

BLUEPRINT

CALIFORNIA ENERGY COMMISSION
EFFICIENCY DIVISION

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The CEC welcomes feedback on Blueprint. Please contact the editor at Title24@energy.ca.gov

2022 Energy Code: HVAC Efficiencies

The **2022 Energy Code Section 110.2** includes minimum efficiency requirements for variable refrigerant flow (VRF) air conditioners and heat pumps. The efficiency metrics were based on an AHRI test procedure that was updated. Effective January 1, 2024, the US Department of Energy (DOE) adopted new minimum integrated energy efficiency ratio (IEER) efficiencies for VRF equipment with cooling capacity of 65,000 Btu/h or greater based on the updated testing procedures.

The California Energy Commission (CEC) has published an advisory on the **VRF minimum efficiency requirements** to assist the authorities having jurisdiction (AHJ) in confirming that the proposed equipment on the certificate of compliance forms and the installed equipment on the certificate of installation forms meet the updated efficiencies. Please see the advisory on the **Regulatory Advisories webpage** for additional guidance.

HERS Program Updates

The CEC adopted the **2025 Energy Code** which includes updates to HERS field verification and diagnostic testing (FV&DT) requirements to support compliance. The FV&DT program regulations were migrated from Title 20 to Title 24 under the **2025 Energy Code**.

The FV&DT compliance program will become the Energy Code Compliance (ECC) Program. A new **ECC Program webpage** has been launched to provide guidance on the upcoming ECC program, including frequently asked questions. For more information about the new ECC program please visit the **Energy Code Compliance program webpage**.

The current HERS FV&DT program will remain in place until the **2025 Energy Code** is effective January 1, 2026. For more information about the existing HERS program please visit the **HERS program webpage**.

JA8 Lighting Test Updates

The **2022 Reference Joint Appendix JA8** requirements specify EnergyStar testing methods that lighting products must undergo to meet the JA8-2022 and JA8-2022-E certification standards. The EnergyStar program for lamps and luminaires will be discontinued on December 31, 2024. The 2025 Energy Code includes updated testing procedures. To certify JA8-compliant lamps and luminaires before the effective date of the 2025 Energy Code, the CEC can provide the test procedures details upon request.

The **2025 Energy Code** replaces the EnergyStar tests with updated testing procedures in the new Sections JA8.7 and JA8.8. Per the revisions to Section JA8.5 products with the marking JA8-2025-E for elevated temperature must meet new federal test procedures. The CEC can provide details of the federal test procedures related to the JA8-2025-E requirements upon request.

Lighting products certified as meeting JA8 for the 2016 Energy Code, 2019 Energy Code, and 2022 Energy Code will be accepted for compliance with JA8 for the 2025 Energy Code. For more information, please visit the **2025 Energy Code webpage**.

Energy Code Support Center

Please visit the **Energy Code Support Center webpage** for resources including fact sheets, frequently asked questions, guides, presentations, training classes, videos, and links to additional resources. New resources for the 2022 Energy Code include:

- An instructional guide to outdoor lighting zones on the **Lighting webpage**
- The **Accessory Dwelling Units FAQs** on the **Accessory Dwelling Units webpage**

Q&A

Single-Family Ductless Mini-Splits

Does the Exception to Section 150.0(a)1 of the 2022 Energy Code apply to a newly constructed single-family dwelling with a ventilated attic when a ductless mini-split is being used to serve the entire dwelling?


Yes. The **Exception to Section 150.0(a)1** to the mandatory roof deck insulation applies when there are no ducts in the attic and the air handler is located in conditioned space below the ceiling separating the occupiable space from the attic.


The **Exception to Section 150.0(a)1** also applies if a space-conditioning system air handler with up to 12 linear feet of supply ducts

ENERGY CODE

HOTLINE

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Energy Code
(Title 24, Part 6) questions

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is located in unconditioned space, when all other portions of the supply ducts are located in conditioned space below the ceiling separating the occupiable space from the attic.

Single-Family Solar Photovoltaic (PV) Exceptions

Can more than one exception be claimed under the solar PV requirements of Section 150.1(c)14 of the 2022 Energy Code for newly constructed single-family buildings?

No. For example, **Exception 2 to Section 150.1(c)14** applies when either **Equation 150.1-C** outputs less than 1.8 kWdc or the solar access roof area (SARA) does not allow a 1.8 kWdc system to fit on the roof. **Exception 5 to Section 150.1(c)14** applies to reduce the required PV size by 25 percent when installing a

battery storage system. Exception 2 cannot be combined with the application of Exception 5. When Exception 5 applies then the project requires both PV and battery storage to be installed.

Nonresidential Solar PV and Battery Storage Systems

Does a newly constructed unconditioned warehouse, with conditioned support areas and offices, need to comply with the PV requirements in Section 140.10 of the 2022 Energy Code?

Yes. Buildings with any conditioned floor area (CFA) of the space types listed in **Table 140.10-A**, such as warehouse or office, including the conditioned spaces supporting these areas (e.g., restrooms, closets, corridors), shall have a solar PV system installed. The PV system size is determined by **Equation 140.10-A**, or the total of all available solar access roof areas (SARA) multiplied by 14 watts per square foot, whichever is smaller. **Exceptions to Section 140.10** may apply.

Does Exception 3 to Section 140.10(b) for battery storage systems apply to a newly constructed multi-tenant building, where each tenant space is less than 5,000 square feet of CFA, but the total building CFA equals more than 5,000 square feet?

Yes. **Exception 3 to Section 140.10(b)** of the 2022 Energy Code applies to mixed-use buildings with separate tenant spaces of 5,000 square feet or less of CFA. For example, a mixed-use building with 7,000 square feet of CFA that consists of two tenant spaces of 4,000 square feet and 3,000 square feet could claim **Exception 3 to Section 140.10(b)** since each tenant space is less than 5,000 square feet of CFA.



For additional help with the Energy Code, see Energy Code Ace's **online offerings** of trainings, tools, and resources.

FOR MORE INFORMATION

Energy Code Support Center:

www.energy.ca.gov/energy-code-support-center

Home Energy Rating System (HERS):

www.energy.ca.gov/HERS

Acceptance Test Technician Certification Provider Program (ATTCP):

www.energy.ca.gov/ATTCP

2022 Approved Compliance Software:

www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards/2022-building-energy-efficiency-1

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Blueprint newsletter serves as a resource to assist stakeholders in complying with the Energy Code. It does not provide legal advice. Please refer to California Code of Regulations, Title 24, Parts 1 and 6 for specific requirements.



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