

**MUNICIPAL CORPORATION OF GREATER MUMBAI
MUMBAI FIRE BRIGADE**

BRIGADE STANDING ORDER NO. 01 DATE 28.08.2013

Sub: Fire Safety requirements for Glass Wall in Glass Facade in building.

The recent major fire to high rise building at BKC Complex which has glass wall all around has posed great difficulty for the fire brigade to carry out the fire fighting operation. This incidence has raised alarm regarding the special provisions required to be made in glass facade building.

In view of the above a presentation was made to A.M.C. (W.S.), Ch.Eng.(D.P.) and Chief Fire Officer by the confederation of construction products and services (CCPS) on 10.10.2012 on use of Glass in the building- human safety aspect.

A.M.C. (W.S.) Vide No. AMC/WS/D/4616 dated 12.12.2012 has given direction to submit on priority the norms relating to glass cladding / building to Ch.Eng. (D.P.) & Chief Fire Officer.

In view of the above Chief Fire Officer has prepared norms for Glass wall / Glass facade in the building from fire risk point of view and the same has been approved by A.M.C. (W.S.) / Hon. M.C. through E-office on 20.08.2013.

FIRE SAFETY REQUIRMENTS FOR GLASS WALL IN BUILDING

GLASS WALL (WALLS FUNCTIONING AS FIRE COMPARTMENT WALL AND WALL ADJOINING ESCAPE ROUTES)

- 1) Architect should earmark conspicuously the glass wall either by sign or in words, on the plans submitted at the time of submission of proposal.
- 1) The said wall including doors frame work if any should be one hour fire resistance and shall satisfy stability, integrity and insulation characteristics for the fire resistance period given.
- 3) Plastic or any combustible film shall not be coated on external or internal face of the wall.

FIRE SAFETY REQUIREMENTS FOR GLASS FAÇADE IN BUILDING

GLASS FAÇADE

- 1) An Opening to the glass façade of min. width 1.5 m and height 1.5 m shall be provided at every floor at a level of 1.2 m from the flooring facing compulsory open space as well as on road side. Minimum one such opening shall be provided at the interval of every 15 m. - Mechanism of Opening: - The openable glass panel shall be either left or right hinged to facilitate approach of the rescue cage / ladder. Similarly, this portion shall have manual opening mechanism from inside as well as outside. Such oepnable panels shall be marked conspicuously so as to easily identify the openable panel from outside.
- 2) Distance between the external wall (glass / brick) and glass façade shall not be more than 300 mm.
- 3) The smoke seals / barriers between building wall and façade shall be provided at every floor level in the form of non-combustible material / vermiculate cement.

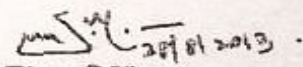
- 4) Glass façade blocking the area of staircase, lift lobby and corridor shall be kept openable. Pressurized system of the staircase / lobby shall be synchronized with opening mechanism.
- 5) The glazing used on the façade shall be of toughened (tempered) safety glass as per I.S. 2553, Part I or laminated safety glass as per I.S. 2553 – Part I, satisfying stability criteria.
- 6) Automatic Dry type water curtain system shall be provided at every floor level from inside of the façade.
- 7) Openable vent of 600 mm height to be installed below ceiling level or false ceiling level (if provided). - The openable vent of minimum 2.5% of the floor area shall be provided. It shall be of min 600 mm depth below ceiling / false ceiling or full length on the periphery of the façade whichever is less. - Openable mechanical devices for the said vent shall be located at 1.2 m height from the flooring level. The Openable vent can be pop out type or bottom hinged provided with fusible link opening mechanism and shall also be integrated with automatic Smoke Detection system.

OR

Alternate vertical glass panels of the façade shall be openable type with the mechanism mentioned above in order to ventilate the smoke.

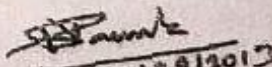
- 8) Refuge areas covered with the glass façade shall have all the panels openable (either left or right hinged) both from inside as well as outside.

All the fire officers are hereby directed to follow these fire safety norms for Glass Wall and Glass Facade in building.


27/08/2013
Chief Fire Officer
Mumbai Fire Brigade

Copy to

- 1) All Dy. Chief Fire Officer
- 2) All Divisional Fire Officer
- 3) All Asstt. Divisional Fire Officer / Asstt. Divisional Officer (T)
- 4) Officer in-charge *Ganapada* Fire Station
- 5) Administration Officer
- 6) All Head Clerk


27/08/2013
Dy. Chief Fire Officer
Mumbai Fire Brigade