Code Compliance Research Report
CCRR-0257

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DIVISION: 05 50 00 – Metal Fabrications
Section: 05 52 00 – Metal Railings

REPORT HOLDER:

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REPORT SUBJECT:

Atlas-Pro Quik-Mount Post Mount System

ADDITIONAL LISTEE:

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1.0 SCOPE OF EVALUATION

This research report addresses compliance with the following Codes:

- 2015 International Building Codes (IBC)
- 2015 International Residential Codes (IRC)

The Vinylast *Atlas-Pro Quik-Mount* Post Mount System has been evaluated for the following properties:

- Structural Performance

  (See Table 1 for applicable code sections)

2.0 USES

2.1. The post mount system supports guards or guardrails under the definitions of the referenced codes. It is intended for use at or near the open sides of elevated walking areas of buildings and walkways as required by the codes.

3.0 DESCRIPTION

3.1. The Vinylast *Atlas-Pro Quik-Mount* Post Mount System is designed for surface installation in concrete, steel and wood supporting structures.

3.2. Components include a post welded to a base plate, top and bottom reinforcement plates (*wood installation only*), post stabilizers, post sleeve and various fasteners.

3.3. Post – 1.575” square x 0.137” thick hollow steel tube (See Figure 1).

3.4. Base Plate – 3.5” square x 0.43” thick steel plate with (4) 0.54” dia. holes at each corner (See Figure 2).

3.5. Reinforcement Plates – 5” square x 0.135” thick steel plate with (4) and (8) 0.44” dia. holes for the top and bottom plates, respectively (*wood installation only*) (See Figure 3).

3.6. Post Stabilizers – $3^{11}/_{16}$” square x $6^{3}/_{4}$” high x 0.24” thick ribbed PVC and anchorage (See Figure 4).

3.7. Fasteners – See Table 3.

4.0 PERFORMANCE CHARACTERISTICS

4.1. The post mount system described in this report has demonstrated adequacy per the performance requirements of §4.2.5 of ICC-ES™ AC273, *Acceptance Criteria for Handrails and Guards*, revised March 2016 in accordance with the performance requirements of IBC §1607.8.1 and IRC §301.5.

4.2. See Table 2 for allowable guardrails spans.

5.0 INSTALLATION

The Vinylast *Atlas-Pro Quik-Mount* Post Mount System must be installed in accordance with the manufacturer’s published installation instructions, applicable Codes and this Report. A copy of the instructions must be available on-site during installation.

5.1. Installation shall be in accordance Figure 6 (wood framing) and Figure 7 (concrete or steel structure).

5.1.1. For installations limited to the IRC, posts may be installed on wood decks in accordance with Figure 8 and the following conditions:

5.1.1.1. Posts shall be anchored to reinforced wood deck framing with four 3/8 inch by 6 inches long Grade

5 anchor bolts located in the pre-drilled holes in the structural post base plate.

5.1.1.2. The deck is constructed with two mounting blocks of nominal 2x8 pressure-treated Southern Yellow Pine installed between 16 inch spaced deck framing beneath the post location. Each 2x8 block is attached to the deck framing with four #10 x 3 inch deck screws per side. See Figure 8.

5.1.2. Post installation on concrete or other rigid supports (such as structural steel), the installation uses four 3/8 inch diameter Grade 8 anchor bolts located in the pre-drilled holes in the structural post base plate. The type and length of the anchor bolts is dependent upon the material and condition of the supporting structure and is not within the scope of this report. See section 7 for Conditions of Use for additional requirements.

6.0 SUPPORTING EVIDENCE

6.1. Drawings and installation instructions submitted by Vinylast, Inc.

6.2. Reports of testing demonstrating compliance with the performance requirements of §4.2.5 of ICC-ES™ AC273, *Acceptance Criteria for Handrails and Guards*, revised March 2016 in accordance with the performance requirements of IBC §1607.8.1 and IRC §301.5.

6.3. Documentation of an Intertek approved quality control system for the manufacturing of products recognized in this report.

7.0 CONDITION OF USE

The Vinylast *Atlas-Pro Quik-Mount* Post Mount System described in this Research Report complies with, or is a suitable alternative to, what is specified in those Codes listed in Sections 1.0 and 2.0 of this report, subject to the following conditions:

7.1. Installation must comply with this Research Report, the manufacturer's published installation instructions and the applicable Code. In the event of a conflict between the manufacturer's instructions and this report, this report governs.

7.2. Compatibility of fasteners and other metallic components with the supporting structure (including chemically treated wood) is outside the scope of this report.

7.3. Concrete anchors and anchoring systems for use with the structural posts are not within the scope of this report and are subject to evaluation and approval by the building official. Anchors must satisfy the design load requirements specified in Chapter 16 of the building code. Where required by the building official, engineering calculations and details shall be provided. The calculations shall verify that the anchorage and supporting structure complies with the building code for the type and condition of the supporting construction.

7.4. The post mount system is qualified for use with guardrail systems that comply with ICC-ES Acceptance Criteria's AC174 – *Acceptance Criteria for Deck Board Span Ratings and Guardrail Systems* and AC273 – *Acceptance Criteria for Handrails and Guards*.

7.5. Manufacture in accordance with an approved quality control system that includes independent, third-party inspections by Intertek.

7.6. The guardrail assembly, including post sleeves and attachment to the *Atlas-Pro Quik-Mount* Post Mount System, must be tested and evaluated separately.

8.0 IDENTIFICATION

The *Atlas-Pro Quik-Mount* Post Mount System described in this Research Report is identified by a marking bearing the report holder's name, Vinylast, Inc., the Intertek Mark, and the Code Compliance Research Report number (CCRR-0257) and the following statements: "For Use in One- and Two- Family Dwellings Only."

CODE COMPLIANCE
Intertek
CCRR-0257

9.0 CODE COMPLIANCE RESEARCH REPORT

9.1. Approval of building products and/or materials can only be granted by a building official having legal authority in the specific jurisdiction where approval is sought.

9.2. Code Compliance Research Reports shall not be used in any manner that implies an endorsement of the product by Architectural Testing.

9.3. Reference to the Intertek website address: whdirectory.intertek.com is recommended to ascertain the current version and status of this report.

TABLE 1 – PROPERTIES EVALUATED

Property	IBC Section	IRC Section
Structural Performance	1607.8.1 [1]	R301.5 [2]

[1] *As supported by testing to ultimate concentrated load and applying specified reduction factor per AC273 §4.2.5 (consistent with the loading prescribed in §1607.8.1 of the IBC multiplied by a safety factor 2.5).*
[2] *As supported by testing to ultimate concentrated load greater than 500 lbs (consistent with the loading prescribed in §R301.5 of the IRC multiplied by a safety factor of 2.5).*

TABLE 2 – APPLICABLE SPAN AND USES

Test Specimen	Attachment	Max Allowable Span (in) [1]	Occupancy Classification
Atlas-Pro 42 in Post Mount	Wood	n/a [2]	IRC (One- and Two-Family Dwellings)
	Concrete or Steel	90	IBC (All Use Groups)
	Concrete or Steel (bolted-thru bottom stabilizer)	130	

[1] *Span is measured from center of post to center of post.*
[2] *Max allowable span for the post mount system is governed by the max allowable span of the overall assembly the post mount system is utilized to support.*

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TABLE 3 – FASTENING SCHEDULE

Connection	Supporting Structure	Fastener
Post Mount to Supporting Structure	Wood	Four 3/8-16 by 6 in long Grade 5 hex-head bolts with two nuts and four washers
	Concrete or Steel	Four 3/8 in Grade 8 hex-head bolts with washers and two nuts
	Concrete or Steel (bolted-thru bottom stabilizer)	Four 1/2-13 by 12" long zinc plated threaded rod with one nut and one washer at the top of the bottom PVC spacer, one nut at the top of the post mount base plate, and two nuts and one washer on the bottom
Top PVC Spacer to Post	N/A	#10-32 x 1" hex-washer head / Phillips drive zinc plated machine screw

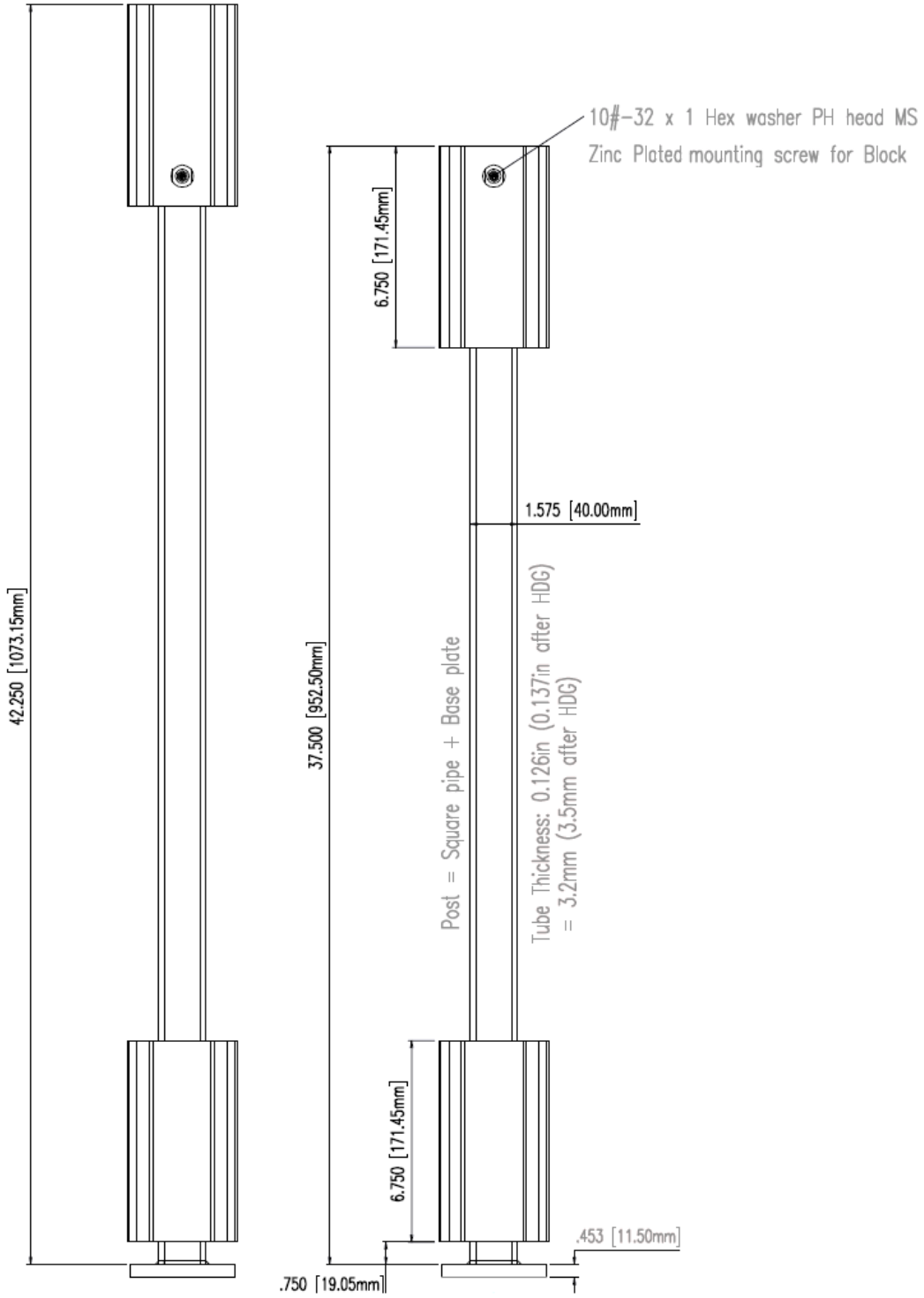


Figure 1 - Posts

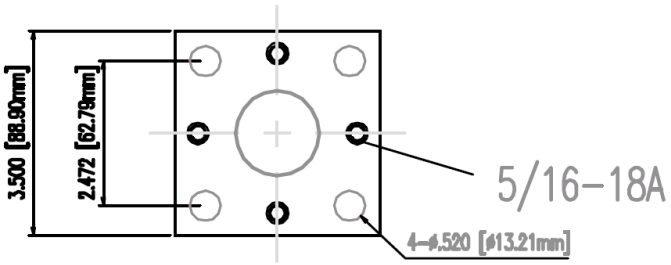


Figure 2 – Base Plate

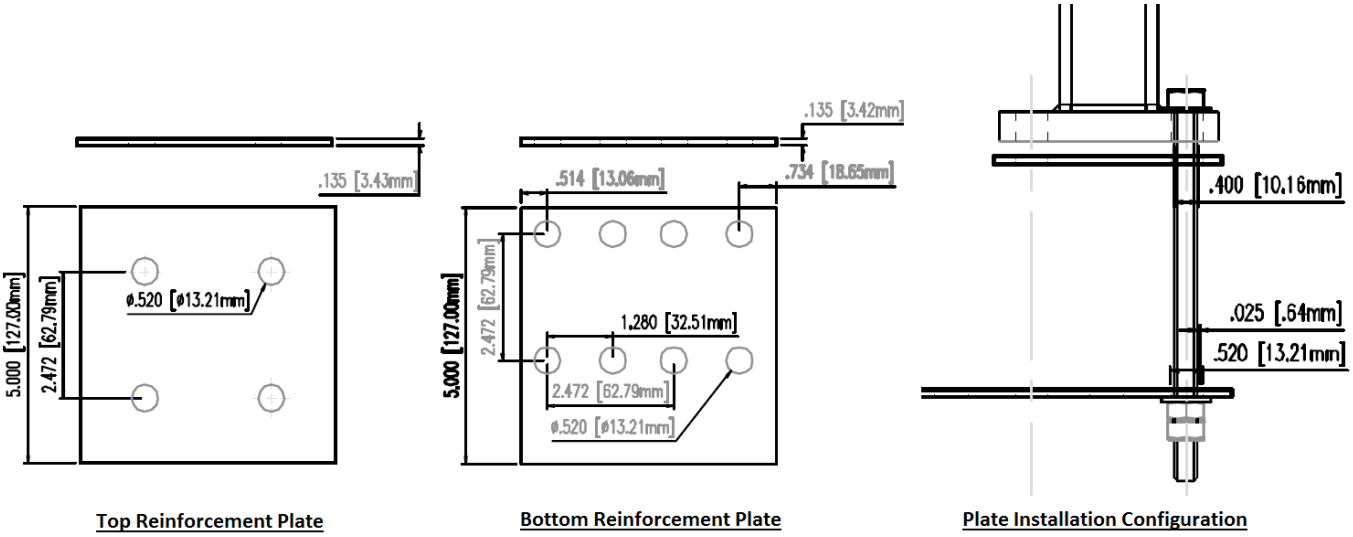


Figure 3 – Reinforcement Plates (Wood Installation)

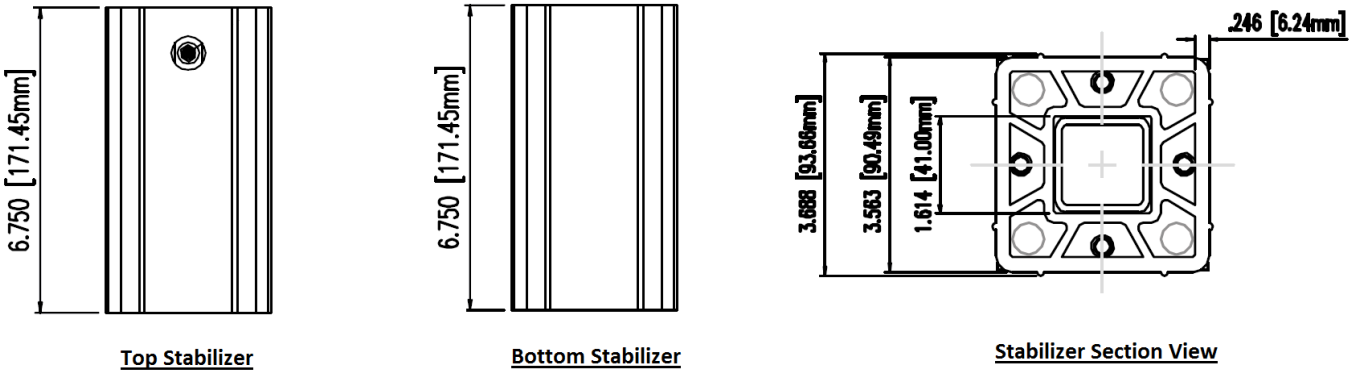
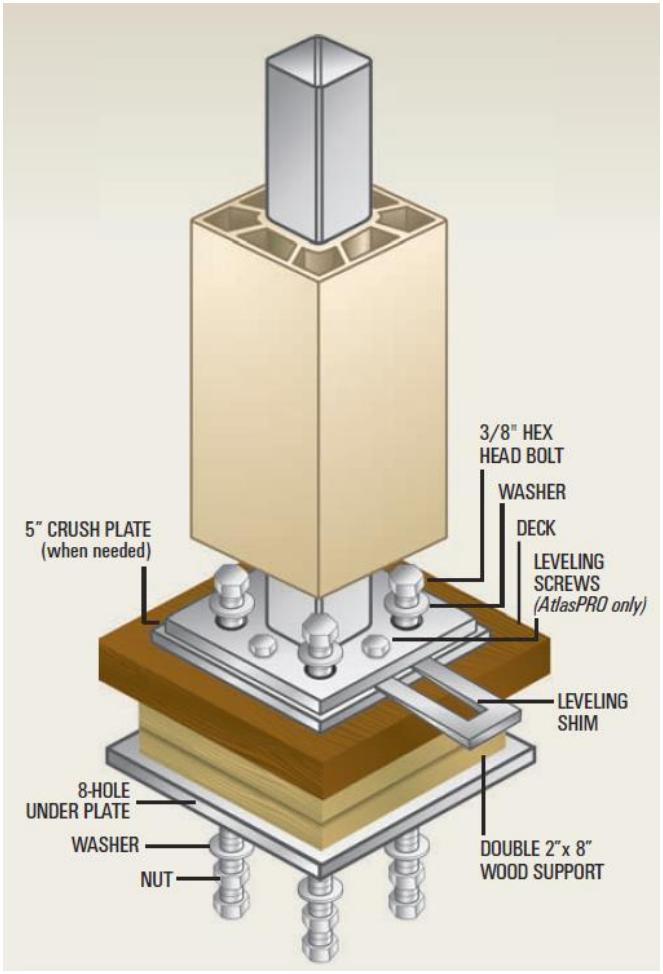


Figure 4 – Post Stabilizers



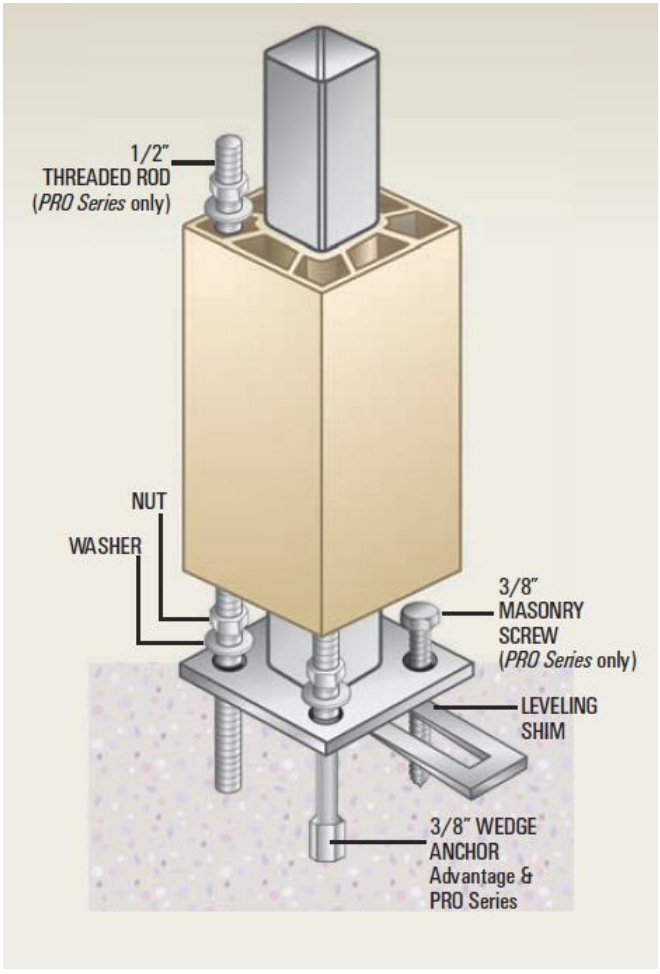


FIGURE 6 – WOOD INSTALLATION **FIGURE 7 – CONCRETE INSTALLATION**

Note: Concrete anchors are not within the scope of this report and are shown for illustrative purpose only. See Section 5.1.2 and 7.3

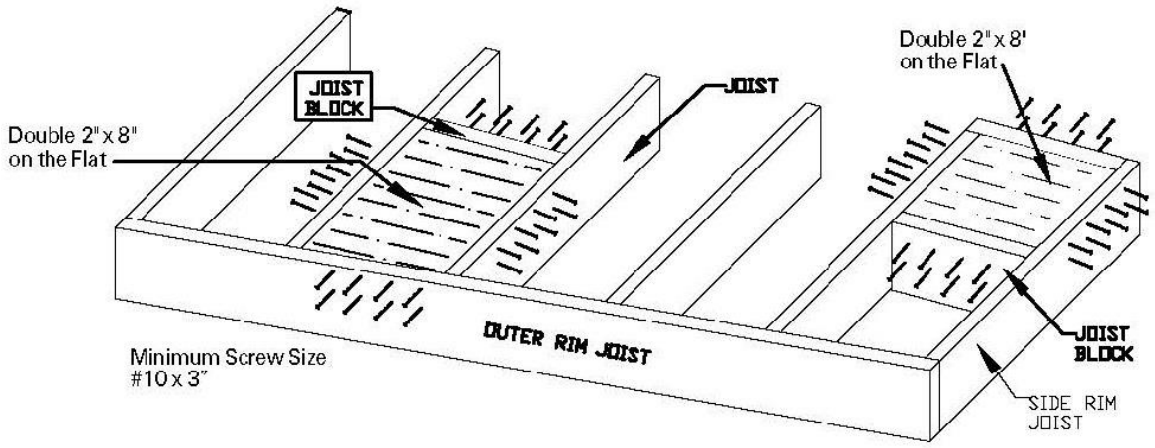


FIGURE 8 – BLOCKING DIAGRAM