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RESEARCH REPORT: RR 24486
(CSI # 04270)

Expires: July 1, 2016
Issued Date: May 1, 2014
Code: 2014 LABC

GENERAL APPROVAL – Renewal - Pittsburgh Corning - Glass Block Masonry Units: All nominal sized 8” x 8” x 4” and 8” x 8” x 3” hollow glass block and all other smaller sizes with the following registered trademarked pattern names of Argus®, Decora®, Essex® AA, Focus®, IceScapes®, SeaScapes®, Spyra®, Vue®, THICKSET® 60 & 90 Decora®, THICKSET® 90 Endura® and THICKSET® 60 & 90 Vue®. All nominal sized 8” x 8” x 3” solid glass block and all other smaller sizes with the following registered trademarked pattern names of VISTABRIK® and Stippled VISTABRIK® and the Pittsburgh Corning (PC) Panel Anchor Framing System.

DETAILS

Pittsburgh Corning Corporation Glass Blocks are approved when conforming to the following requirements:

1. The masonry units shall be used in accordance with Section 2110 of the 2014 Los Angeles City Building Code.
2. When used in place of ¾-hour fire windows:
 - a. All actual sizes of nominal 8” x 8” x 4” and 8” x 8” x 3” hollow glass block are 7-3/4” x 7-3/4” x 3-7/8” and 7-3/4” x 7-3/4” x 3-1/8” respectively. All face dimensions of other hollow glass block are ¼” less than nominal.
 - b. All actual sizes of nominal 8” x 8” x 3” solid glass block are 7-5/8” x 7-5/8” x 3”. All face dimensions of other solid glass block are 3/8” less than nominal.
 - c. All hollow glass block registered trademarked pattern names may have an “LX” designation which is a fibrous glass insert suspended in the glass block.

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Pittsburgh Corning Corporation
RE: Glass Block Masonry Units

3. Each carton of glass blocks shall be identified by the manufacturer's name and the classification marking of the Underwriters Laboratories, Inc. (Classification No. R2556) for a ¾-hour fire rating. Cartons shall be available for inspection.
4. Windows required to have a ¾-hour fire-resistive rating shall be limited to 84 square feet in area and with width or height not to exceed 12 feet.
5. Glass blocks may be used for protection of exterior openings and openings other than doors in fire rated corridors provided that the construction conforms to the requirements of this Research Report, and special inspection is provided in accordance with Section 1705.1 AND 1705.4 of the 2014 Los Angeles City Building Code.
6. The glass blocks noted above may be used in rated, non-masonry metal or wood stud walls, when installed in accordance with the manufacturer's installation instructions.

DISCUSSION

The report is in compliance with the 2014 Los Angeles City Building Code.

Test data in accordance with UBC Std. 7-4 is on file and the requirements of ANSI/NFPA 257.

The fire rating is based on test in accordance with Underwriters Laboratory Standard UL-9.

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.

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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Attachments: Illustration Details (2 Sheets)

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INSTALLATION SPECIFICATIONS

1. The glass block shall be installed using steel, concrete, masonry or brick lintels. Steel or masonry lintels/jamb for the glass blocks shall be provided with grooves, sufficiently deep to permit glass blocks to extend a minimum of 1 inch into the groove and to permit a minimum of 3/8 inch thickness of expansion material to be inserted into the groove. Groove openings shall be oversized by 1/2 inch +/- 1/8 inch to accommodate placement of packing material and fire retardant type sealant around lintels and jambs on both sides of the panel. Steel channels or angles shall be secured to the structure of the building with 3/8 inch bolts provided with heavy galvanized washers in 2 inch slotted holes spaced 12 inches o.c. All other details shall be in accordance with the manufacturer's illustrations (see attached) and as listed in the Underwriters Laboratories, Inc. (Classification No. R2556) current issue of the Fire Resistance Directory or on their website at www.ul.com.
2. The PC Panel Anchor Framing System is approved as an alternate anchorage system for fire resistance only when used in lieu of 3/4-hour fire windows. Structural calculations and details must be submitted to the Structural Plan Check to show adequacy of the framing system to withstand the required design loads as per the 2008 Los Angeles City Building Code. The panel anchor is a strap of 20 gauge metal, 24" long by 1 3/4" wide, perforated and hot-dipped galvanized, or 22 gauge stainless steel, 16" long by 1-3/4" wide, and perforated. Panel anchors are to be provided at a maximum 16" o.c. up both jambs and across the head section. Panel anchors shall be attached to the inside of the masonry jambs with 2 steel expansion shell anchors, 1/4" to 3/8" in diameter, per anchor. Self-tapping screws may be used to attach panel anchors to steel lintels. Panel anchors are to be embedded a minimum of 12 inches into the mortar joints. Panel anchors at jambs should coincide with the reinforced joints. The resulting perimeter joints of the glass block panels are to be sealed with an approved fire retardant sealant.
3. Glass or mineral wool or polyethylene shall be used to fill the remaining spaces at the lintel and jamb locations to provide for expansion and to isolate the glass block from the frames. These jamb and lintel joints, on both sides of the panel, shall be caulked with a fire retardant type of mastic sealant. All sills shall be coated with a water-based asphalt emulsion to provide for waterproofing and any movement.
4. Glass blocks shall be installed with Type S or N mortar. All mortar joints shall be full and not furrowed. Maintain a uniform joint width of 1/4" to 3/8" plus or minus 1/8".
5. Reinforcing will be provided in the horizontal joints only and spacing shall be no more than 16" o.c. vertically. All reinforcing shall be either hot dipped galvanized or stainless steel material. All reinforcing shall consist of two parallel, ladder type, 9 gauge wires, spaced 2" apart for all nominal 4" thick glass block, and 1-5/8" apart for all nominal 3" thick glass block, with 9 gauge butt-welded cross-wires spaced at regular intervals of no more than 16" apart.