



ANSI E1.22 - 2016
Entertainment Technology – Fire Safety
Curtain System

Rig/2002-2032r15

Approved as an American National Standard by ANSI's Board of Standards
Review on 11 October 2016.

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Published by:

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The ESTA Technical Standards Program

The ESTA Technical Standards Program was created to serve the ESTA membership and the entertainment industry in technical standards related matters. The goal of the Program is to take a leading role regarding technology within the entertainment industry by creating recommended practices and standards, monitoring standards issues around the world on behalf of our members, and improving communications and safety within the industry. ESTA works closely with the technical standards efforts of other organizations within our industry, including USITT and VPLT, and PLASA. The Technical Standards Program is accredited by the American National Standards Institute.

The Technical Standards Council (TSC) was established to oversee and coordinate the Technical Standards Program. Made up of individuals experienced in standards-making work from throughout our industry, the Council approves all projects undertaken and assigns them to the appropriate working group. The Technical Standards Council employs a Technical Standards Manager to coordinate the work of the Council and its working groups as well as maintain a “Standards Watch” on behalf of members. Working groups include: Control Protocols, Electrical Power, Floors, Fog and Smoke, Followspot Position, Photometrics, Rigging, and Stage Lifts.

ESTA encourages active participation in the Technical Standards Program. There are several ways to become involved. If you would like to become a member of an existing working group, as have over four hundred people, you must complete an application which is available from the ESTA office. Your application is subject to approval by the working group and you will be required to actively participate in the work of the group. This includes responding to letter ballots and attending meetings. Membership in ESTA is not a requirement. You can also become involved by requesting that the TSC develop a standard or a recommended practice in an area of concern to you.

The Rigging Working Group, which authored this Standard, consists of a cross section of entertainment industry professionals representing a diversity of interests. ESTA is committed to developing consensus-based standards and recommended practices in an open setting.

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Interest category codes:

CP = Custom-market Producer
DE = Designer
DR = Dealer or Rental company
G = General interest
MP = Mass-market Producer
U = User

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1 General

1.1 Scope

This standard governs the design, materials, fabrication, installation, operation, testing, and maintenance of fire safety curtain systems used for proscenium opening protection.

1.2 Purpose

1.2.1 Fire safety curtain systems shall be used where required by building codes, fire codes, or by the authority having jurisdiction.

1.2.2 Fire safety curtain systems shall work in conjunction with other building life and fire safety systems. (See Annex note B.1.2.2.)

1.2.3 Fire safety curtain systems shall protect occupants of the audience area from a fire on stage and shall in combination with other building life and fire safety systems provide occupants of the audience area sufficient time for safe and orderly egress.

1.2.4 The fire safety curtain shall reduce the transmission of radiant heat, block debris, and contribute to the control of smoke and gas movement for a period of 20 minutes.

1.2.5 A fire safety curtain is a specialized fire protection system, and its plans and specifications shall be developed in accordance with this standard by qualified persons experienced in the installation, inspection and testing of fire safety curtain assemblies.

1.3 Equivalency

The provisions of this standard are not intended to prevent the use of any material or to prohibit any design or method of fabrication not specifically prescribed by this standard, provided that any such alternative material, design or method of fabrication complies with the intent of the provisions of this standard. The quality, strength and effectiveness of all materials and methods of work shall be at least equivalent to those prescribed in this standard.

2 Definitions

2.1 Batten: A horizontal pipe, tube, or other structural shape in a pocket of or attached to a fire safety curtain.

2.2 Brail Fire Safety Curtain: An unframed fire safety curtain that is folded horizontally in an accordion fashion for storage.

2.3 Brail Fire Safety Curtain System: A system that opens and closes a brail fire safety curtain.

2.4 Bumper (Yield Pad): A filled pocket of fabric located below the bottom batten or bottom member of a frame.

2.5 Fill: The set of yarns placed crosswise in the loom, interlaced with the warp, forming the crosswise threads in the fabric. Also known as cross machine direction.

2.6 Fire Safety Curtain: The actual barrier including the membrane, structural framing, and attached hardware that closes the proscenium opening.

2.7 Fire Safety Curtain System: A fire safety curtain with all required hardware and controls to form a complete, fully operable assembly. (See Annex note B.2.7.)

2.8 Framed Fire Safety Curtain: A curtain assembly containing both a rigid perimeter frame and internal members.

2.9 Labeled: Equipment or materials to which has been attached a label, symbol, or other identifying mark of an organization that is acceptable to the authority having jurisdiction and concerned with product evaluation, that maintains periodic inspection of production of labeled equipment or materials, and by whose labeling the manufacturer indicates compliance with appropriate standards or performance in a specified manner.