

For information

**Legislative Council
Panel on Planning, Lands and Works**

Safety of Aluminium Windows of Buildings

Introduction

This paper provides information on the measures to ensure the safety of aluminium windows of buildings, including the requirements in respect of the installation of aluminium windows, maintenance of aluminium windows and enforcement against dilapidated windows.

Requirements in respect of the installation of windows/window walls

2. Most installation and alteration of windows and window walls, including aluminium windows or steel windows, are regarded as exempted building works under the Buildings Ordinance (BO). However, building owners should engage contractors with relevant competence to carry out the installation works of windows in existing buildings.
3. For large windows and window walls in high-rise buildings which are often subject to strong wind forces, especially during the typhoon season, the structural details, including design calculations to demonstrate its strength and stability, are required to be submitted to the Buildings Department (BD) for approval.

Guidelines on Design and Installation of Aluminium Windows

4. In view of concern about the dislodgement of aluminium window sashes, BD has provided general guidelines on the proper design and installation of aluminium windows for the reference of building professionals and registered contractors.
5. In particular, the practice note on “Aluminium Windows” issued by BD for building professionals and contractors draws attention to the following requirements when installation works of aluminium windows are carried out:

- (a) experienced and skilled labour as well as quality assurance procedures should be deployed in the works to ensure the proper installation of the windows;
- (b) the windows proposed in their development projects should be designed and installed according to the relevant specifications stipulated in the practice note;
- (c) window members and glass panes should be of adequate size and strength taking into consideration the location, height and orientation of the windows;
- (d) Window frames should be securely and rigidly fixed. Adequate site supervision should be exercised to check that all the fixing lugs are properly fixed;
- (e) Hinges should be of adequate size and strength commensurate with the size of windows. As aluminium rivets tend to corrode, it is recommended that stainless steel rivets/screws be used for fixing of hinges; and
- (f) To enable rivets/screws to have better anchorage, it is recommended that the side of the members for fixing the hinges be thickened locally.

Maintenance of Aluminium Windows

6. The detachment of aluminium windows may be caused by one or a combination of the following defects:

- Loosening of the fixing screws;
- Corrosion of the aluminium rivets; or
- Corrosion of the screw/rivet holes.

7. As the above defects can easily be spotted by visual inspection, regular checks and proper maintenance by building owners/occupants should help identify such defects and avoid the failure of aluminium windows. Through its publicity efforts, BD appeals to building owners to carry out regular inspections and timely maintenance of their building facilities such as aluminium windows. To provide guidelines for owners to carry out such repair and maintenance, we have

also published a 'Building Maintenance Guidebook' in June 2002, which included guidelines on how to prevent the failure of aluminium windows.

Enforcement against Defective Windows

8. In 2003, BD received 45 emergency reports relating to defective windows. If dilapidated windows are identified, the BA will serve repair orders on the owners concerned or carry out emergency repairs to eliminate the danger.

Proposed Improvement Measure

9. In response to safety concerns over the failure of aluminium windows and in order to strengthen the control of windows installation works, we have proposed to designate the installation and alteration of windows which pose a greater potential risk as minor works under the Buildings (Amendment) Bill 2003, which is being scrutinized by the Bills Committee. Such works are required to be carried out and certified by a registered minor works contractor with relevant competence.

Housing, Planning and Lands Bureau
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