

CAS 741: Problem Statement

Glass Breakage Analysis

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September 16, 2018

Table 1: Revision History

DATE	DEVELOPER	CHANGE	REVISION
September 16, 2018	Motamer, Vajiheh	Initial Draft	0

1 Introduction

Sometimes glass breaks in a building without any obvious cause. When this occurs, it could be due to glass edge damage or surface damage from handling and glazing that then weakens the glass during high winds, building or framing system movement, vandalism or a specific type of inclusion inside the glass. The past few years have seen several highly publicized incidents involving window and balcony glass breaking spontaneously and falling from high-rise buildings in some of megacities. GlassBR is a software used by structural engineers to predict whether or not a slab of glass will be able to withstand a given explosion without breaking.

2 Importance

The term ‘safety glazing’ generally refers to any type of glass engineered to reduce the potential for serious injury when it comes into human contact. In addition to balcony glass, safety glazing are commonly required for:

Sliding glass doors, Shower doors, Patio furniture, Skylights, Oven glass, Automobile windshields.

3 Context

The stakeholders for this software are software tutorial makers, software tutorial users, technical support, technical support users, group members, and future developers. A Team will maintain it throughout the product’s lifespan. The consumers will be the end-users who will consume a safe glass. The software should run on a variety of personal desktop or laptop computers using Linux, Windows, or MacOS for use by a broad user base.