DE = designer
DR = dealer rental company G = general interest
MP = mass-market producer U = user

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1 Scope and Exclusions

1.1 Scope

This document establishes minimum levels and measures needed to prevent falls on or off movable parade floats, movable stages, and similar moving platforms utilized in a parade environment. This document is to provide guidance on barriers, hand-holds, and/or positioning methods that may be utilized as mitigations in the prevention of falls.

NOTE: Regional variations may apply, when necessary to conform to the local Authority Having Jurisdiction (AHJ) requirements.

Hereafter, all rolling vehicle, wagon, sled, performance platform, towed equipment, push units or other rolling stock, be they powered or unpowered, while utilized in a parade environment, will be referred to as *floats*.

1.2 Exclusions

This document does not pertain to fall protection as defined in ANSI Z359, *Fall Protection Code*. This document does not pertain to horse drawn vehicles or stunt / acrobatic performances while on floats.

2 Definitions

2.1 Authority Having Jurisdiction (AHJ): Organizations, offices, or individuals responsible for enforcing the requirements of a code or standard, or for approving equipment, materials, an installation, or a procedure.

2.2 Float: Any powered or non-powered rolling vehicle, wagon, sled, performance platform, towed equipment, push units or other rolling stock used in entertainment for parade purposes.

2.3 Guardrail: Per OSHA regulations 29 CFR 1910.22(d) A barrier secured to uprights and erected along the exposed sides and ends of platforms to prevent falls of persons.

2.4 Parade: A procession of people, often accompanied by floats, marching bands or other sorts of entertainment.

2.5 Parade Pace: The standard speed of the floats during a Parade.

2.6 Performer: A person who entertains an audience, such as actor, acrobat, musician, singer, dancer, etc. For the purposes of this document the term, "*Performer*," would apply to anyone that would be on the float.

3 Fall Prevention Mitigation Methods

3.1 General

Float fall prevention is generally accomplished via the following methods:

For platforms that are less than 36 inches (91.4 cm) in height:
Holding on to a hand hold while the float is in motion.

For platforms that are 36 inches (91.4 cm) or greater in height, one of the following methods should be utilized depending upon the application:

Restraint from approaching an edge via a positioning system, or
Positioning behind a barrier or guardrail.

NOTE: A risk assessment of all special performance elements shall be performed to identify risk levels and determine required protocols and possible mitigations (including necessary special equipment and/or processes).

4 Hand-holds

Hand-holds shall be utilized as a fall prevention method as defined in Section 3.

4.1 Hand-holds General

Hand-holds shall withstand 200 lb. (91 kg) load applied in any direction without permanent deformation.

Operationally, Performers should be staged in such a way that they keep their grip on the handhold device.

4.2 Gripping Surfaces of hand-holds

Adequate gripping surfaces on the float should allow for a power grip (fingers/thumb encircle a grip surface, as occurs with a 1.5 inch (3.81 cm) diameter grab bar). Ideal gripping surfaces for standing Performers are at the operator's standing elbow height and are rounded in shape. (Example: A vertically-oriented grab bar that ran from the show element base to 48 inches (121.9 cm) above the floor would accommodate most Performers or support personnel.)

5 Positioning Systems

Positioning Systems shall be utilized as a fall prevention method as defined in Section 3.

5.1 Positioning Systems General

The purpose of the positioning systems is to provide the Performer with limited or no travel ability and keeping them from accessing any edge or drop off under any conditions. The length of tether utilized for the positioning system will vary based on the platform dimensions that the Performer is positioned on.

Examples of positioning systems may include a Performer being seat belted into a seat or a performer wearing a belt or harness where they are tethered via a lanyard to a pole or other secure anchorage point.

All positioning equipment and procedures shall meet all applicable national, state, local, and municipal regulations.

5.2 Belt Restraint Systems

Belt restraining devices shall be utilized when the performer is seated and will require multiple action release mechanisms.

5.3 Positioning System Anchorages

Positioning system anchorages shall support at a minimum 200 lb. (91 kg) load per performer, or twice the maximum load, applied in any direction. This includes performer poles and any anchorage for a positioning tether or harness.

6 Guardrails or Barriers

Guardrails or barriers shall be utilized as a fall prevention method as defined in Section 3.

6.1 Guardrail General

Guardrails shall be utilized to prevent falls from an elevated platform that is 36 inches (91.4 cm) and above or a platform that is 36 inches (91.4 cm) and above the next closest performance level.

6.2 Guardrail Design Requirements

Guardrail top rails shall elastically deflect no more than ¼ inch (0.64 cm) when subjected to a 200 lb. (91 kg) load applied in any direction. Guardrail mid rails shall be installed mid-way between top edge of guardrail system and the walking/working level and withstand at a minimum 150 lb. (68 kg) load applied in any direction without permanent deformation. Other types of barriers shall have strength equivalent to the guardrail requirements.

6.3 Guardrail Height Requirements

Guardrails may be visibly obtrusive in some parade applications; the following railing height options are listed based on the performer height range. The railing height should default to the tallest performer that would be placed behind the guardrail.

Performer Height Range	Minimum Railing Height
< 55.5" (141 cm)	36" (91.4 cm)
55.5"-61" (141 cm-155 cm)	40" (101.6 cm)
> 61" (155 cm)	42" (106.7 cm)

NOTE: Any personnel that would need to access the platform exceeding the recommended height range for the minimum railing height should use appropriate fall protection.

7 Float Speed

7.1 Parade Pacing

A Parade Pace shall be established that enables performers to maintain a safe distance from floats at all times, factoring in the following criteria:

How the choreography travels.

Distance needed for the Parade floats to stop safely.

Distance between Parade floats and performers.

Average Parade Pace

Parade Pace (m/s)	Parade Pace (mph)
1.2 m/s floats without performers	2.6 (mph)
1 m/s floats with performers	2.2 (mph)