

Unauthorized glass panel compromises safety



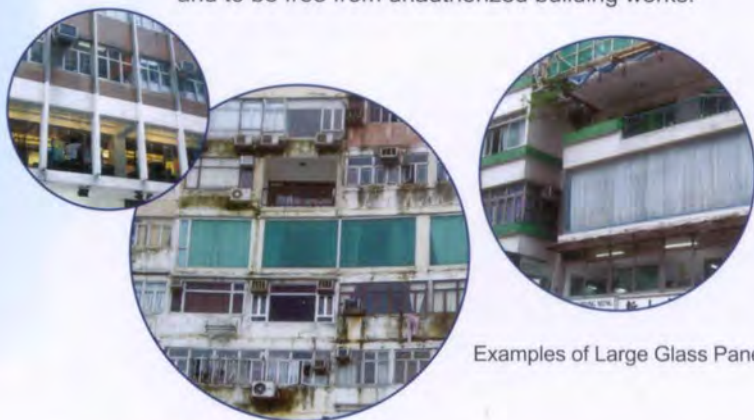
Reducing
fire-resisting
barrier

Weakening wind
resistance

Damaging safety
barrier

Installation of Large Glass Panels on External Walls

Unauthorized removal of external walls on upper floors and replacement by large glass panels may cause serious consequences leading to personal injury and property damage to others. Moreover, the owners or the occupants may have to bear the legal liability aroused. In fact, the owners or the occupants have the responsibility to maintain their premises in a safe condition and to be free from unauthorized building works.



Examples of Large Glass Panels

Functions of External Walls

- The external walls of a building serve as a barrier to prevent persons or objects from falling out and also serve to prevent the spread of fire between floors as required under the Buildings Ordinance.
- The external walls should be properly designed and constructed with suitable materials to withstand impact load, wind effect, and to resist the passage of fire between floors so as to comply with the provisions of the Buildings Ordinance.
- Installation of glass panels on external walls on upper floors without the approval of the Building Authority and affecting the building structure or the fire-resisting performance is considered to be unauthorized building works.



General Requirements for Installation of Glass Panels on External Wall

Safety 安全

- The design of the glass panels has to be approved by the Building Authority before installation.
- Suitable glass such as laminated glass or tempered glass* of sufficient thickness to withstand the required impact load and wind load should be used. If the glass panels also serve as fire-resisting element, they should have a Fire Resistance Period as required under the Buildings Ordinance. The following examples illustrating the minimum thickness of glass to be used with the given design assumptions are provided for reference only:

Materials	Height above ground level	Span	Design wind pressure	Uniformly distributed load to be applied at a height of 1.1m above floor level	Minimum thickness
Tempered glass*	5m to 10m	2.5m (supported at top and bottom)	2.81kpa	0.75 kN/m	18mm
Tempered glass*	5m to 10m	2.5m (supported on four sides)	2.81kpa	0.75 kN/m	16mm

*If tempered glass is used, please ensure that the materials have passed all required quality control tests. For details, please refer to the Practice Note for Authorized Persons and Registered Structural Engineers No. 239.

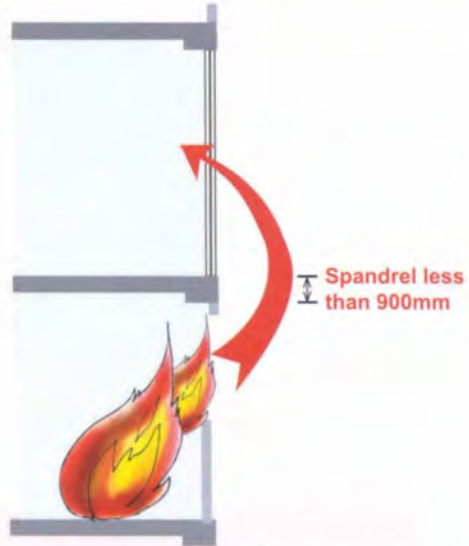
- The supports of large glass panels should be properly designed. The glass panel should be affixed to steel brackets with structural sealant which should allow for thermal expansion of the glass panel. The brackets should in turn be securely fixed to structural beams or slabs by anchor bolts. The anchor bolts and steel brackets should be of the same material to avoid potential corrosion action.
- The installation works should be carried out in accordance with the plans approved by the Building Authority and the installation procedures specified by the Authorized Person.



Potential Danger of Installation of Unauthorized Glass Panels on Upper Floors



The unauthorized glass panels could not function as a safety barrier to prevent persons or objects from falling out.



The replacement of approved external wall by unauthorized glass panels could reduce the fire-resisting barrier between floors. In case of fire, the unauthorized glass panels could not serve to prevent the spread of fire between floors.



The unauthorized glass panels could not withstand the wind effect or other impact load and may shatter.

When owners or occupants intend to install/already installed new glass panels on external walls on upper floors, the following points should be noted:

- Before commencement of installation work, the owner or the occupant should enlist the services of an Authorized Person and if necessary, a Registered Structural Engineer to submit plans to the Building Authority for approval. A Registered General Building Contractor should be appointed to carry out the installation work. The Buildings Department's website <http://www.bd.gov.hk> contains a list of Authorized Persons and Registered Structural Engineers registered under the Buildings Ordinance for reference.
- For premises where the approved external walls were replaced by unauthorized glass panels, the owner or the occupant may appoint an Authorized Person to investigate and submit an assessment report to substantiate that the glass panels installed meet the required standards such as fixing methods, thickness of glass, etc. Should the owner or the occupant fail to do so, the Buildings Department may issue a statutory order to effect the removal of the unauthorized building works and instigate prosecution action.
- The owner or the occupant should also check the Deed of Mutual Covenant (DMC) to ensure that installation of glass panels on external walls comply with the provisions of the DMC.
- For any enquiries, please contact the Buildings Department Hotline on 2626 1616. BD hotline is handled by "1823 Citizen's Easy Link" of the government.

