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2014 New York Building Code Table 705.8: Maximum Area of Exterior Wall Openings Based on Fire Separation Distance and Degree of Opening Protection

BC Table 705.8 (BC Table 704.8 of the 08 Code and Table 3-4 and 27-331 of the 1968 Code) limits the amount of exterior openings based on “fire separation distance” (“exterior separation” in the 1968 Code). Both terms are defined and are measured perpendicularly from the face of the exterior wall to the tax lot line (interior lot line in the 68 Code). The application of these conditions will determine whether exterior openings are permitted, and if so, the maximum area of such permitted openings, and also whether such permitted openings must be protected.

The SAFTI *FIRST* recommended products found in this table are not part of BC 705.8, but provided by SAFTI *FIRST* as a guide for choosing and specifying the correct and code approved product.

If you have questions or need further assistance for any current or upcoming projects, you can contact your local SAFTI *FIRST* architectural representative:

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NY BC Table 705.8: Maximum Area of Exterior Wall Openings Based on Fire Separation Distance and Degree of Opening Protection^m

FIRE SEPARATION DISTANCE (FEET)	DEGREE OF OPENING PROTECTION	ALLOWABLE AREA ^a	APPLICABLE SAFTI FIRST GLAZING PRODUCT <i>Important Note: Refer to NY BC Table 715 for Fire Rating Requirements</i>
0 to less than 3 ^{b,c}	Unprotected, Nonsprinklered (UP, NS)	Not Permitted	SuperLite II-XL IGU 60-120
	Unprotected, Sprinklered (UP, S) ⁱ	Not Permitted	SuperLite II-XL IGU 60-120
	Protected (P)	Not Permitted ^{j,k}	SuperLite II-XL IGU 60-120 For R-2 and R-3 occupancies, SuperClear 45-HS, SuperClear 45-HS-LI, SuperLite II-XL 45 IGU, SuperLite I-XL 45* are allowed up to 10% of the wall area. To exceed 10%, SuperLite II-XL 60-120 must be used for the openings exceeding the permitted percentage requirements.
3 to less than 5 ^{d,e}	Unprotected, Nonsprinklered (UP, NS)	Not Permitted	SuperLite II-XL IGU 60-120
	Unprotected, Sprinklered (UP, S) ⁱ	15%	Non-rated glazing with sprinklers up to 15% excluding H-1, H-2 and H-3 occupancies per footnote i. To exceed the area limitations or for use in H-1, H-2 and H-3 occupancies per footnote i, SuperLite II-XL IGU 60-120 must be used for the openings exceeding the permitted percentage requirements.
	Protected (P)	15% ^l	SuperClear 45-HS, SuperClear 45-HS-LI, SuperLite II-XL 45 IGU, SuperLite I-XL 45* Openings in R-2 and R-3 occupancies are not required to be protected per footnote l up to 15%. To exceed area limitations, SuperLite II-XL IGU 60-120 must be used for the openings exceeding the permitted percentage requirements.
5 to less than 10 ^{e,f}	Unprotected, Nonsprinklered (UP, NS)	10% ^h	Non-rated glazing up to 10%. H-2 and H-3 occupancies must use SuperClear 45-HS, SuperClear 45-HS-LI, SuperLite II-XL 45 IGU, SuperLite I-XL 45* per footnote e (area and rating limits may apply per Table 715). For R-3 occupancies, the area for protected and unprotected openings shall not be limited as applicable in Section 101.2 per footnote f.

			To exceed area limitations, SuperLite II-XL IGU 60-120 must be used for the openings exceeding the permitted percentage requirements.
	Unprotected, Sprinklered (UP, S) ⁱ	25%	<p>Non-rated glazing with sprinklers up to 25% excluding H-1, H-2 and H-3 occupancies per footnote i.</p> <p>For R-3 occupancies, the area for protected and unprotected openings shall not be limited as applicable in Section 101.2 per footnote f.</p> <p>To exceed area limitations or for use in H-1, H-2 and H-3 occupancies per footnote i, SuperLite II-XL IGU 60-120 must be used for the openings exceeding the permitted percentage requirements.</p>
	Protected (P)	25% ^l	<p>SuperClear 45-HS, SuperClear 45-HS-LI, SuperLite II-XL 45 IGU, SuperLite I-XL 45*, up to 25%.</p> <p>Openings in R-2 and R-3 occupancies are not required to be protected per footnote l up to 25%</p> <p>To exceed area limitations, SuperLite II-XL IGU 60-120 must be used for the openings exceeding the permitted percentage requirements.</p>
10 to less than 15 ^{e,f,g}	Unprotected, Nonsprinklered (UP, NS)	15% ^h	<p>Non-rated glazing up to 15%.</p> <p>H-2 and H-3 occupancies must use fire protective glazing per footnote e (area and rating limits may apply per Table 715).</p> <p>For R-3 occupancies, the area for protected and unprotected openings shall not be limited as applicable in Section 101.2 per footnote f.</p> <p>The area for openings in an open parking structure will not be limited per footnote g.</p> <p>To exceed area limitations, SuperLite II-XL IGU 60-120 must be used for the openings exceeding the permitted percentage requirements.</p>
	Unprotected, Sprinklered (UP, S) ⁱ	45%	<p>Non-rated glazing with sprinklers up to 45% excluding H-1, H-2 and H-3 occupancies per footnote i.</p> <p>For R-3 occupancies, the area for protected and unprotected openings shall not be limited as applicable in Section 101.2 per footnote f.</p>

			<p>The area for openings in an open parking structure will not be limited per footnote g.</p> <p>To exceed area limitations or for use in H-1, H-2 and H-3 occupancies per footnote i, SuperLite II-XL IGU 60-120 must be used for the openings exceeding the permitted percentage requirements.</p>
	Protected (P)	45% ^l	<p>SuperClear 45-HS, SuperClear 45-HS-LI, SuperLite II-XL 45 IGU, SuperLite I-XL 45* up to 45%.</p> <p>Openings in R-2 and R-3 occupancies are not required to be protected per footnote l up to 45%.</p> <p>To exceed area limitations, SuperLite II-XL IGU 60-120 must be used for the openings exceeding the permitted percentage requirements.</p>
15 to less than 20 ^{f,g}	Unprotected, Nonsprinklered (UP, NS)	25%	<p>Non-rated glazing up to 25%.</p> <p>For R-3 occupancies, the area for protected and unprotected openings shall not be limited as applicable in Section 101.2 per footnote f.</p> <p>The area for openings in an open parking structure will not be limited per footnote g.</p> <p>To exceed area limitations, SuperLite II-XL IGU 60-120 must be used for the openings exceeding the permitted percentage requirements.</p>
	Unprotected, Sprinklered (UP, S) ⁱ	75%	<p>Non-rated glazing with sprinklers up to 75% excluding H-1, H-2 and H-3 occupancies per footnote i.</p> <p>For R-3 occupancies, the area for protected and unprotected openings shall not be limited as applicable in Section 101.2 per footnote f.</p> <p>The area for openings in an open parking structure will not be limited per footnote g.</p> <p>To exceed area limitations or for use in H-1, H-2 and H-3 occupancies per footnote i, SuperLite II-XL IGU 60-120 must be used for the openings exceeding the permitted percentage requirements.</p>
	Protected (P)	75% ^l	<p>SuperClear 45-HS, SuperClear 45-HS-LI, SuperLite II-XL 45 IGU, SuperLite I-XL 45* up to 75%.</p>

			<p>Openings in R-2 and R-3 occupancies are not required to be protected per footnote l up to 75%.</p> <p>To exceed area limitations, SuperLite II-XL IGU 60-120 must be used for the openings exceeding the permitted percentage requirements.</p>
20 to less than 25 ^{f,g}	Unprotected, Nonsprinklered (UP, NS)	45%	<p>Non-rated glazing up to 45%.</p> <p>For R-3 occupancies, the area for protected and unprotected openings shall not be limited as applicable in Section 101.2 per footnote f.</p> <p>The area for openings in an open parking structure will not be limited per footnote g.</p> <p>To exceed area limitations, SuperLite II-XL IGU 60-120 must be used for the openings exceeding the permitted percentage requirements.</p>
	Unprotected, Sprinklered (UP, S) ⁱ	No limit	<p>Non-rated glazing with sprinklers without area limitations excluding H-1, H-2 and H-3 occupancies per footnote i.</p> <p>For R-3 occupancies, the area for protected and unprotected openings shall not be limited as applicable in Section 101.2 per footnote f.</p> <p>The area for openings in an open parking structure will not be limited per footnote g.</p> <p>For use in H-1, H-2 and H-3 occupancies per footnote i, SuperLite II-XL IGU 60-120 must be used.</p>
	Protected (P)	No limit ^l	<p>SuperClear 45-HS, SuperClear 45-HS-LI, SuperLite II-XL 45 IGU, SuperLite I-XL 45* without area limitations.</p> <p>Openings in R-2 and R-3 occupancies are not required to be protected per footnote l.</p> <p>If the fire protective glazing used exceeds 25% of the total wall area, SuperLite II-XL IGU 60-120 must be used for the openings exceeding the permitted percentage requirements.</p>
25 to less than 30 ^{f,g}	Unprotected, Nonsprinklered (UP, NS)	70%	<p>Non-rated glazing up to 75%.</p> <p>For R-3 occupancies, the area for protected and unprotected openings shall not be limited as applicable in Section 101.2 per footnote f.</p>

			<p>The area for openings in an open parking structure will not be limited per footnote g.</p> <p>To exceed area limitations, SuperLite II-XL IGU 60-120 must be used for the openings exceeding the permitted percentage requirements.</p>
	Unprotected, Sprinklered (UP, S) ⁱ	No limit	<p>Non-rated glazing with sprinklers without area limitations excluding H-1, H-2 and H-3 occupancies per footnote i.</p> <p>For R-3 occupancies, the area for protected and unprotected openings shall not be limited as applicable in Section 101.2 per footnote f.</p> <p>The area for openings in an open parking structure will not be limited per footnote g.</p> <p>For use in H-1, H-2 and H-3 occupancies per footnote i, SuperLite II-XL IGU 60-120 must be used for the openings.</p>
	Protected (P)	No limit ^l	<p>SuperClear 45-HS, SuperClear 45-HS-LI, SuperLite II-XL 45 IGU, SuperLite I-XL 45* without area limitations.</p> <p>Openings in R-2 and R-3 occupancies are not required to be protected per footnote l.</p> <p>If the fire protective glazing used exceeds 25% of the total wall area, SuperLite II-XL IGU 60-120 must be used for the openings exceeding the permitted percentage requirements.</p>
30 or greater	Unprotected, Nonsprinklered (UP, NS)	No limit	Non-rated glazing can be used without limitations.
	Unprotected, Sprinklered (UP, S) ⁱ	Not required	<p>Fire rated glazing is not required except for H1, H2 and H3 occupancies per footnote i.</p> <p>For use in H-1, H-2 and H-3 occupancies per footnote i, SuperLite II-XL IGU 60-120 must be used for the openings.</p>
	Protected (P)	Not required	Fire rated glazing is not required at this distance.

For SI: 1 foot=308.8 mm.

UP, NS = Unprotected openings in buildings not equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.

UP, S = Unprotected openings in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.

P= Openings protected with an opening protective assembly in accordance with Section 705.8.2.

- a. Values indicated are the percentage of the area of the exterior wall, per story.
- b. For the requirements for fire walls of buildings on the same tax lot, see Section 706.6.
- c. For openings in a fire wall for buildings on the same tax, see Section 706.8.
- d. The maximum percentage of unprotected and protected openings shall be 25 percent for Group R-3 occupancies.
- e. Unprotected openings shall not be permitted for openings with a fire separation distance of less than 15 feet for Group H-2 and H-3 occupancies.
- f. The area of unprotected and protected openings shall not be limited for Group R-3 occupancies, as applicable in Section 101.2, with a fire separation distance of 5 feet or more.
- g. The area of openings in an open parking structure with a fire separation distance of 10 feet or greater shall not be limited.
- h. Includes buildings accessory to Group R-3
- i. Not applicable to Group H-1, H-2 and H-3 occupancies.
- j. Protected openings through a wall or walls between buildings shall comply with Section 705.8.
- k. Protected openings within a fire separation distance of 3 feet or less are permitted for Occupancy Groups R-2 and R-3 provided such openings do not exceed 10 percent of the area of the facade of the story in which they are located. These openings shall not be credited towards meeting any mandatory natural light or ventilation requirements unless they also comply with applicable provisions of Chapter 12 and the Zoning Resolution.
- l. In Group R-2 and R-3 occupancies with an exterior separation distance greater than 3 feet, openings shall be in accordance with percentages indicated as "Protected Classification of Opening" in Table 705.8. However, such openings shall not be required to be protected.
- m. Upon special application, the commissioner may permit exterior wall openings to be constructed in excess of the permitted area established by Table 705.8 provided that such openings are protected and provided that at the time of their construction they are located at least 60 feet in a direct line, measured at any angle, including vertically and horizontally, from any neighboring buildings, unless otherwise permitted by Section 705.3 for buildings on the same tax lot. The construction class of the neighboring building shall not be factored into the measurement of the distance between the openings and adjoining building. If any neighboring building is later altered or constructed to come within the above distance limitation, the affected exterior openings shall immediately be closed with construction meeting the fire-resistance-rating requirements for exterior wall construction of the building in which they are located. Such additional openings shall not be credited toward meeting any of the mandatory natural light or ventilation requirements unless they also comply with applicable provisions of Chapter 12 and the New York City Zoning Resolution.

*SuperLite I-XL 45 may require AHJ approval for 45 minute applications because it does not pass the hose stream portion of the fire test. For information obtaining AHJ approval for SuperLite I-XL 45 and the hose stream test, please visit www.safti.com/AHJ.