

ICC-ES Evaluation Report

ESR-4161

Reissued May 2026

Subject to renewal May 2028

This report also contains:

- [City of LA Supplement](#)
- [CA Supplement w/ Exterior Wildfire Exposure](#)
- [IWUIC Supplement](#)
- [State of OR Supplement](#)

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DIVISION: 08 00 00— OPENINGS Section: 08 95 16— Wall Vents	REPORT HOLDER: JOTO TECHNO CO., LTD.	EVALUATION SUBJECT: JOTO-VENT SYSTEM®	
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1.0 EVALUATION SCOPE

Compliance with the following codes:

- 2021, 2018 and 2015 [International Building Code® \(IBC\)](#)
- 2021, 2018 and 2015 [International Residential Code® \(IRC\)](#)

Properties evaluated:

- Ventilation (Under-floor Space)
- Structural

2.0 USES

The Joto-Vent System® is used to provide under-floor space continuous perimeter ventilation in accordance with IRC Section R408 and 2021 and 2018 IBC Section 1202.4 (2015 IBC Section 1203.4).

3.0 DESCRIPTION

3.1 General:

The Joto-Vent System® consists of two types of the Joto-Vent ([Figures 1](#) and [2](#)) and Airtight Joto-Vent ([Figure 3](#)), Joto Reinforcement Block ([Figure 4](#)), Joto-Vent Shim Plate ([Figure 5](#)) and two types of vent coverings - the Joto Architectural Coverings and the Joto Insect Prevention Strip Coverings ([Figures 6](#) and [7](#)).

3.2 Joto-Vent:

The Joto-Vent ([Figures 1](#) and [2](#)) is made of a composite material consisting of calcium carbonate, plastic, and polyolefin resin. The vent is formed into a honeycomb pattern that forms an air-flow pathway for crawlspace ventilation. The vents provide a net free ventilation area of either 4.81 square inches of ventilation per lineal foot (102 cm²/m) for Joto-Vent models KP-L150U, KP-L120U and 11.03 square inches of ventilation per lineal foot (234 cm²/in) for Joto-Vent model JVS-26CV. The Joto Vent is available in various models and sizes as described in [Table 1](#). The vents may be sawn, as needed, for shorter lengths.

3.3 Airtight Joto-Vent:

The Airtight Joto-Vent ([Figure 3](#)) is comprised of the same material as the Joto-Vent. Airtight Joto-vent contains 1/4-inch EPDM foam strips and does not provide an air-flow pathway. The Airtight vents are designed for use in areas where ventilation is not required.

3.4 Joto Reinforcement Block:

The Joto Reinforcement Block is comprised of the same material as the Joto-Vent and consists of two components that interlock to form a solid block ([Figure 4](#)). The reinforcing block fits between the openings in the Joto-Vent and is designed to be added to the vent when the applied loads exceed what is allowed for the Joto-Vent as determined by a registered design professional. The Joto Reinforcement Block design properties are described in [Table 3](#).

3.5 Joto-Vent Shim Plate:

The Joto-Vent Shim Plates are 6-inch by 6-inch leveling plates comprised of zinc-coated hot-rolled steel plates ([Figure 5A](#)) or comprised of the same material as the Joto-Vent (Figures 5B and 5C). The steel shim plates are available in 1/16-inch, 1/8-inch and 1/4-inch thicknesses for models XS-S116, XS-S108 and XS-104, respectively. The shim plates comprised of the same material as the Joto-Vent are available in thicknesses of 1/8-inch and 1/4-inch thicknesses for models S-108U and S-104U, respectively. When installed, the shim plates provide level adjustment for concrete foundations or stem walls.

3.6 Vent Coverings:

The Joto Architectural Coverings and Insect Prevention Strip Coverings ([Figures 6](#) and [7](#)) are formed from 55 percent aluminum-zinc alloy-coated steel conforming to ASTM A792 or similar material. The coverings are installed to provide the vent covering required by IRC Section R408.2, 2021 and 2018 IBC Section 1202.4.1 (2015 IBC Section 1203.4.1).

3.7 Surface burning Characteristics:

The Joto-Vent System[®] has a flame-spread index of 200 or less when tested in accordance with ASTM E84.

4.0 DESIGN AND INSTALLATION

4.1 Design:

Each model of the Joto-Vent and Airtight Joto Vent described in this report provides an allowable bearing area as noted in [Table 1](#). Due to the reduced bearing area, floor spans and roof spans supported by the Joto-Vent System[®] must be reduced by the percentage noted in [Table 2](#) for prescriptive applications under the IRC. For engineered systems, the reduced bearing area under the sill plate must be taken into account. See [Figure 8](#) for bearing area layout. The maximum allowable load on the Joto-Vent System[®] is as noted in [Table 2](#). Each model of the Joto Reinforcement Block provides an allowable bearing and maximum allowable load as noted in [Table 3](#).

4.2 Installation:

The Joto-Vent System[®] must be installed in accordance with this report and the manufacturer's published installation instructions. A copy of the manufacturer's published installation instructions must be available on the jobsite at all times during installation.

The Joto-Vent is installed between the top of the foundation wall and the bottom of the sill plate. ([Figure 9](#)). If needed, Joto-Vent Shim Plates can be installed between the foundation wall or sill plate and the Joto-Vent to provide level adjustment.

For installations in accordance with the prescriptive provisions of the code, anchor bolts must be spaced as defined in [Table 4](#).

5.0 CONDITIONS OF USE:

The Joto-Vent System[®] described in this report complies with, or is a suitable alternative to what is specified in, those codes listed in Section 1.0 of this report, subject to the following conditions:

- 5.1 The Joto-Vent System[®] must be installed in accordance with this report, the applicable code and the manufacturer's published installation instructions. In the event of a conflict, the more restrictive requirements govern.
- 5.2 For engineer designed structures, complete plans and calculations demonstrating compliance with this report must be submitted to the code official for approval when required. The calculations and details must be prepared by a registered design professional where required by the statutes of the jurisdiction in which the project is to be constructed.
- 5.3 Protection against subterranean termites must be provided as specified in IRC Section R318 or IBC Section 2304.12.1.2, as applicable.
- 5.4 For applications under the IBC, the Joto-Vent System[®] is limited to Type V-B construction.

6.0 EVIDENCE SUBMITTED

Data in accordance with [ICC-ES Acceptance Criteria for Under-Floor Space Continuous Perimeter Vents \(AC497\)](#), dated October 2018 (editorially revised May 2021).

7.0 IDENTIFICATION

- 7.1** The ICC-ES mark of conformity, electronic labeling, or the evaluation report number (ICC-ES ESR-4161) along with the name, registered trademark, or registered logo of the report holder must be included in the product label.
- 7.2** In addition, the Joto Techno Co., Ltd. Joto-Vent System® Components must be identified by a label bearing the manufacturer's name (Joto Techno Company).
- 7.3** The report holder's contact information is the following:

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TABLE 1—JOTO-VENT SYSTEM® MODELS AND DIMENSIONAL PROPERTIES

JOTO-VENT SYSTEM® COMPONENT	PRODUCT NAME	THICKNESS (in)	WIDTH (in)	LENGTH (ft)	CONTACT AREA (in²/ft)	WEB AREA (in²/ft)	VENTILATION AREA (in²/ft)
Joto-Vent	KP-L150U	0.79	6.0	3.0	26.34	11.84	4.81
	KP-L120U	0.79	4.75	3.0	24.84	10.80	4.81
	JVS-26CV	1.53	5.5	3.0	41.28	9.99	11.03
Airtight Joto-Vent	KPK-N140U	0.79	5.5	3.0	36.98	10.41	N/A

For SI: 1 inch = 25.4 mm; 1ft=0.305 m

TABLE 2—JOTO-VENT SYSTEM® DESIGN PROPERTIES

JOTO-VENT SYSTEM® COMPONENT	PRODUCT NAME	REDUCTION FACTOR (%)	MAXIMUM ALLOWABLE LOAD (psi)	MAXIMUM ALLOWABLE LOAD (plf)
Joto-Vent	KP-L150U ¹	60	279	7140
	KP-L120U ²	62	254	6513
	JVS-26CV ³	37	117	4812
Airtight Joto-Vent	KPK-N140U ⁴	44	235	8703

For SI: 1 psi = 6894.76 Pa; 1 plf = 14.59 N/m

Notes:

¹The presented % Reduction for the KP-L150U assumes allowable prescriptive loads are for 2x6 stud walls. Where 2x4 stud walls are used, the % Reduction will be 37%. In all cases, the sill plate over the KP-150U Joto Vent shall not be less than a 2x6.

²The presented % Reduction for the KP-L120U assumes allowable prescriptive loads for 2x6 stud walls. Where 2x4 stud walls are used, the % Reduction will be 41%. In all cases, the sill plate over the KP-L120U Joto Vent shall not be less than a 2x6.

³The presented % Reduction for the JVS-26CV assumes prescriptive loads are for 2x6 stud walls. Where 2x4 stud walls are used, the % Reduction will be 2%. In all cases, the sill plate over the JVS-26CV Joto Vent shall not be less than a 2x6.

⁴The presented % Reduction for the KPK-N140U assumes allowable prescriptive loads are for 2x6 stud walls. Where 2x4 stud walls are used, the % Reduction will be 12%. In all cases, the sill plate over the KPK-N140U Joto Vent shall not be less than a 2x6.

TABLE 3—JOTO REINFORCEMENT BLOCK DESIGN PROPERTIES

JOTO-REINFORCEMENT BLOCK MODEL NUMBER	CONTACT AREA (in ²)	MAXIMUM ALLOWABLE LOAD (psi)	MAXIMUM ALLOWABLE LOAD PER BLOCK (lbs)
KP-LRB150	4.84	1131	5470

For SI: 1 psi = 6894.76 Pa; 1 = 0.454 kg

TABLE 4—MAXIMUM CENTER TO CENTER SPACING OF ANCHOR BOLTS

Anchor Bolt Size (inches)		¾" Joto Vent		1 ½" Joto Vent	
		Case 1	Case 2	Case 1	Case 2
	½	4'-0"	2'-8"	3'-0"	2'-0"
	5/8	6'-0"	4'-0"	4'-0"	3'-0"
	¾	6'-0"	4'-0"	6'-0"	4'-0"

Case 1 – For installation in accordance with the prescriptive provisions of the code.
Case 2 – For structures subject to the IBC, anchor bolts in sill plates of braced wall lines in structures over two stories above grade.

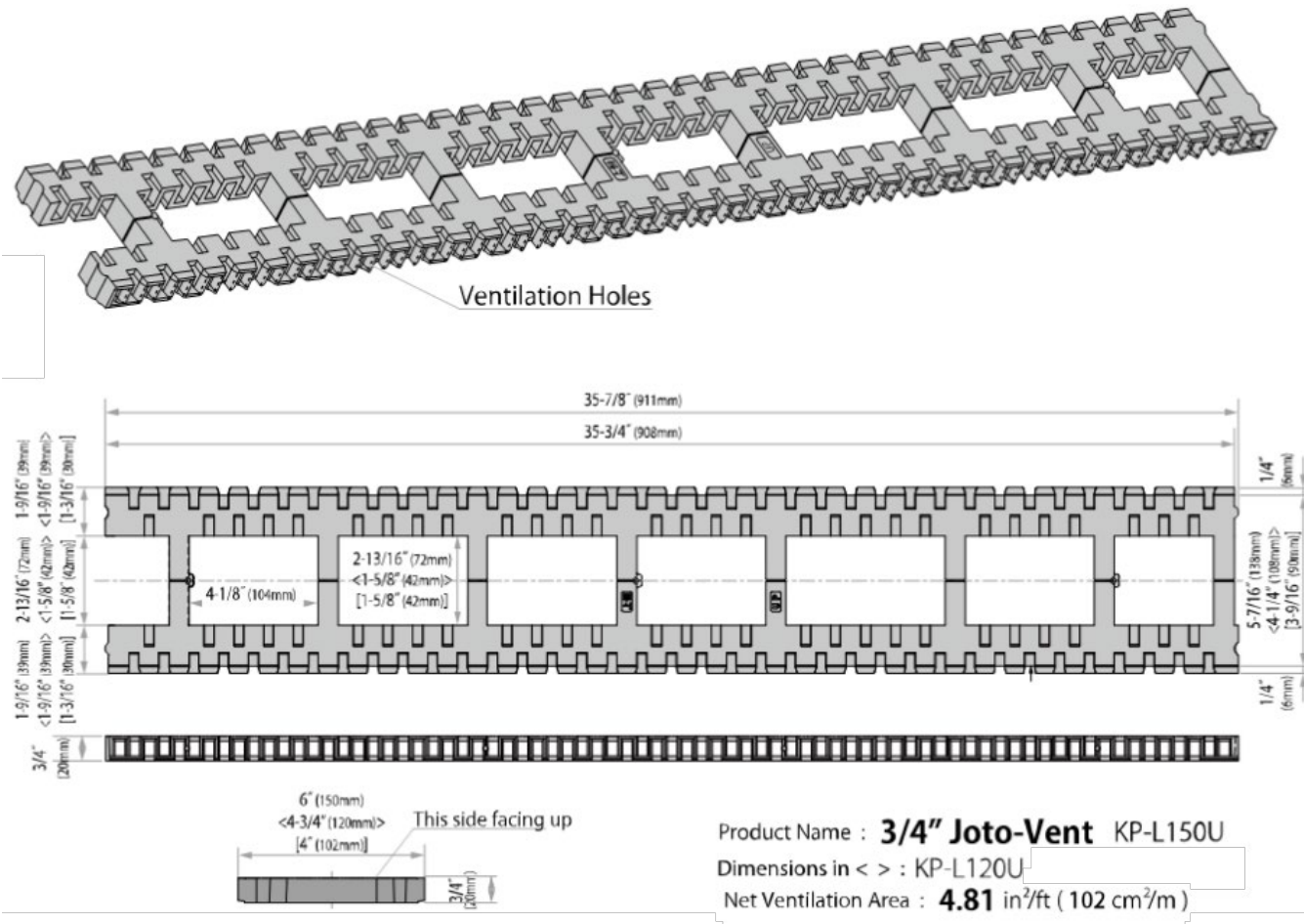


FIGURE 1—JOTO-VENT (KP-L150U, KP-L120U)

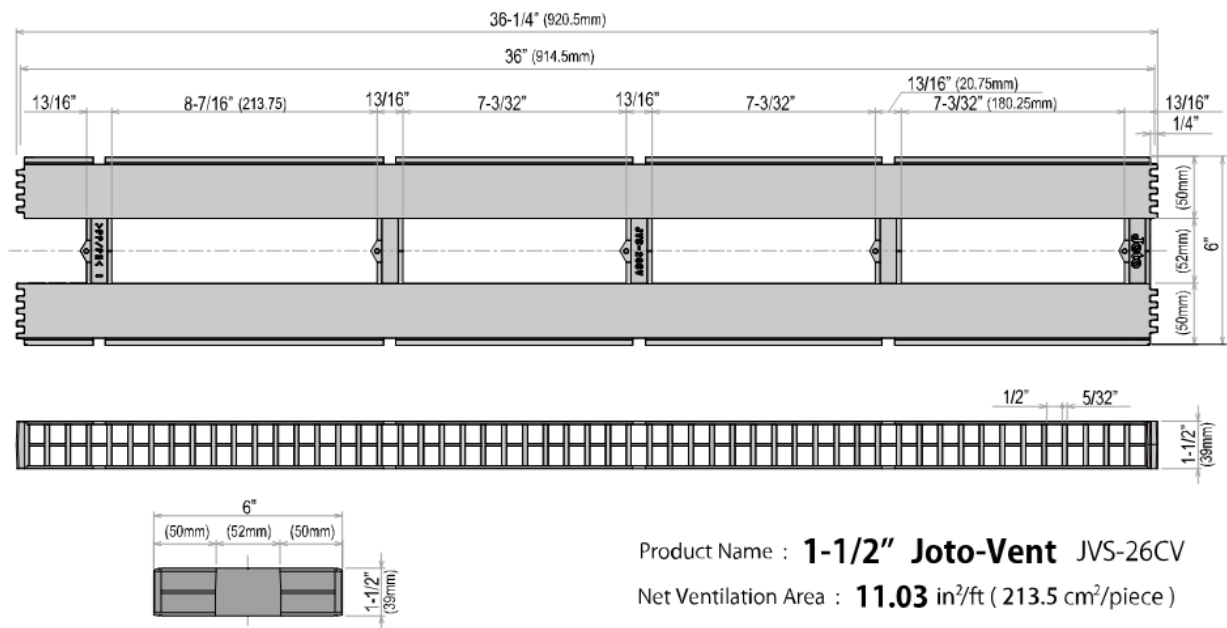


FIGURE 2—JOTO-VENT (JVS-26CV)

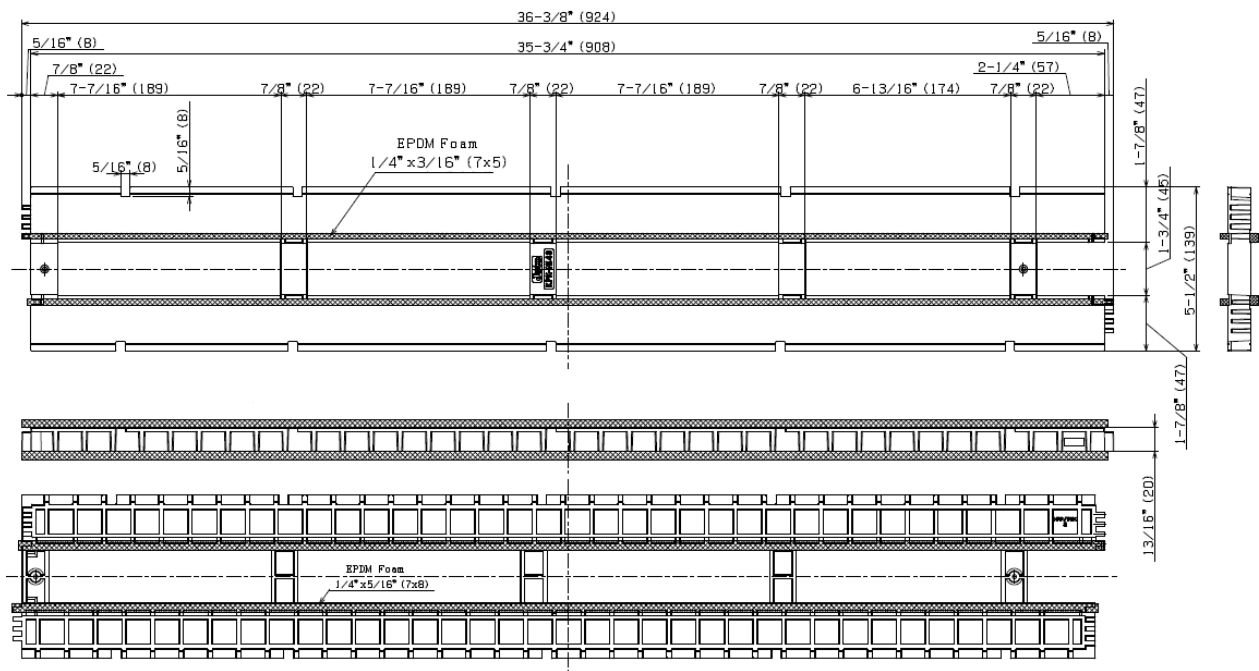


FIGURE 3—AIRTIGHT JOTO-VENT (KPK-N140U)

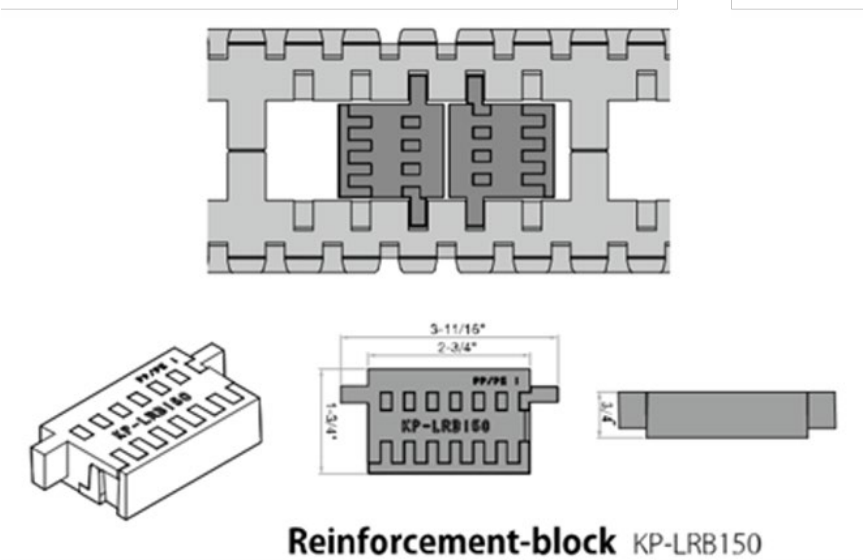
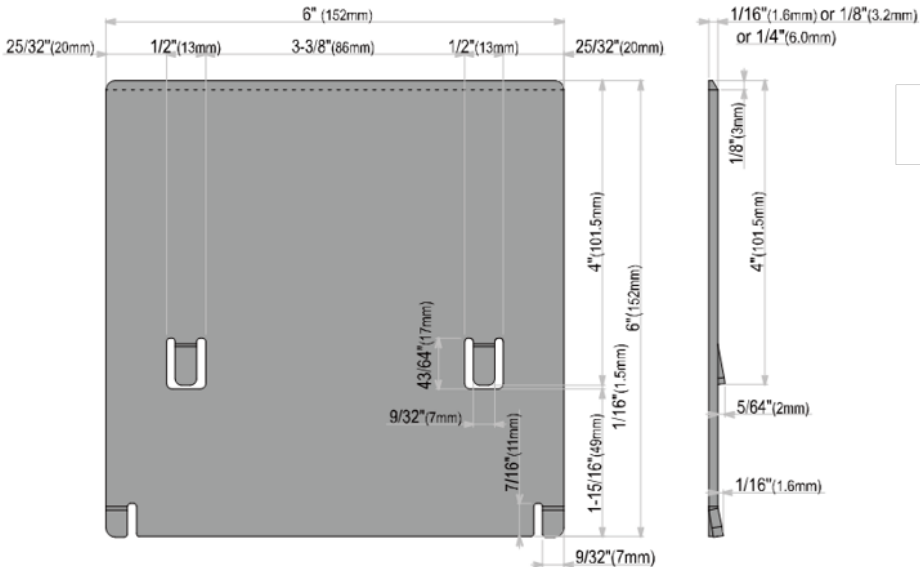


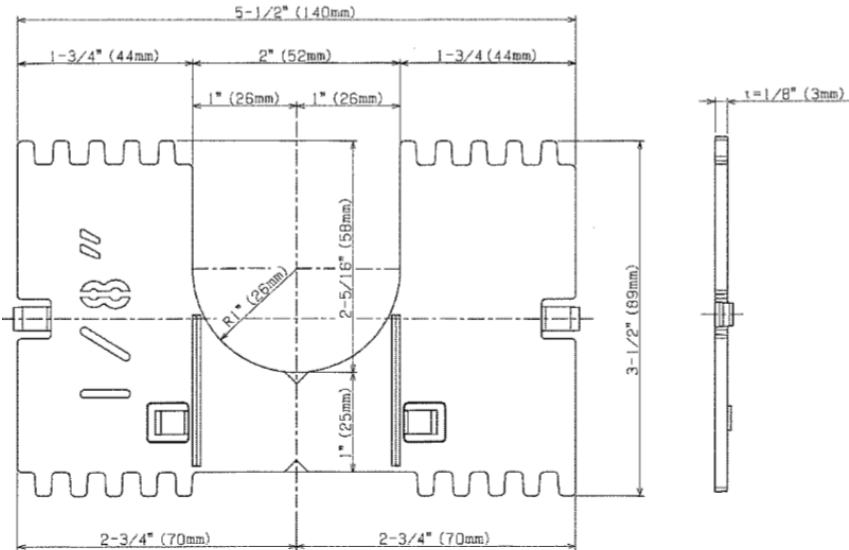
FIGURE 4—JOTO REINFORCEMENT BLOCK



Product Name : **Joto-Vent Shim Plate**
for JVS-26CV

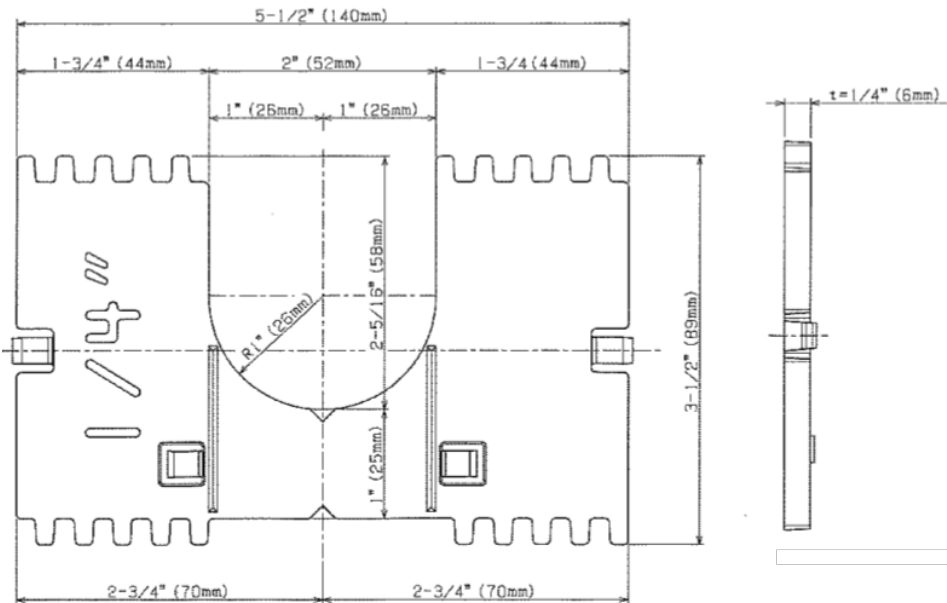
1/16" : XS-S116 1/8" : XS-S108 1/4" : XS-S104

FIGURE 5A—JOTO-VENT SHIM PLATE



Product Name: Joto-Vent Shim Plate for JVS-26CV
1/8" : S-108U

FIGURE 5B—JOTO-VENT SHIM PLATE



Product Name: Joto-Vent Shim Plate for JVS-26CV
1/4" : S-104U

FIGURE 5C—JOTO-VENT SHIM PLATE

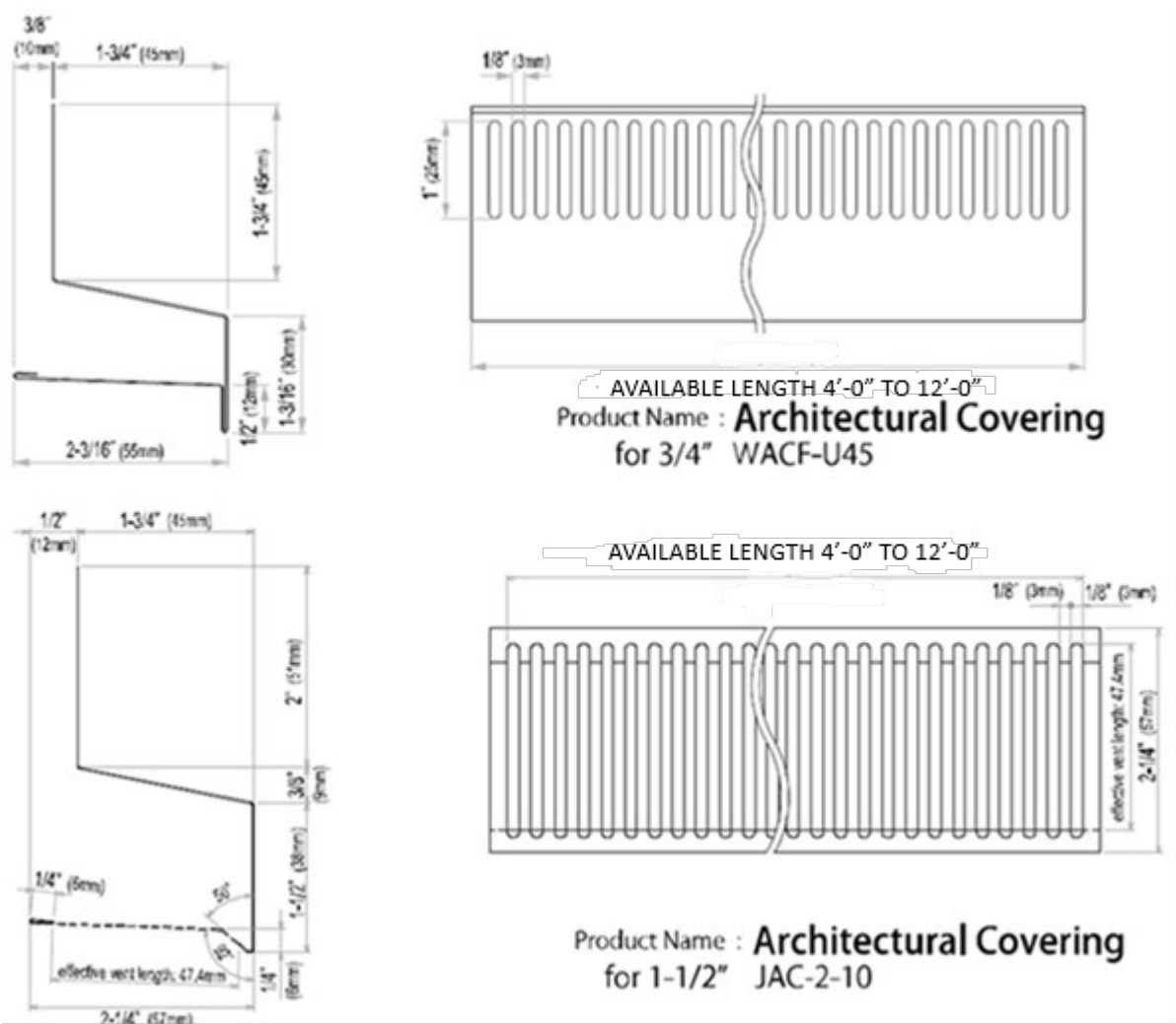


FIGURE 6—JOTO ARCHITECTURAL COVERINGSS

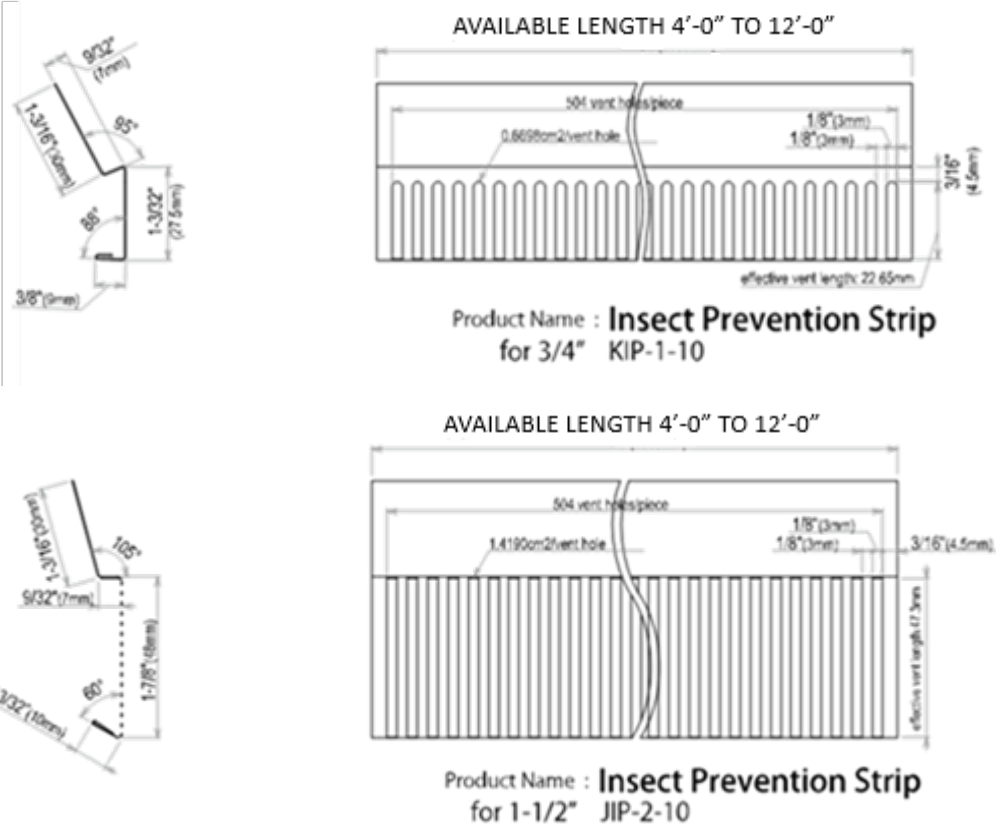


FIGURE 7—JOTO INSECT PREVENTION STRIP COVERINGS

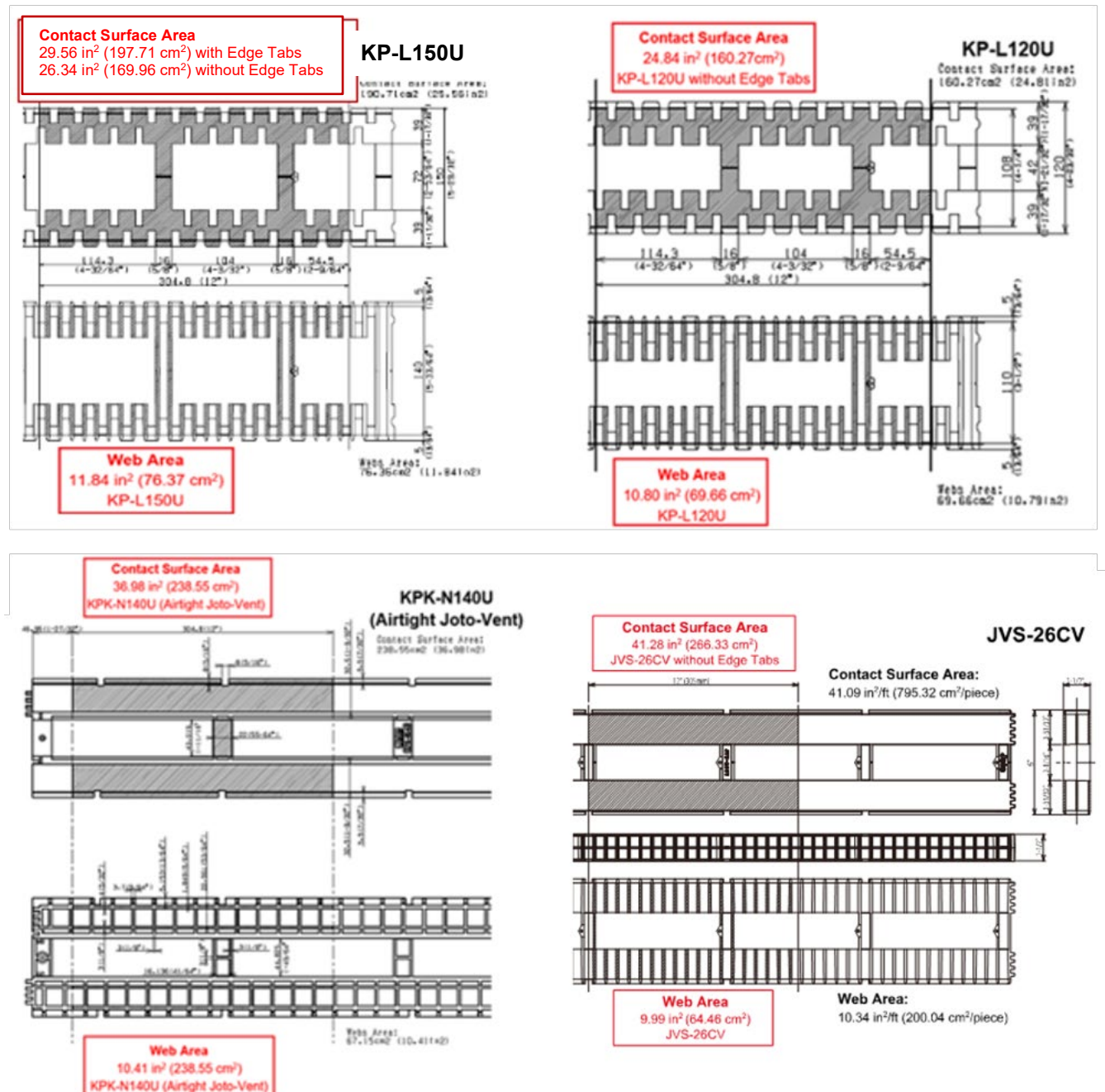
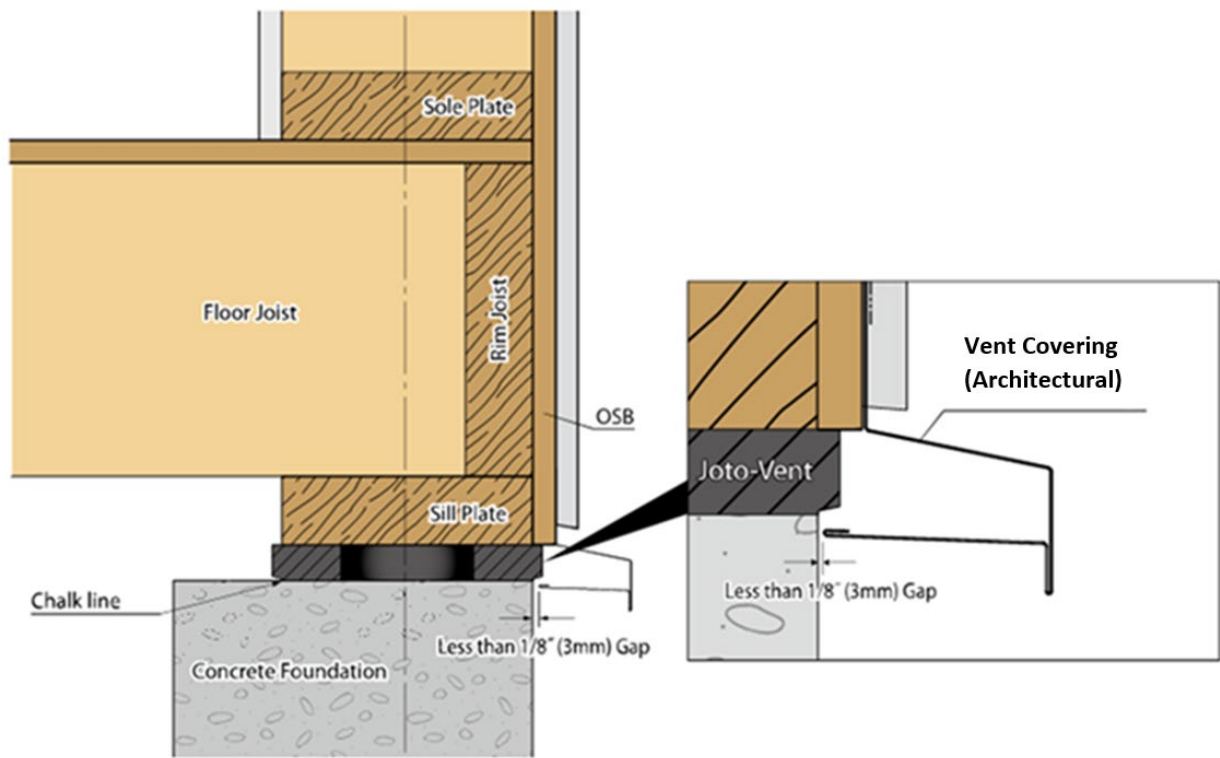
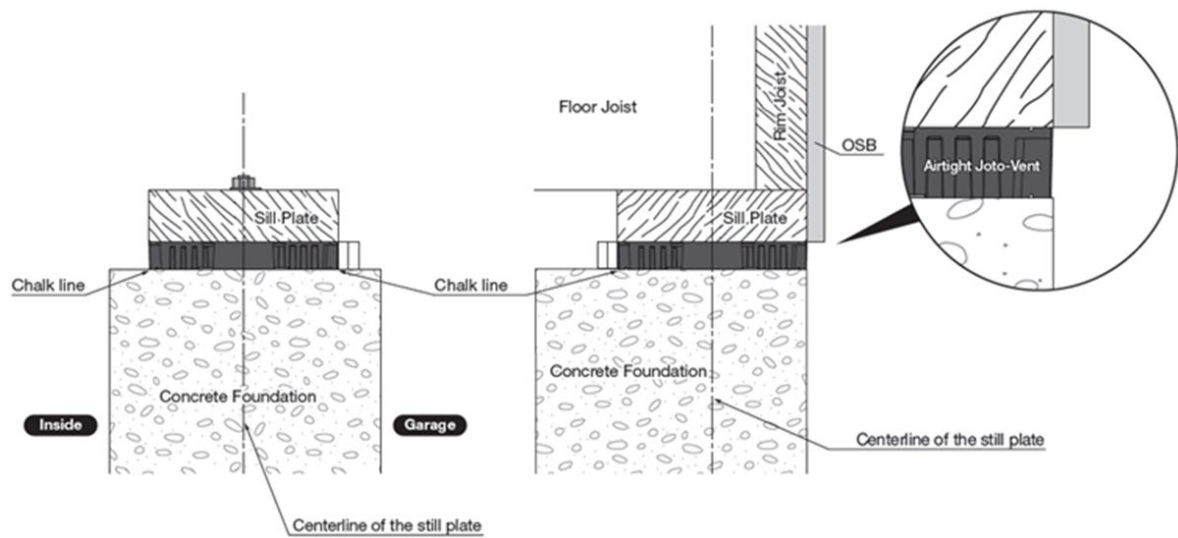


FIGURE 8—JOTO-VENT SYSTEM® BEARING AREA

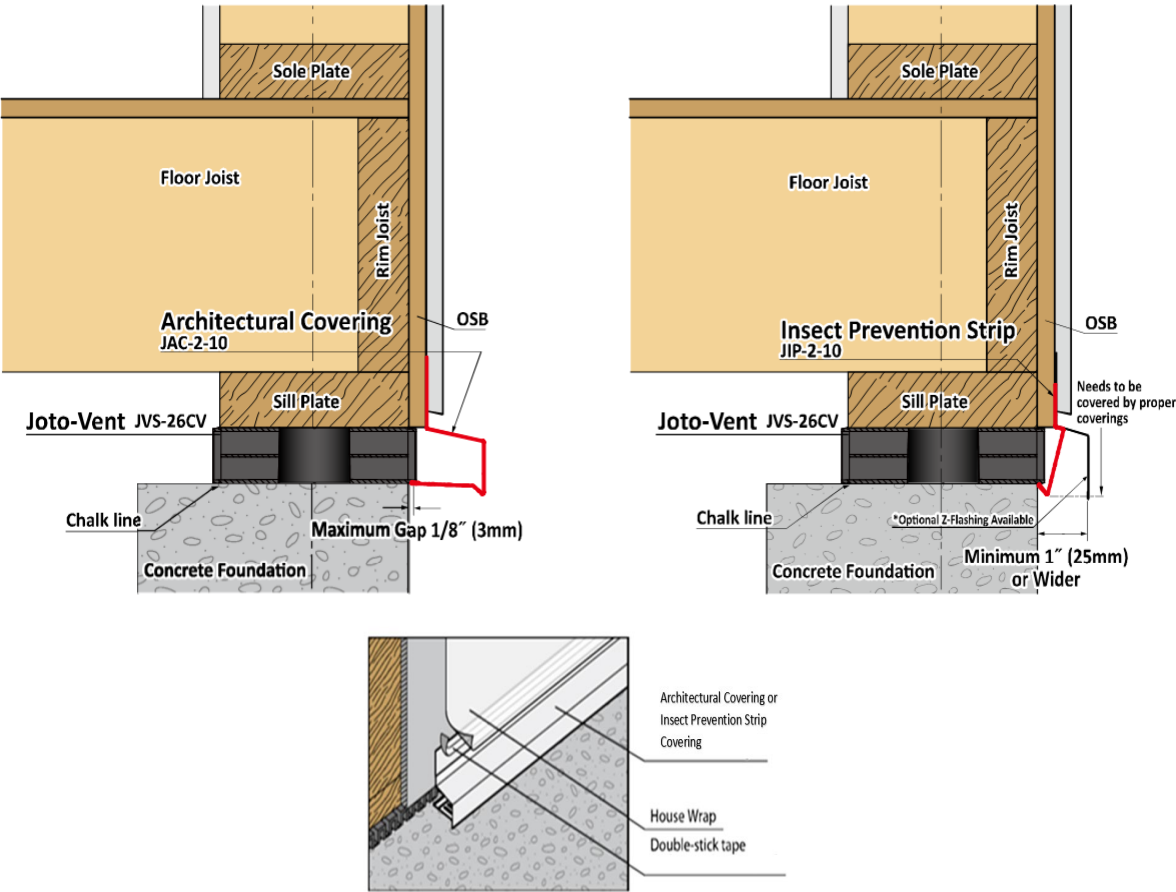


JOTO-VENT INSTALLATION DETAILS



AIRTIGHT JOTO-VENT INSTALLATION DETAILS

FIGURE 9—JOTO-VENT SYSTEM[®] INSTALLATION DETAILS



ARCHITECTURAL AND INSECT PREVENTION STRIP COVERINGS INSTALLATION DETAILS

FIGURE 9—JOTO-VENT SYSTEM® INSTALLATION DETAILS (Continued)

DIVISION: 08 00 00—OPENINGS

Section: 08 95 16—Wall Vents

REPORT HOLDER:

JOTO TECHNO CO., LTD.

EVALUATION SUBJECT:

JOTO-VENT SYSTEM®

1.0 REPORT PURPOSE AND SCOPE

Purpose:

The purpose of this evaluation report supplement is to indicate that Joto-Vent System®, described in ICC-ES evaluation report [ESR-4161](#), has also been evaluated for compliance with the codes noted below as adopted by the Los Angeles Department of Building and Safety (LADBS).

Applicable code editions:

- 2023 City of Los Angeles Building Code ([LABC](#))
- 2023 City of Los Angeles Residential Code ([LARC](#))

2.0 CONCLUSIONS

The Joto-Vent System®, described in Sections 2.0 through 7.0 of the evaluation report [ESR-4161](#), complies with the LABC Chapter 12, and the LARC Chapter 4, and is subject to the conditions of use described in this supplement.

3.0 CONDITIONS OF USE

The Joto-Vent System® described in this evaluation report supplement must comply with all of the following conditions:

- All applicable sections in the evaluation report [ESR-4161](#).
- The design, installation, conditions of use and identification of the Joto-Vent System® are in accordance with the 2021 *International Building Code*® (IBC) and 2021 *International Residential Code*® (IRC) provisions, as applicable, noted in the evaluation report [ESR-4161](#).
- The design, installation and inspection are in accordance with additional requirements of LABC Chapters 12, 16, 23 and LARC Chapter 3 and 4, as applicable.
- The Joto-Vent System® (with the exception of 1½-inch Joto-Vent JVS-26CV, Architectural Covering JAC-2-10, Insect Prevention Strip Coverings KIP-1-10 and JIP-2-10) may be used in the exterior design and construction of new buildings located in a Fire Hazard Severity Zone within State Responsibility Areas or any Wildland-Urban Interface Fire Area, provided installation is in accordance with the 2021 *International Building Code*® (IBC) provisions noted in the evaluation report and the additional requirements of LABC Sections 701A.3 and 706A. The Joto-Vent System® (with the exception of 1½-inch Joto-Vent JVS-26CV, Architectural Covering JAC-2-10, Insect Prevention Strip Coverings KIP-1-10 and JIP-2-10) complies with the performance requirements of ASTM E2886, as described in ICC-ES listing report ESL-1274, in accordance with Items 1,2 and 3 of LABC Section 706A.2 and may be used in the exterior design and construction of new buildings located in a Fire Hazard Severity Zone within State Responsibility Areas or any Wildland-Urban Interface Fire Area.
- The Joto-Vent System® (with the exception of 1½-inch Joto-Vent JVS-26CV, Architectural Covering JAC-2-10, Insect Prevention Strip Coverings KIP-1-10 and JIP-2-10) may be used in the exterior design and construction of new buildings located in a Fire-Hazard Severity Zone within State Responsibility Areas or any Wild-Urban Interface Fire Area, provided

installation is in accordance with the 2021 *International Residential Code*® (IRC) provisions noted in the evaluation report and the additional requirements of LARC Sections R337.1.3 and R337.6.2. The Joto-Vent System® (with the exception of 1½-inch Joto-Vent JVS-26CV, Architectural Covering JAC-2-10, Insect Prevention Strip Coverings KIP-1-10 and JIP-2-10) complies with the performance requirements of ASTM E2886, as described in ICC-ES listing report ESL-1274, in accordance with Items 1, 2, and 3 of LARC Section R337.6.2 and may be used in the exterior design and construction of new buildings located in a Fire Hazard Severity Zone within State Responsibility Areas or any Wildland-Urban Interface Fire Area.

This supplement expires concurrently with the evaluation report reissued May 2026.

ICC-ES Evaluation Report

ESR-4161 CA Supplement w/ Wildland-Urban Interface

Reissued May 2026

This report is subject to renewal May 2028

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DIVISION: 08 00 00—OPENINGS

Section: 08 95 16—Wall Vents

REPORT HOLDER:

JOTO TECHNO CO., LTD.

EVALUATION SUBJECT:

JOTO-VENT SYSTEM®

1.0 REPORT PURPOSE AND SCOPE

Purpose:

The purpose of this evaluation report supplement is to indicate that Joto-Vent System®, described in ICC-ES evaluation report ESR-4161, has also been evaluated for compliance with the code(s) noted below.

Applicable code editions:

- 2022 California Building Code (CBC)

For evaluation of applicable Chapters adopted by the California Office of Statewide Health Planning and Development (OSHPD) AKA: California Department of Health Care Access and Information (HCAI) and the Division of State Architect (DSA), see Sections 2.1.1 and 2.1.2 below.

- 2022 California Residential Code (CRC)

2.0 CONCLUSIONS

2.1 CBC:

The Joto-Vent System®, described in Sections 2.0 through 7.0 of the evaluation report ESR-4161, complies with CBC Chapter 12, provided the design and installation are in accordance with the 2021 *International Building Code*® (IBC) provisions noted in the evaluation report and the additional requirements of CBC Chapters 12 and 23, as applicable.

The Joto-Vent System® (with the exception of 1½-inch Joto-Vent JVS-26CV, Architectural Covering JAC-2-10, Insect Prevention Strip Coverings KIP-1-10 and JIP-2-10) may be used in the exterior design and construction of new buildings located in a Fire Hazard Severity Zone within State Responsibility Areas or any Wildland-Urban Interface Fire Area, provided installation is in accordance with the 2021 *International Building Code*® (IBC) provisions noted in the evaluation report and the additional requirements of CBC Sections 701A.3 and 706A. The Joto-Vent System® (with the exception of 1½-inch Joto-Vent JVS-26CV, Architectural Covering JAC-2-10, Insect Prevention Strip Coverings KIP-1-10 and JIP-2-10) complies with the performance requirements of ASTM E2886, as described in ICC-ES listing report ESL-1274, in accordance with Items 1, 2, and 3 of CBC Section 706A.2 and may be used in the exterior design and construction of new buildings located in a Fire Hazard Severity Zone within State Responsibility Areas or any Wildland-Urban Interface Fire Area.

2.1.1 OSHPD:

The applicable OSHPD Sections and Chapters of the CBC are beyond the scope of this supplement.

2.1.2 DSA:

The applicable DSA Sections and Chapters of the CBC are beyond the scope of this supplement.

2.2 CRC:

The Joto-Vent System®, described in Sections 2.0 through 7.0 of the evaluation report ESR-4161, complies with CRC Chapter 4, provided the design and installation are in accordance with the 2021 *International Residential Code*® (IRC) provisions noted in the evaluation report and the additional requirements of CRC Chapter Numbers 3 and 4, as applicable.

The Joto-Vent System® (with the exception of 1½-inch Joto-Vent JVS-26CV, Architectural Covering JAC-2-10, Insect Prevention Strip Coverings KIP-1-10 and JIP-2-10) may be used in the exterior design and construction of new buildings located in a Fire-Hazard Severity Zone within State Responsibility Areas or any Wild-Urban Interface Fire Area, provided installation is in accordance with the 2021 *International Residential Code*® (IRC) provisions noted in the evaluation report and the additional requirements of CRC Sections R337.1.3 and R337.6.2. The Joto-Vent System® (with the exception of 1½-inch Joto-Vent JVS-26CV, Architectural Covering JAC-2-10, Insect Prevention Strip Coverings KIP-1-10 and JIP-2-10) complies with the performance requirements of ASTM E2886, as described in ICC-ES listing report ESL-1274, in accordance with Items 1, 2, and 3 of CRC Section R337.6.2 and may be used in the exterior design and construction of new buildings located in a Fire Hazard Severity Zone within State Responsibility Areas or any Wildland-Urban Interface Fire Area.

This supplement expires concurrently with the evaluation report, reissued May 2026.

ICC-ES Evaluation Report

ESR-4161 IWUIC Supplement

Reissued May 2026

This report is subject to renewal May 2028.

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A Subsidiary of the International Code Council®

DIVISION: 08 00 00—OPENINGS
Section: 08 95 16—Wall Vents

REPORT HOLDER:

JOTO TECHNO CO., LTD.

EVALUATION SUBJECT:

JOTO-VENT SYSTEM®

1.0 REPORT PURPOSE AND SCOPE

Purpose:

The purpose of this evaluation report supplement is to indicate that Joto-Vent System, described in ICC-ES evaluation report ESR-4161, has also been evaluated for compliance with the codes noted below:

Applicable code editions:

- 2021, 2018 and 2015 *International Wildland-Urban Interface Code (IWUIC)*

2.0 CONCLUSIONS

1. The Joto-Vent System, described in Sections 2.0 through 7.0 of the evaluation report ESR-4161, may be used in the design and construction of new buildings located in Wildland-Urban Interface areas under the *International Wildland-Urban Interface Code (IWUIC)* Section 505.10, provided the design and installation are in accordance with the 2021, 2018 and 2015 *International Wildland-Urban Interface Code (IWUIC)*, the design and installation provisions noted in the evaluation report ESR-4161.

This supplement expires concurrently with the evaluation report ESR-4161, reissued May 2026.

DIVISION: 08 00 00—OPENINGS

Section: 08 95 16—Wall Vents

REPORT HOLDER:

JOTO TECHNO CO., LTD

EVALUATION SUBJECT:

JOTO-VENT SYSTEM®

1.0 REPORT PURPOSE AND SCOPE

Purpose:

The purpose of this evaluation report supplement is to indicate that Joto-Vent System®, described in ICC-ES evaluation report ESR-4161, has also been evaluated for compliance with the codes noted below.

Applicable code editions:

- 2022 Oregon Structural Specialty Code (OSSC)

2.0 CONCLUSIONS

The Joto-Vent System®, described in Sections 2.0 through 7.0 of the ICC-ES evaluation report ESR-4161, complies with the OSSC Chapter 12, and is subject to the conditions of use described in this supplement.

3.0 CONDITIONS OF USE

The Joto-Vent System® described in this evaluation report supplement must comply with all of the following conditions:

- All applicable sections in the evaluation report ESR-4161.
- The design, installation, conditions of use and identification of the Joto-Vent System® are in accordance with the 2021 *International Building Code*® (IBC) provisions noted in the ICC-ES evaluation report ESR-4161.
- The design, installation and inspection are in accordance with additional requirements of OSSC Chapters 12 and 16, as applicable.

This supplement expires concurrently with the evaluation report, reissued May 2026.