



Designation: F 1193 – 04

## Standard Practice for Amusement Ride and Device Manufacturer Quality Assurance Program and Manufacturing Requirements<sup>1</sup>

This standard is issued under the fixed designation F 1193; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon ( $\epsilon$ ) indicates an editorial change since the last revision or reapproval.

### 1. Scope

1.1 This practice establishes the minimum requirements for a quality assurance program and the manufacturing of amusement rides and devices (including major modifications).

1.2 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

### 2. Referenced Documents

2.1 *AWS Standards:*<sup>2</sup>

As applicable.

2.2 *ASME Standards:*<sup>3</sup>

As applicable.

### 3. Significance and Use

3.1 The purpose of this practice is to provide the minimum manufacturing requirements for amusement rides and devices and to provide the minimum requirements for a written quality assurance program for an amusement ride or device manufacturer, or component supplier. This is not intended to include suppliers of off-the-shelf components (for example, fasteners, electrical wire, etc.).

### 4. Drawing Control Procedure

4.1 A procedure shall be in effect so that appropriate manufacturing drawings, their engineering revisions, and related documents are utilized.

### 5. Material and Component Control Procedure

5.1 A procedure shall be in effect so that materials, processes, and components, including raw materials, are in accordance with the engineering specifications.

<sup>1</sup> This practice is under the jurisdiction of ASTM Committee F24 on Amusement Rides and Devices and is the direct responsibility of Subcommittee F24.24 on Design and Manufacture.

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<sup>2</sup> Available from The American Welding Society (AWS), 550 NW LeJeune Rd., Miami, FL 33126.

<sup>3</sup> Available from American Society of Mechanical Engineers (ASME), ASME International Headquarters, Three Park Ave., New York, NY 10016-5990.

5.1.1 This procedure shall provide the purchasing agent with all the information required to order appropriate material.

5.1.2 A receiving procedure shall be in effect so that incoming material and components are checked against the purchasing specifications.

5.1.3 A procedure shall be in effect so that material in stock can be properly identified for future use.

5.1.4 Documentation on any material, process, or components certified shall be filed for reference.

### 6. Manufacturing

6.1 Amusement ride and device components and systems shall be manufactured and assembled in accordance with the designer/engineer specified criteria.

6.2 Changes to the designer/engineer specified criteria shall be documented and approved by the designer/engineer or a qualified engineer before components, subassemblies, or systems are placed into use.

### 7. Inspection

7.1 A procedure shall be in effect so that appropriate inspections are made on manufactured parts and subassemblies, for conformance with the designer/engineer specified criteria.

7.2 A procedure shall be in effect so that appropriate inspections are made on purchased components.

7.3 A procedure shall be in effect so that completed subassemblies, or where practical, the assembled amusement rides or devices are inspected prior to delivery.

7.4 Nonconforming components shall be identified and evaluated for disposition as follows:

7.4.1 The non-conforming component shall be scrapped or rejected, or

7.4.2 The non-conforming component shall be altered such that it cannot be used in the specific intended application for the component, or

7.4.3 The non-conforming component shall be reworked to bring it into compliance and re-inspected in conformance with 7.1, 7.2, or 7.3 of this practice.

### 8. Welding

8.1 Welding and welding procedures shall be in accordance with the appropriate American Welding Society (ANSI/AWS