

ONTARIO BUILDING CODE

3.1.8. Fire Separations and Closures

3.1.8.1. General Requirements

- (1) Any wall, partition or floor assembly required to be a fire separation shall,
 - (a) except as permitted by Sentence (2), be constructed as a continuous element, and
 - (b) as required in this Part, have a fire resistance rating as specified
- (2) Openings in a fire separation shall be protected with closures, shafts or other means in conformance with Articles 3.1.8.4. to 3.1.8.18. and Subsections 3.1.9. and 3.2.8.

3.1.8.14. Wired Glass and Glass Block

- (1) Except as permitted by Articles 3.1.8.16. and 3.1.8.17. for the separation of exits, an opening in a fire separation having a fire-resistance rating not more than 1 h is permitted to be protected with fixed wired glass assemblies or glass blocks installed in conformance with NFPA 80, "Fire Doors and Other Opening Protectives".
- (2) Wired Glass assemblies permitted by Sentence (1) and described in Supplementary Standard SB-2, "Fire Performance Ratings", are permitted to be used as closures in vertical fire separations without being tested in accordance with Sentence 3.1.8.4.(1).

Supplementary Standards – SB-2 – Fire Performance Ratings

2.3.14. Wired Glass Assemblies

- (1) Openings in a vertical fire separation having a fire-resistance rating of not more than 1 h are allowed to be protected by wired glass assemblies, provided the wired glass is,
 - (a) not less than 6 mm thick;
 - (b) reinforced by a steel wire mesh in the form of diamonds, squares or hexagons having dimensions of,

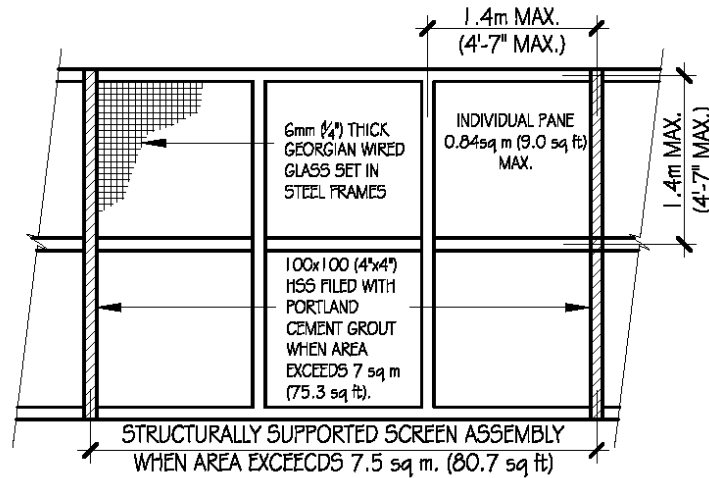
- (i) Approximately 25 mm (1 in) across the flats, using wire of not less than 0.45 mm (0.02 in) diam, or
- (ii) Approximately 13 mm (0.51 in) across the flats, using wire not less than 0.40 mm (0.02 in) diam, the wire to be centrally embedded during manufacture and welded or intertwined at each intersection;
- (c) set in fixed steel frames with metal not less than 1.35 mm (0.05 in) thick and providing a glazing stop of not less than 20 mm (0.8 in) on each side of the glass; and
- (d) limited in area so that,
 - (i) Individual panes are not more than 0.84 m² (9 ft²), with neither height nor width more than 1.4 m (4 ft 7 in), and
 - (ii) The area not structurally supported by mullions is not more than 7.5 m² (80.7 ft²).

- (2) It is intended that the structural mullions referred to in Subclause (1)(d)(ii) will not distort or be displaced to the extent that there would be a failure of the wired glass closure during the period for which a closure in the fire separation would be expected to function. Hollow structural steel tubing not less than 100 mm (4 in) square filled with Portland cement-based grout will satisfy the intent of the Subclause.

OBJECTIVE

The illustration below shows the maximum area of individual pane of wired glass screen opening assembly that can be built in a fire separation with a maximum fire-resistance rating of not more than 1 hr. In addition the illustration shows the maximum area of a screen assembly of 7.5 m² (80.7 ft²). When the screen exceeds the area of 7.5 m² (80.7 ft²) it must be structurally supported by HSS mullions and filled with Portland cement grout. The screen must be designed in accordance with Part 4 of the OBC according to the height.

Note: If the screen acts as a guard it must meet the loading requirements of "load on guards" in Part 4 OBC.



The Building Standards Department issues BUILDER TIPS as part of our customer service program. They are designed to provide an improved understanding of the Building Code and to reduce the costs associated with correcting infractions. Please contact your area building inspector for further information or call the Building Standards Department at (905) 475-4850