



Designation: F2006 – 21

Standard Safety Specification for Window Fall Prevention Devices for Non-Emergency Escape (Egress) and Rescue (Ingress) Windows^{1,2}

This standard is issued under the fixed designation F2006; 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 (ε) indicates an editorial change since the last revision or reapproval.

INTRODUCTION

This consumer safety specification addresses window fall prevention devices that protect against potential falls by children age five and under through open windows not designated for emergency escape or rescue in installations more than 75 ft (23 m) above ground level in multiple family dwelling buildings since windows at these heights are beyond the reach of rescue ladders currently in use. Window fall prevention devices currently available include Window Opening Control Devices (WOCs), window fall prevention screens, and some types of window guards. These devices use different strategies to prevent children from falling through open windows. Window opening control devices restrict the size of the open area of the window so that it is too small for a young child to fall through. They do this by allowing the window opening to be set at a predetermined position. Window fall prevention screens and fall prevention window guards provide a barrier to prevent a child from falling through an open window. This safety specification is not intended for devices applied to windows installed in one and two family dwellings.

A special study³ by the U.S. Consumer Product Safety Commission indicates that young children are at high risk of death and serious injury from window falls. Children age five and younger account for a higher percentage of window fall fatalities and injuries.⁴

Security from forced entry is not within the scope of this safety specification and is not the intended function of any of the devices referred to herein. Window fall prevention devices usually differ in purpose and application from security/burglar bars. The general purpose of a window fall prevention device is to prevent a child age five or younger from falling through an open window. The general purpose of a security bar is to prevent unlawful entry through a window. Generally window fall prevention devices and security bars are two separate devices. However, a security bar could be used as a fall prevention device if it meets the requirements of this safety specification.

The CPSC has advised caregivers to open windows less than 4 in. when children are present as one means to prevent child falls through open windows. The 4-in. dimension is drawn from related building codes and standards for openings in guardrail assemblies,⁵ and is universally accepted as the appropriate dimension to prevent a child from passing through balcony or guard railing systems. Window opening control devices provide a means that the window, when opened in an initial operation, will satisfy the CPSC recommendation to open less than 4 in.⁶

Vent limiters are devices that restrict a sash from opening to a full open position. In instances where the vent limiters restrict the sash to prevent the passage of a 4-in. (102-mm) diameter sphere, it may be accepted as a means of complying with window fall prevention requirements in building codes. As model building codes typically allow a less than 4-in. opening as an acceptable condition on non-emergency escape and rescue openings and without other performance requirements, vent limiters are therefore outside of the scope of this safety specification.

Window Opening Control Devices (WOCs) are not covered by this safety specification to avoid confusion with devices under the scope of Specification F2006 for non-emergency escape and rescue openings versus devices under the scope of Specification F2090 where the devices have release mechanisms for emergency escape and rescue openings. WOCs are a term to be used solely for devices that comply with Specification F2090 in which the devices are releasable for sash operation to allow escape and rescue from an emergency.

1. Scope

1.1 This safety specification establishes requirements for devices intended to address the risk of injury and death associated with accidental falls through open windows by children five years old and younger.

NOTE 1—This safety specification is not intended to meet the unique requirements of Americans With Disabilities Act (ADA).

1.2 This safety specification applies only to window fall prevention devices, window fall prevention screens, and fall prevention window guards that are to be used on windows that are not intended for escape (egress) and rescue (ingress).

NOTE 2—Specification **F2090** addresses window fall prevention devices (releasable), including window opening control devices (WOCD(s)) for windows intended for emergency escape and rescue and any other window not covered by this safety specification.

1.3 This safety specification applies only to devices intended to be applied to windows installed at heights of more than 75 ft⁷ (23 m) above ground level in multiple family dwelling buildings. This safety specification is not intended to apply to windows below 75 ft (23 m) because all windows below 75 ft (23 m) that are operable and that meet the requirements for emergency escape and rescue openings could be used as a possible secondary means of escape.⁸

NOTE 3—Users of this safety specification should consult local authorities for other requirements that may apply to the use or installation, or both, of products covered by this safety specification.

1.4 The values stated in inch-pound units are to be regarded as standard. The values given in parentheses are mathematical conversions to SI units that are provided for information only and are not considered standard.

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

¹ This safety specification is under the jurisdiction of ASTM Committee **F15** on Consumer Products and is the direct responsibility of Subcommittee **F15.38** on Window Fall Prevention.

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² This standard replaces former Provisional Safety Specification PS 112.

³ U.S. Consumer Product Safety Commission, special window falls study conducted in 1991.

⁴ U.S. Consumer Product Safety Commission, special window falls study conducted in 1991 and “Window Safety: Data and Patterns Related to Entrapments and Accidental Falls from Windows,” prepared by Andersen Corporation.

Supporting data have been filed at ASTM International Headquarters and may be obtained by requesting Research Report RR:F15-1002. Contact ASTM Customer Service at service@astm.org.

⁵ See NFPA 101, 2006 Edition Section 7.2.2.4.5.3. Also see Section 1015.4 Opening limitations for guards in the 2018 and 2021 International Building Code (IBC).

⁶ Consumer Product Safety Commission, “Preventing Window Falls,” Document #5124.

⁷ 1994 Uniform Building Code Handbook, Sec. 1807. (a) and 2000 International Building Code—Section 403.1 (January 2000; Published Feb. 1, 2000) – Special provisions for Group B and R1.

⁸ This is the intended application of the specification unless otherwise required by applicable building code.

1.6 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

2. Referenced Documents

2.1 ASTM Standards:⁹

F1487 Consumer Safety Performance Specification for Playground Equipment for Public Use

F2090 Specification for Window Fall Prevention Devices With Emergency Escape (Egress) Release Mechanisms

2.2 Code of Federal Regulations:¹⁰

16 CFR 1201 Safety Standard for Architectural Glazing Materials

16 CFR 1500.53 Test Methods for Simulating Use and Abuse of Toys and Other Articles Intended for Use by Children Over 36 But Not Over 96 Months of Age, (f)(3) Testing Procedure

16 CFR 1508.6 (b) Requirements for Full-Size Baby Cribs

2.3 ANSI Standard:¹¹

ANSI Z97.1 Safety Glazing Materials Used in Buildings — Safety Performance Specifications and Methods of Test (Tempered Glass Impact Test)

ANSI Z535.4 American National Standard for Product Safety Signs and Labels

ANSI Z535.6 Product Safety Instructions in Product Manuals, Instructions and Other Collateral Materials

ANSI/BHMA A156.9 American National Standard for Cabinet Hardware

ANSI/SMA 1201 Specification for Insect Screens for Windows, Sliding Doors and Swinging Doors

3. Terminology

3.1 Definitions of Terms:

3.1.1 *aftermarket, adj*—referring to a product or device that is manufactured separately from a window but is intended to be used in conjunction with a window; for purposes of this standard, such a device is intended to be attached to or near a window or its frame in order to prevent a young child from passing or falling through the window when the window is opened.

3.1.2 *emergency escape (egress) and rescue (ingress) window, n*—a window intended for emergency escape (egress) and rescue (ingress) during an emergency situation such as fire, gas leak, etc., as defined by the prevailing applicable building and fire codes.

⁹ For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard’s Document Summary page on the ASTM website.

¹⁰ Available from U.S. Government Printing Office Superintendent of Documents, 732 N. Capitol St., NW, Mail Stop: SDE, Washington, DC 20401, http://www.access.gpo.gov.

¹¹ Available from American National Standards Institute (ANSI), 25 W. 43rd St., 4th Floor, New York, NY 10036, http://www.ansi.org.