Glass Informational Bulletin **GANA 04 - 0906**

Suggested Procedures for Dealing with Broken Glass

All types of architectural glass can be hazardous when broken

Glass can break after installation due to accidental impact, severe weather events, vandalism or improper glazing conditions as well as for other reasons. Regardless of the type of glass, broken glass can pose a risk of injury and property damage.

When glass breakage occurs, safe & protective actions should be taken

When architectural glass breaks the area should be blocked off to prevent glass-related injuries. If the cause of breakage is not readily apparent, photographs may be required to assist in determining the cause of breakage. Once the area is secured, an immediate cleanup and replacement of the broken glass should be initiated. Workers should use proper protective equipment such as, but not necessarily limited to, gloves and eye protection. Openings created after glass breakage may require boarding up to maintain security. In some cases, the frame may retain or partially retain the broken glass. In order to protect people who may come in contact with the glass, the broken glass should be removed and replaced with new glass. If the cause of breakage is in question, all of the broken glass fragments should be retained for closer examination by glass professionals.

Broken glass still in the opening has reduced strength and poses risks

Architectural glass is designed for a low probability of breakage at design wind load conditions, generally a probability not to exceed the breakage of 8 lites out of 1,000 at design loading conditions. When glass breaks, it no longer has the integrity to support the loading for which it was designed, and it needs to be replaced. Certain types of glass are specified for a number of key reasons related to its performance. For example, the building codes require safety glazing in designated hazardous locations to minimize the effects of accidental glass impacts. Impact protection of glazing installed in hurricane-prone areas is also a code requirement in many jurisdictions in order to minimize damage during severe storms. It is important to note that in all cases broken glass that remains in the frame loses its strength and will not offer the original intended level of performance. Broken glass may also separate and fall from the frame or interlayer, posing a hazard.

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Immediate action should be taken for removal and replacement

There are several steps to take to replace broken glass. First, advise the building owner, property manager or maintenance department when broken glass is found so they can take immediate measures to keep people away from potential harm. A properly equipped and trained maintenance department, a local glass shop or glazing contractor may be called to remove broken glass, board up openings, and schedule the glass replacement. Removal of broken glass should be performed by professional glazers who understand the dangers of handling broken glass and are familiar with the retention of glass in the framing system and the necessary steps needed for its safe removal.

Glass is a beautiful product whose transparent characteristics are unlike other building products. It can provide natural daylighting, and beautiful views while still keeping the elements out. Certain types can be very energy efficient, others can reduce potential hazards. We must keep in mind though that once it breaks, glass will not be able to perform its intended function and therefore it should be replaced.

The Glass Association of North America (GANA) has produced this Glass Informational Bulletin solely to provide general information as to the steps that should be taken when glass breakage occurs. This bulletin makes no attempt to provide all considerations or detailed step by step procedures for replacement of glass when breakage occurs. The user of this Bulletin has the responsibility to ensure that building code requirements and project specifications are considered to determine replacement glass requirements as well as where and when safety glazing materials must be used. GANA disclaims any responsibility for any specific results related to the use of this Bulletin, for any errors or omissions contained in the Bulletin, and for any liability for loss or damage of any kind arising out of the use of this Bulletin.

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