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RESEARCH REPORT: RR 26196
(CSI #05520)

Expires: September 1, 2021
Issued Date: September 1, 2020
Code: 2020 LABC

GENERAL APPROVAL – General Approval – Glass Vice Clearline® Panel Railing and Balustrade System

DETAILS

The Glass Vice Clearline® Panel Railing and Balustrade System consists of tempered, laminated or monolithic glass installed in the Glass Vice Clearline® clamps anchored to the building structure providing point support for the glass panels to form building railings and balustrades. The glass panels shall support a continuous top rail to complete the installation. The Clearline® clamps and H-Bracket are made of 316 (CG8M) stainless steel per ASTM A743/A743M or Duplex 2205 stainless steel alloy (UNS S32205) per ASTM A890/A890M castings. The top rail may be either the Glass Vice 1-1/2" x 1" stainless steel handrail complying with ASTM 304 or 316 or aluminum complying with 6063-T6.

The laminated glass panels, procured separately, shall comply with ASTM C1048 and Category II of CPSC 16 CFR 1201 and ANSI Z97.1-14. The panels consist of two ¼-inch thick lites of fully tempered glass with an 0.60-inch thick Sentry Glas+® ionoplast interlayer. The tempered glass shall have a mean modulus of rupture of 24,000 psi.

For R-3 occupancy only: Lights up to 72" may be used with two clamps provided all corners are tied together and the end corners are tied to a wall or post or length reduced as required above.

The anchorage to the structure will vary by the substrate supporting the Clearline® clamps with the fasteners as shown in the attached structural details.

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The approval is subject to the following conditions:

1. The glazing within the Clearline® panel system shall comply with section 2407.1 of the 2020 LABC. All glass must be fully tempered, fabricated and inspected in accordance with ASTM C1048, and the glass fabricator must provide certification of compliance with ASTM C1058 for fully tempered glass.
2. The installation of the glass rail and balustrade system shall comply with the manufacturer's installation instructions, this general approval and the 2020 Los Angeles Building Code.
3. The width of the glass panel shall not exceed 74.8 inches.
4. The height of the guardrail system, measured from the bottom edge of the glass to the top of the glass or cap rail shall not exceed 46 inches. or concrete slab to top of glass.
5. Design and details of the Clearline® Glass Rail and Balustrade System shall be submitted to the Department Structural Plan Check Section for review and approval for each application. The design and details shall be completed and signed by a California licensed civil or structural engineer or architect.
6. Attachments of the Glass Guardrail System to the building substrate is beyond the scope of this general approval. The attachment of the Clearline® Glass Rail and Balustrade System to the building substrate shall be designed and detailed for each application and submitted to the Department Structural Plan Check Section for review and approval. The design and details of the system anchorage shall be completed and signed by a California licensed civil or structural engineer or architect.
7. The Glass Guardrail System shall not be installed in parking garages, except for those locations where the railing is not exposed to impact from vehicles.
8. Single fully tempered glass is limited to uses where there is no walking surface beneath them or the walking surface is permanently protected from the risk of falling glass as noted in the exception in Section 2407.1 of the 2020 LABC.
9. The use of the Clearline® Glass Rail and Balustrade System within wind-borne debris regions is beyond the scope of this approval.
10. Each glass section of the guardrail system shall be identified by a permanent label with the following information:
 - a. Manufacturer's name
 - b. Product Description and/or Part Number
 - c. 0.625 inch nominal glass thickness
 - d. Tempered glass
 - e. LARR No. 26196

11. The guardrail system may be subject to the requirements of the California State Accessibility Standards such as transitions to stairways or adjacent to ramps. Questions arising from the use of the system for handicap requirements shall be referred to the Disabled Access Section of the Los Angeles City Building Department.

DISCUSSION

The report is in compliance with the 2020 Los Angeles City Building Code.

The approval is based on lateral load tests per ASTM E935. The guardrail system is deemed adequate for 50 pounds per linear foot uniform load and 200 pounds concentrated load.

This general approval of an equivalent alternate to the Code is only valid where an engineer and/or inspector of this Department has determined that all conditions of this approval have been met in the project in which it is to be used.

Addressee to whom this Research Report is issued is responsible for providing copies of it, complete with any attachments indicated, to architects, engineers and builders using items approved herein in design or construction, which must be approved, by Department of Building and Safety Engineers and Inspectors.

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Attachment: Details of Guard Rail System (8 Pages)