

Structural Review of Glass Guards in Part 9 Buildings

August 9, 2013

Revised: January 20, 2015

This bulletin is intended to provide some clarification to the requirements of structural reviews for glass guards, particularly for houses.

Code Requirements and when a Professional Engineer is required:

A recent professional practice guideline issued by APEGBC outlines what the structural design criteria and design considerations are for glass acting as guards, or when glass is used as part of the guard rail.

Where there is no top rail to take the guard load, the glass guard will need to meet both a concentrated load and/or a general continuous load. There is no prescribed requirement for glass guards in Part 9, hence glass guards without a top rail fall under Part 4 of the B.C. Building Code and a professional engineer is required.

Where there is a top rail to take the guard load, there are still requirements for the glass to have a prescribed concentrated load. Recognizing the risk is less critical, if the floor level where the guard in question is located is no more than 1.8 m from adjacent grade, with or without a top rail, the inspector may accept an installation without an engineer's review, as long as the glass is minimum ½" thick laminated tempered glass, and properly supported. The review of these exemptions will be on a case by case basis.

Letter of Assurance (LOA) and Confirmation Letter:

As the structural design of glass is a specialized field of engineering, there would most likely be a different engineer engaged for the glass review in addition to the Engineer of Record (EoR) responsible for the overall structural design of the building.

The City is requiring a signed copy of the LOA (Schedule B) specifically for items #1.5, 1.6, and 1.15 for the glass guard. The Schedule B can be submitted either by the EoR, or by the speciality engineer responsible for the glass guard.

The guideline for designing guards outlines the coordinating responsibility for the completed guard system by the guard engineer. To ensure the responsibility is clearly understood, the City is requesting a separate letter of confirmation from the guard engineer that the glass guard design followed the professional practice guidelines. In addition, the confirmation letter should also provide the name of the concept reviewer of the glass guard design.

References:

- Guidelines for Professional Structural Engineering Services for Part 9
https://www.apeg.bc.ca/getmedia/a12cb350-bdf2-4f49-9e9f-f15fc1a74a01/APEGBC-Guidelines_for_Structural_Engineering_Services_for_Part_9_Buildings.pdf.aspx
- APEGBC Professional Practice Guidelines Designing Guards for Buildings:
[APEGBC - Practice Guidelines and Documents](#)

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Policy #BLDG2013-06