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2021 IBC 716.1 TABLES

716.1(1) Marking Fire Rated Glazing Assemblies

716.1(2) Opening Fire Protection Assemblies, Ratings and Markings

716.1(3) Fire Window Assembly Fire Protection Ratings

The SAFTI FIRST recommended product found in these tables are not part of the 2021 IBC, but provided by SAFTI FIRST as guide for choosing and specifying the correct code approved product. If you have any questions regarding these tables, contact SAFTI FIRST at 888.653.3333 or send an email to info@safti.com.

2021 IBC Table 716.1(1)

Marking Fire-Rated Glazing Assemblies

| Fire Test Standard | Marking | Definition of Marking | Recommended SAFTI FIRST Product (not in IBC – added for easy reference) |
|------------------------------|---------|--|--|
| ASTM E119 or UL 263 | W | Meets wall assembly criteria. | SuperLite II-XL 60-120 SuperLite II-XLB 60-120 (oversized/butt-glazed) SuperLite II-XLM 60-120 (butt-glazed) |
| ASTM E119 or UL 263 | FC | Meets floor/ceiling criteria ^a | GPX FireFloor System |
| NFPA 257 or UL 9 | OH | Meets fire window assembly criteria including the hose stream test. | SuperClear 45-HS/SuperClear 45-HS-LI SuperLite II-XL 45 |
| NFPA 252 or UL 10B or UL 10C | D | Meets fire door assembly criteria. | SuperLite I SuperClear 45-HS/SuperClear 45-HS-LI SuperLite II-XL 45-90 SuperLite X-45/60/90 |
| | H | Meets fire door assembly “Hose Stream” test. | SuperClear 45-HS/SuperClear 45-HS-LI SuperLite II-XL 45-120 SuperLite X-45/60/90 |
| | T | Meets 450° F temperature rise criteria for 30 minutes | SuperLite II-XL 45-120 |
| | XXX | The time in minutes of the fire resistance or fire protection rating of the glazing assembly | |

For SI: °C = [(°F) – 32]/1.8.

a. See Section 2409.1

2021 IBC Table 716.1(2)

Opening Fire Protection Assemblies, Ratings and Markings

| TYPE OF ASSEMBLY | REQUIRED WALL ASSEMBLY RATING (HRS.) | | MINIMUM FIRE DOOR AND FIRE SHUTTER ASSEMBLY RATING (HRS.) | DOOR VISION PANEL SIZE ^a | FIRE RATED GLAZING MARKING DOOR VISION PANEL ^{b,c} | Recommended SAFTI FIRST Product for Door Vision Panel (not in IBC – added for easy reference) | MINIMUM SIDELITE/TRANSOM ASSEMBLY RATING (HRS.) | | FIRE RATED GLAZING MARKING SIDELITE/TRANSOM PANEL | | Recommended SAFTI FIRST Product for Sidelite/Transom (not in IBC – added for easy reference) |
|---|--|--|---|-------------------------------------|---|---|---|-----------------|---|-----------------|---|
| | | | | | | | Fire Protection | Fire Resistance | Fire Protection | Fire Resistance | |
| Fire walls and fire barriers having a required fire resistance rating greater than 1 hour | 4 | | 3 | See Note a | D-H-W-240 | | Not Permitted | 4 | Not Permitted | W-240 | |
| | 3 | | 3 ^d | See Note a | D-H-W-180 | | Not Permitted | 3 | Not Permitted | W-180 | |
| | 2 | | 1-1/2 | 100 sq. in. | ≤100 sq. in. = D-H-90 >100 sq. in. =D-H-W-90 | SuperLite X-45/60/90 SuperLite II-XL 90 | Not Permitted | 2 | Not Permitted | W-120 | SuperLite II-XL 120 SuperLite II-XLB 120 (oversized/butt-glazed) SuperLite II-XLM 120 (butt-glazed) |
| | 1-1/2 | | 1-1/2 | 100 sq. in. | ≤100 sq. in. = D-H-90 >100 sq. in. =D-H-W-90 | SuperLite X-45/60/90 SuperLite II-XL 90 | Not Permitted | 1-1/2 | Not Permitted | W-90 | SuperLite II-XL 90 |
| Double fire walls constructed in accordance with NFPA 221 | Single-wall assembly rating (hours) ^e | Each wall of the double wall assembly (hours) ^f | | | | | | | | | |
| | 4 | 3 | 3 | See Note a | D-H-W-180 | | Not Permitted | 3 | Not Permitted | W-180 | |
| | 3 | 2 | 1-1/2 | 100 sq. in. | ≤100 sq. in. = D-H-90 >100 sq. in. =D-H-W-90 | SuperLite X-45/60/90 SuperLite II-XL 90 | Not Permitted | 2 | Not Permitted | W-120 | SuperLite II-XL 120 SuperLite II-XLB 120 (oversized/butt-glazed) SuperLite II-XLM 120 (butt-glazed) |
| | 2 | 1 | 1 | 100 sq. in. | ≤100 sq. in. = D-H-60 >100 sq. in. =D-H-W-60 | SuperLite X-45/60/90 SuperLite II-XL 60 | Not Permitted | 1 | Not Permitted | W-60 | SuperLite II-XL 60 SuperLite II-XLB 60 (oversized/butt-glazed) SuperLite II-XLM 60 (butt-glazed) |

| TYPE OF ASSEMBLY | REQUIRED WALL ASSEMBLY RATING (HRS.) | MINIMUM FIRE DOOR AND FIRE SHUTTER ASSEMBLY RATING (HRS.) | DOOR VISION PANEL SIZE ^a | FIRE RATED GLAZING MARKING DOOR VISION PANEL ^{b,c} | Recommended SAFTI FIRST Product for Door Vision Panel (not in IBC – added for easy reference) | MINIMUM SIDELITE/TRANSOM ASSEMBLY RATING (HRS.) | | FIRE RATED GLAZING MARKING SIDELITE/TRANSOM PANEL | | Recommended SAFTI FIRST Product for Sidelite/Transom (not in IBC – added for easy reference) |
|--|--------------------------------------|---|-------------------------------------|---|---|---|------------------|---|------------------|---|
| | | | | | | Fire Protection | Fire Resistance | Fire Protection | Fire Resistance | |
| Enclosures for shafts, interior exit stairways and interior exit ramps | 2 | 1-1/2 | 100 sq. in. ^b | ≤100 sq. in. = D-H-90 >100 sq. in. =D-H-T-W-90 | SuperLite X-45/60/90 SuperLite II-XL 90 | Not Permitted | 2 | Not Permitted | W-120 | SuperLite II-XL 120 SuperLite II-XLB 120 (oversized/butt-glazed) SuperLite II-XLM 120 (butt-glazed) |
| Horizontal exits in fire walls ^g | 4 | 3 | 100 sq. in. | ≤100 sq. in. = D-H-180 >100 sq. in. D-H-W-240 | | Not Permitted | 4 | Not Permitted | W-240 | |
| | 3 | 3 ^d | 100 sq. in. | ≤100 sq. in. = D-H-180 >100 sq. in. D-H-W-180 | | Not Permitted | 3 | Not Permitted | W-180 | |
| Fire barriers having a required fire-resistance rating of 1 hour: Enclosures for shafts, exit access stairways, exit access ramp, interior exit stairways, interior exit ramps and exit passageway walls. | 1 | 1 | 100 sq. in. | ≤100 sq. in. = D-H-60 >100 sq. in. = D-H-T-W-60 | SuperLite X-45/60/90 SuperLite II-XL 60 | Not Permitted | 1 | Not Permitted | W-60 | SuperLite II-XL 60 SuperLite II-XLB 60 (oversized/butt-glazed) SuperLite II-XLM 60 (butt-glazed) |
| | | | | | | Fire Protection | | | | |
| Other Fire Barriers | 1 | 3/4 | Maximum Size Tested | D-H | SuperClear 45-HS/HS-LI SuperLite II-XL 45 | | 3/4 ^h | | D-H ^h | SuperClear 45-HS/HS-LI SuperLite II-XL 45 |

| TYPE OF ASSEMBLY | REQUIRED WALL ASSEMBLY RATING (HRS.) | MINIMUM FIRE DOOR AND FIRE SHUTTER ASSEMBLY RATING (HRS.) | DOOR VISION PANEL SIZE ^a | FIRE RATED GLAZING MARKING DOOR VISION PANEL ^{b,c} | Recommended SAFTI FIRST Product for Door Vision Panel (not in IBC – added for easy reference) | MINIMUM SIDELITE/TRANSOM ASSEMBLY RATING (HRS.) | | FIRE RATED GLAZING MARKING SIDELITE/TRANSOM PANEL | | Recommended SAFTI FIRST Product for Sidelite/Transom (not in IBC – added for easy reference) | | |
|------------------------------------|--------------------------------------|---|-------------------------------------|---|---|---|------------------------|---|-------|--|--|--|
| | | | | | | Fire Protection | | | | | | |
| Fire partitions: Corridor walls | 1 | 1/3 ^a | Maximum Size Tested | D-20 | SuperLite I & I-XL | 3/4 ^a | | D-H-OH-45 | | SuperClear 45-HS/HS-LI SuperLite II-XL 45 | | |
| | 0.5 | 1/3 ^a | Maximum Size Tested | D-20 | SuperLite I & I-XL | 1/3 | | D-H-OH-20 | | SuperClear 45-HS/HS-LI SuperLite II-XL 45 | | |
| Other fire partitions | 1 | 3/4 ⁱ | Maximum Size Tested | D-H-45 | SuperClear 45-HS/HS-LI SuperLite II-XL 45 | 3/4 | | D-H-45 | | SuperClear 45-HS/HS-LI SuperLite II-XL 45 | | |
| | 0.5 | 1/3 | Maximum Size Tested | D-H-20 | SuperClear 45-HS/HS-LI SuperLite II-XL 45 | 1/3 | | D-H-20 | | SuperClear 45-HS/HS-LI SuperLite II-XL 45 | | |
| Exterior Walls | 3 | 1-1/2 | 100 sq. in. ^a | ≤100 sq. in. = D-H-90 >100 sq. in. =D-H-W-90 | SuperLite X-45/60/90 SuperLite II-XL 90 | Not Permitted | 3 | Not Permitted | W-180 | | | |
| | 2 | 1-1/2 | Maximum Size Tested | D-H-90 or D-H-W-90 | SuperLite X-45/60/90 SuperLite II-XL 90 | 1-1/2 ^h | 2 | D-H-OH-90 ^h | W-120 | SuperLite II-XL 90 SuperLite II-XL 120 SuperLite II-XLB 120 (oversized/butt-glazed) | | |
| | | | | | | | Fire Protection | | | | | |
| | 1 | 3/4 | Maximum Size Tested | D-H-45 | SuperClear 45-HS/HS-LI SuperLite II-XL 45 | 3/4 ^h | | D-H-45 ^h | | SuperClear 45-HS/HS-LI SuperLite II-XL 45 | | |
| Smoke Barriers | | | | | | | Fire Protection | | | | | |
| | 1 | 1/3 | Maximum Size Tested | D-20 | SuperLite I & I-XL | 3/4 | | D-H-OH-45 | | SuperClear 45-HS/HS-LI SuperLite II-XL 45 | | |

For SI: 1 square inch – 645.2 mm

- Fire resistance-rated glazing tested to ASTM E119 in accordance with Section 716.1.2.3 shall be permitted, in the maximum size tested.
- Under the column heading "Fire-rated glazing marking door vision panel," W refers to the fire-resistance-rating of the glazing, not the frame.
- See section 716.1.2.2.1 and Table 716.1 (1) for additional permitted marking.
- Two doors, each with a fire protection rating of 1-1/2 hours, installed on opposite sides of the same opening in a fire wall, shall be deemed equivalent in fire protection rating to one 3-hour fire door.
- As required in Section 706.4.
- As allowed in Section 4.6 of NFPA 221.
- See Section 716.5.1.2.

- h. Fire-protection-rated glazing is not permitted for fire barriers required by Section 1207 of the International Fire Code to enclose energy storage systems. Fire-resistance-rated glazing assemblies tested to ASTM E119 or UL 263, as specified in Section 716.1.2.3, shall be permitted.
- i. Two doors, each with a fire rating of 20 minutes, installed on opposite ends of the same opening in a fire partition, shall be deemed equivalent in fire protection rating to one 45-minute fire door.

2021 IBC Table 716.1(3)

Fire Window Assembly Fire Protection Ratings

| TYPE OF WALL ASSEMBLY | REQUIRED WALL ASSEMBLY RATING (hours) | MINIMUM FIRE WINDOW ASSEMBLY RATING (hours) | FIRE RATED GLAZING MARKING | Recommended SAFTI FIRST Product (not in IBC – added for easy reference) |
|---|---------------------------------------|---|--------------------------------|---|
| Interior walls | | | | |
| Fire walls | All | NP ^a | W-XXX ^b | SuperLite II-XL 60-120 |
| Fire barriers | >1 | NP ^a | W-XXX ^b | SuperLite II-XLB 60-120 (oversized/butt-glazed) |
| | 1 | NP ^a | W-XXX ^b | SuperLite II-XLM 60-120 (butt-glazed) |
| Atrium separations (707.3.6), Incidental use areas (707.3.7) ^c , Mixed occupancy separations (707.3.9) | 1 | 3/4 | OH-45 or W-60 | SuperLite II-XL 60 SuperLite II-XLB 60 (oversized/butt-glazed) SuperLite II-XLM 60 (butt-glazed) If less than 25% of the wall area: SuperClear 45-HS/HS-LI, SuperLite II-XL 45 |
| Fire Partitions | 1 0.5 | 3/4 1/3 | OH-45 or W-60 OH-20 or W-30 | SuperLite II-XL 60 SuperLite II-XLB 60 (oversized/butt-glazed) SuperLite II-XLM 60 (butt-glazed) |
| Smoke Barrier | 1 | 3/4 | OH-45 or W-60 | If less than 25% of the wall area: SuperClear 45-HS/HS-LI, SuperLite II-XL 45 |
| Exterior walls | >1 | 1-1/2 | OH-90 or W-XXX ^b | SuperLite II-XL-120/SuperLite II-XLB Note opening limits per Table 705.8: SuperLite II-XL 90 |
| | 1 0.5 | 3/4 1/3 | OH-45 or W-60 OH-20 or W-30 | SuperLite II-XL 60 Note opening limits per Table 705.8: SuperClear 45-HS/HS-LI, SuperLite II-XL 45 |
| Party wall | All | NP | Not Applicable | |

NP – Not Permitted

a. Not permitted except fire resistance rated glazing assemblies tested to ASTM E119 or UL 263, as specified in Section 716.1.2.3.

b. XXX = The fire rating duration period in minutes, which shall be equal to the fire resistance rating required for the wall assembly.

c. Fire-protection-rated glazing is not permitted for fire barriers required by section 1207 of the International Fire Code to enclose energy storage systems. Fire-resistance-rated glazing assemblies tested to ASTM E119 or UL 263, as specified in Section 716.1.2.3, shall be permitted.