This Area of Study was assigned to the CTC by the ICC Board in May/2006 due to recent media accounts of children falling from windows.


The focus of the CTC effort to date is as follows:

In the ‘07/08 and ‘09/10 Cycles, the focus of the effort centered on the need to raise the sill height to a height which would limit the ability of a small child located adjacent to the window to fall through the opening. The CTC was successful in bringing the height to 36” in the IBC (Section 1015.8) but not successful in the IRC (24” in Section R312.2.1). Sill heights below these thresholds require one of the following if the window is operable:

- Maximum opening size of 4”
- Fall prevention devices complying with ASTM F2090 Specification for Window Fall Prevention Devices – with Emergency Escape (Egress) Release Mechanisms. These release mechanism are intended to not be operable by small children
- Window opening control devices also complying with ASTM F2090.

In the ‘13 Cycles, the focus switched to existing buildings. With the deletion of Chapter 34 in the 2015 IBC, all of the Chapter 34 IBC provisions are now found in Chapter 4 of the IEBC. In addition, Appendix K to the 2015 IRC includes similar provisions. They are:

- IEBC: New Section 406 for replacement windows has been added. These provisions apply when the window replacement includes both the sash and the frame. It includes provisions for both window fall prevention and window opening control devices to mirror the IBC.
- IRC: New Sections AJ102.4.3 & AJ102.4.4 for replacement windows has been added. The sections include provisions for both window fall prevention and window opening control devices to mirror the IBC and the IEBC.

Remaining issues being transferred to the BCAC:

- 2015 IRC Section R310.1.1 specifically notes that devices complying with ASTM F2090 do not jeopardize compliance with the emergency escape and rescue provisions. A similar section is needed in Section 1030.4 of the IBC.
- The term “special knowledge” relative to the application of the emergency escape and rescue opening provisions has led to inconsistent enforcement due to wide ranging interpretations. With the new devices complying with ASTM F2090, this situation may become exacerbated. IBC Section 1030.4 does not include provisions for “special knowledge” however IRC Section R310.1.1 includes the provision. Delete “special knowledge” in IRC Section R310.1.1 for consistency with IBC 1030.4.
PROPOSAL 1: IBC

Revise as follows:

1030.4 Operational constraints and opening control devices. Emergency escape and rescue openings shall be operational from the inside of the room without the use of keys or tools. Bars, grilles, grates or similar devices are permitted to be placed over emergency escape and rescue openings provided the minimum net clear opening size complies with Section 1030.2 and such devices shall be releasable or removable from the inside without the use of a key, tool or force greater than that which is required for normal operation of the emergency escape and rescue opening. Where such bars, grilles, grates or similar devices are installed in existing buildings, smoke alarms shall be installed in accordance with Section 907.2.11 regardless of the valuation of the alteration. Window opening control devices complying with ASTM F 2090 shall be permitted for use on windows serving as a required emergency escape and rescue opening.

2015 IRC for reference:

R310.1.1 Operational constraints and opening control devices. Emergency escape and rescue openings shall be operational from the inside of the room without the use of keys, tools or special knowledge. Window opening control devices complying with ASTM F 2090 shall be permitted for use on windows serving as a required emergency escape and rescue opening.

10/8 meeting notes: Staff intro’d the item. No additional comments from the group. Recommend to move forward to BCAC as written.

PROPOSAL 2: IRC

Revise as follows:

R310.1.1 Operational constraints and opening control devices. Emergency escape and rescue openings shall be operational from the inside of the room without the use of keys or tools or special knowledge. Window opening control devices complying with ASTM F 2090 shall be permitted for use on windows serving as a required emergency escape and rescue opening.

2015 IBC for reference:

1030.4 Operational constraints. Emergency escape and rescue openings shall be operational from the inside of the room without the use of keys or tools. Bars, grilles, grates or similar devices are permitted to be placed over emergency escape and rescue openings provided the minimum net clear opening size complies with Section 1030.2 and such devices shall be releasable or removable from the inside without the use of a key, tool or force greater than that which is required for normal operation of the emergency escape and rescue opening. Where such bars, grilles, grates or similar devices are installed in existing buildings, smoke alarms shall be installed in accordance with Section 907.2.11 regardless of the valuation of the alteration.

10/8 meeting notes: Staff intro’d item. No additional comments from the group. Recommend to move forward to BCAC as written.
Note: The following is a coordination issue on this topic recognized by staff but not presented to the CTC Child Window Safety committee. These sections were added to the IEBC last cycle by the CTC.

IEBC 406.2 & 406.3

406.2 Replacement window opening control devices. In Group R-2 or R-3 buildings containing dwelling units and one- and two-family dwellings and townhouses regulated by the International Residential Code, window opening control devices complying with ASTM F 2090 shall be installed where an existing window is replaced and where all of the following apply to the replacement window:

1. The window is operable;
2. The window replacement includes replacement of the sash and the frame;
3. One of the following applies:
   3.1. In Group R-2 or R-3 buildings containing dwelling units, the top of the sill of the window opening is at a height less than 36 inches (915 mm) above the finished floor; or
   3.2. In one- and two-family dwellings and townhouses regulated by the International Residential Code, the top sill of the window opening is at a height less than 24 inches (610 mm) above the finished floor;
4. The window will permit openings that will allow passage of a 4-inch-diameter (102 mm) sphere when the window is in its largest opened position; and
5. The vertical distance from the top of the sill of the window opening to the finished grade or other surface below, on the exterior of the building, is greater than 72 inches (1829 mm).

The window opening control device, after operation to release the control device allowing the window to fully open, shall not reduce the minimum net clear opening area of the window unit to less than the area required by Section 1029.2 of the International Building Code.

Exceptions:

1. Operable windows where the top of the sill of the window opening is located more than 75 feet (22 860 mm) above the finished grade or other surface below, on the exterior of the room, space or building, and that are provided with window fall prevention devices that comply with ASTM F 2006.
2. Operable windows with openings that are provided with window fall prevention window opening control devices that comply with ASTM F 2090.

406.3 Replacement window emergency escape and rescue openings. Where windows are required to provide emergency escape and rescue openings in Group R-2 and R-3 occupancies and one- and two-family dwellings and townhouses regulated by the International Residential Code, replacement windows shall be exempt from the requirements of Sections 1030.2, 1030.3 and 1030.5 of the International Building Code and Sections R310.21 and R310.2.3 of the International Residential Code accordingly, provided the replacement window meets the following conditions:

1. The replacement window is the manufacturer’s largest standard size window that will fit within the existing frame or existing rough opening. The replacement window shall be permitted to be of the same operating style as the existing window or a style that provides for an equal or greater window opening area than the existing window.
2. The replacement of the window is not part of a change of occupancy.

Window opening control devices complying with ASTM F 2090 shall be permitted for use on windows required to provide emergency escape and rescue openings.

IEBC 702.4 & 702.5

702.4 Replacement window opening control devices. In Group R-2 or R-3 buildings containing dwelling units and one- and two-family dwellings and townhouses regulated by the International Residential Code, window opening control devices complying with ASTM F 2090 shall be installed where an existing window is replaced and where all of the following apply to the replacement window:
1. The window is operable;
2. The window replacement includes replacement of the sash and the frame;
3. One of the following applies:
   3.1. In Group R-2 or R-3 buildings containing dwelling units, the top of the sill of the window opening is at a height less than 36 inches (915 mm) above the finished floor; or
   3.2. In one- and two-family dwellings and townhouses regulated by the International Residential Code, the top sill of the window opening is at a height less than 24 inches (610 mm) above the finished floor;
4. The window will permit openings that will allow passage of a 4-inch-diameter (102 mm) sphere when the window is in its largest opened position; and
5. The vertical distance from the top of the sill of the window opening to the finished grade or other surface below, on the exterior of the building, is greater than 72 inches (1829 mm).

The window opening control device, after operation to release the control device allowing the window to fully open, shall not reduce the minimum net clear opening area of the window unit to less than the area required by Section 1029.2 of the International Building Code.

**Exceptions:**

1. Operable windows where the top of the sill of the window opening is located more than 75 feet (22 860 mm) above the finished grade or other surface below, on the exterior of the room, space or building, and that are provided with window fall prevention devices that comply with ASTM F 2006.
2. Operable windows with openings that are provided with window fall prevention window opening control devices that comply with ASTM F 2090.

702.5 **Replacement window emergency escape and rescue openings.** Where windows are required to provide emergency escape and rescue openings in Group R-2 and R-3 occupancies and one- and two-family dwellings and townhouses regulated by the International Residential Code, replacement windows shall be exempt from the requirements of Sections 1030.2, 1030.3 and 1030.5 of the International Building Code and Sections R310.21 and R310.2.3 of the International Residential Code accordingly, provided the replacement window meets the following conditions:

   1. The replacement window is the manufacturer’s largest standard size window that will fit within the existing frame or existing rough opening. The replacement window shall be permitted to be of the same operating style as the existing window or a style that provides for an equal or greater window opening area than the existing window.
   2. The replacement of the window is not part of a change of occupancy.

Window opening control devices complying with ASTM F 2090 shall be permitted for use on windows required to provide emergency escape and rescue openings.

Nothing in Chapter 10 for Change of Occupancy or Chapter 14 for Performance Compliance Methods

10/8 meeting notes: Staff intro’d item. Suggestion to coordinate with other players (Julie Ruth, Jeff Inks, etc.) regarding the referenced standard and devices within it (terminology). S.O. BCAC Existing Building WG is discussing taking IRC references out of the IEBC. Stay tuned. This item to go to the IEBC WG.