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Standard Specification for Window Fall Prevention Devices With Emergency Escape (Egress) Release Mechanisms¹

This standard is issued under the fixed designation F2090; 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 aged five years and under through open windows. Window fall prevention devices currently available include window opening control devices (WOCDs), 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 (WOCDs) 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.

A special study² by the U.S. Consumer Product Safety Commission (CPSC) indicates that young children are at risk of death and serious injury from falls through open windows. Children aged five and younger account for a higher percentage of window fall fatalities and injuries.³

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. Security bars are generally permanently in place, cannot be released, and therefore would not be considered a window fall prevention device under this standard.

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. Window opening control devices (WOCDs) provide a means that the window, when opened in an initial operation, will satisfy the CPSC recommendation to open less than 4 in.⁴ 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. An additional operation is required to open the window further. The additional operation must be performed without the use of keys, tools, or special knowledge. Security from forced entry is not within the scope of this standard and is not the intended function of any of the devices referred to herein.

The intent of this update to this standard is to add new subsections 1.4 and 1.5 to the Scope section for window manufacturers who rely on supplier test reports and to clarify that all the applicable requirements of the standard must be met to claim conformance to this standard. Another update is to improve the clarity in 9.3.3 regarding the visibility of operating mechanisms and correct a typo in 12.2 replacing “hand tag” with “hang tag.”

1. Scope

1.1 This 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.

1.2 This specification is not intended to meet the unique requirements of Americans With Disabilities Act (ADA).

1.3 This specification applies to window fall prevention devices, including window opening control devices (WOCDs), window fall prevention screens, and fall prevention window guards, that are to be used on operable windows, including those that are designated for emergency escape (egress) and rescue (ingress).

NOTE 1—A separate safety specification, Safety Specification **F2006**, covers window fall prevention devices for non-emergency escape (egress) and rescue (ingress) windows in installations more than 75 ft⁶ (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.

1.4 Window manufacturers who rely on a test report from the supplier of the window fall prevention device shall verify that the installation of the window fall prevention device (either installed by the window manufacturer prior to shipping of the window or provided by the window manufacturer as a field installed kit) on their specific window product operator type complies with this standard.

1.5 Partial compliance to this standard is not permitted. In order to claim compliance to this standard, all of the applicable requirements in the standard must be met.

1.6 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.

1.7 *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 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 U.S. Consumer Product Safety Commission, *Special Window Falls Study*, conducted in 1991.

³ 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.

⁴ Consumer Product Safety Commission, “Preventing Window Falls,” Document #5124.

⁵ See NFPA 101, 2012 Edition, Section 7.2.2.4.5.3. Also see Section R312.1.3 guard opening limitations in the 2018 and 2021 International Residential Code (IRC).

⁶ 2006 *International Building Code*, Section 403.1, Special Provisions for Groups B and R1, January 2000. See 2021 International Building Code, Section 202, definition for High-Rise Building.

1.8 *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:⁷

F977 Consumer Safety Specification for Infant Walkers
F1487 Consumer Safety Performance Specification for Play-ground Equipment for Public Use
F2006 Safety Specification for Window Fall Prevention Devices for Non-Emergency Escape (Egress) and Rescue (Ingress) Windows

2.2 Code of Federal Regulations:⁸

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
CPSC 16 CFR Chapter II Part 1201 Safety Standard for Architectural Glazing Materials

2.3 ANSI Standards:⁹

ANSI Z535.4 Product Safety Signs and Labels
ANSI Z535.6 Product Safety Instructions in Product Manuals, Instructions and Other Collateral Materials
ANSI Z97.1 Safety Glazing Materials Used in Buildings — Safety Performance Specifications and Methods of Test (Tempered Glass Impact Test)
ANSI/BHMA A156.9 American National Standard for Cabinet Hardware
ANSI/SMA 1201 Specification for Insect Screens for Windows, Sliding Doors and Swinging Doors

2.4 AAMA Standards:¹⁰

AAMA/WDMA/CSA 101/IS.2/A440 North American Fenestration Standard/Specification for Windows, Doors, and Skylights (NAFS)
AAMA 902 Voluntary Specification for Sash Balances

3. Terminology

3.1 Definitions of Terms Specific to This Standard:

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

⁷ 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.

⁸ *Code of Federal Regulations*, available from U.S. Government Printing Office, Washington, DC 20402.

⁹ Available from American National Standards Institute (ANSI), 25 W. 43rd St., 4th Floor, New York, NY 10036, <http://www.ansi.org>.

¹⁰ Available from American Architectural Manufacturers Association, 1900 E. Golf Road, Suite 1250, Schaumburg, IL 60173, <http://www.aamanet.org/index.asp>.