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RESEARCH REPORT: RR 25118
(CSI # 05520)

Expires: October 1, 2018
Issued Date: October 1, 2016
Code: 2014 LABC

GENERAL APPROVAL – Renewal - Washington Iron Works Glass Guardrail Systems

DETAILS

The Glass Guardrail System consists of ½"-thick tempered glass mounted in an aluminum channel using X-Pandotite expansion cement. The guardrail is capped with an aluminum top rail and filled with a silicone sealant. The aluminum mounting channel (rail base) is connected to the floor with ½-inch diameter cap screws.

The approval is subject to the following conditions:

1. The maximum height of the guardrail measured above the finished floor surface to the top the handrail shall be 44".
2. Connection of the aluminum mounting channel (rail base) to the supporting structure is not part of this approval and shall be designed for each installation. Plans and calculations bearing the stamp and signature of a civil or structural engineer or architect licensed by the State of California shall be submitted to Structural Plan Check for their approval.
3. The maximum permitted horizontal design load applied at the top of the rail shall be 50 plf.
4. The aluminum mounting channel (rail base) shall be grade 6063-T5 type anodized aluminum with the following dimensions: 2¼-inches wide by 3⅜-inches deep. The rail base shall be provided with a slot ¾-inch wide by 2⅜-inches deep.

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5. The Glass Guardrail System shall be installed and maintained in interior, dry locations only.
6. Each glass section of the guardrail system shall be identified by the following information: (1) The manufacturer's name; (2) ½-inch nominal thickness; and (3) approved tempered glass label.
7. The glass panels shall be embedded a minimum of 2¼-inches into the rail base and set with X-Pandotite expanding cement compound. X-Pandotite shall be delivered to the construction site in sealed containers identified by the product name. The anchoring compound shall be proportioned as follows: 1 part water to 4 parts X-Pandotite. The anchoring compound shall be allowed to cure a minimum of 24 hours prior to applying any load to the guardrail system. X-Pandotite expanding cement shall not be used on unanodized aluminum. Other compounds may be used provided load test data on glass panel use are submitted and approved by the Engineering Research Division.
8. The Glass Guardrail System shall not be installed without a handrail or guardrail attached to the top of the glass panels. Each handrail or guardrail section shall be supported by a minimum of three glass balusters (panels) or otherwise supported so that it remains in place should on baluster panel fail.
9. 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.
10. 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 2014 City of Los Angeles Building Code.

The approval is based on lateral load tests. The allowable design load is based on a factor of safety of 4. Use of the guardrail system is limited to interior, dry locations since the X-Pandotite anchoring compound is soluble in water, and excess water may adversely affect its strength.

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.

Washington Iron Works
RE: Washington Iron Works Glass Guardrail Systems

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.

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TLB1600275
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Attachment: Details of Guardrail System (5 Pages).