

# **Houston Amendments to the *2021 International Energy Conservation Code***



**Adopted by Ord. No. 2023-907<sup>1</sup>**

**Passed October 25, 2023<sup>2</sup>**

**Effective January 1, 2024<sup>3</sup>**

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1. The City Secretary shall insert the number of the adopting ordinance.
  2. The City Secretary shall insert the date passage and approval of the adopting ordinance.
  3. The City Secretary shall insert the effective date of the adopting ordinance.



# **IECC—COMMERCIAL PROVISIONS**

## **CHAPTER 1 SCOPE AND ADMINISTRATION**

### **SECTION C101 SCOPE AND GENERAL REQUIREMENTS**

**C101.1 Title.** This code shall be known as the City of Houston Commercial Energy Conservation Code, of ~~[NAME OF JURISDICTION]~~, and shall ~~may be cited as such, and shall be.~~ It is referred to herein as “this code.” The City of Houston Construction Code collectively includes this volume and certain other codes, pamphlets, specifications, and documents that are adopted in or by reference to the Adopting Ordinance, City of Houston Ordinance No. 2023-907.

**C101.6 Appendices.** Provisions in the appendices shall not apply unless specifically adopted. Appendix CB and CD is hereby adopted and shall be incorporated into and made part of this code.

### **SECTION C103 CONSTRUCTION DOCUMENTS**

**C103.5 Retention of construction documents.** One set of *approved* construction documents shall ~~may~~ be retained by the *code official* for a period of not less than 180 days from date of completion of the permitted work, or as required by state or local laws.

### **SECTION C104 FEES**

**C104.1 Fees.** ~~Fees shall be as set forth in the Houston Construction Code. A permit shall not be issued until the fees prescribed in Section C104.2 have been paid, nor shall an amendment to a permit be released until the additional fee, if any, has been paid.~~

**C104.3 Work commencing before permit issuance.** Any person who commences any work before obtaining the necessary permits shall be subject to an ~~additional~~ investigation fee established by the *code official* that shall be in addition to the required permit fees. The investigation fee shall be equal to the amount of the permit fee required by the Houston Construction Code.

### **SECTION C109 STOP WORK ORDER**

**C109.2 Issuance.** The stop work order shall be in writing and shall be given to the owner of the property, the owner’s authorized agent or the person performing the work. Upon issuance of a

stop work order, the cited work shall immediately cease. The stop work order shall state the reason for the order and the conditions under which the cited work is authorized to resume.

At the time a stop work order is issued, the person performing the work and the permit holder shall be given notice of a right to a hearing on the matter by the *building official*, who shall deliver the notice to the persons performing the work, if present at the site, or otherwise conspicuously post the notice at the site. Upon request, a hearing shall be held within three business days unless the permit holder or person who was doing the work requests an extension of time. Any stop work order that has been issued shall remain in effect pending any hearing that has been requested unless the stop work order is withdrawn by the *building official*.

## **SECTION C110 BOARD OF APPEALS**

**C110.1 General.** The General Appeals Board, in accordance with the provisions of the *Building Code*, shall in order to hear and decide appeals of orders, decisions or determinations made by the *code official* relative to the application and interpretation of this code, there shall be and is hereby created a board of appeals. The *code official* shall be an ex officio member of said board but shall not have a vote on any matter before the board. The board of appeals shall be appointed by the governing body and shall hold office at its pleasure. The board shall adopt rules of procedure for conducting its business, and shall render all decisions and findings in writing to the appellant with a duplicate copy to the *code official*.

**C110.2 [RESERVED] Limitations on authority.** An application for appeal shall be based on a claim that the true intent of this code or the rules legally adopted thereunder have been incorrectly interpreted, the provisions of this code do not fully apply or an equally good or better form of construction is proposed. The board shall not have authority to waive requirements of this code.

**C110.3 [RESERVED] Qualifications.** The board of appeals shall consist of members who are qualified by experience and training and are not employees of the jurisdiction.

## **SECTION C111 HEARING PROCEDURES**

**C111.1 Hearing notices.** Unless otherwise specifically provided, whenever notice is to be given to any person concerning the right to a hearing, the notice may be given by personal delivery or by certified mail, return receipt requested.

If notice is being given to a building owner or to a tenant therein and the *code official* is unable to determine the name or address of such person after checking the building and the applicable records of the jurisdiction's Houston Public Works department, the County Appraisal District, the electrical utility company, the gas utility company, and the water utility provider, notice shall be mailed to the billing addresses of the building as shown on the records of the electrical company and the gas company and shall be posted on or in view of each entrance to the building. Additionally, if any notice is mailed to a building owner or a building tenant and is returned without delivery, notice shall be effective if posted on or in view of each entrance to the building.

**C111.2 Hearings.** Except where otherwise specifically provided, all hearings held pursuant to this code shall be conducted by the jurisdiction's Houston Public Works department or a representative, who shall hereinafter be referred to as the "hearing official". The director shall not designate any person to be hearing official under this code who has taken part in the investigation

of the matter that is the subject of the hearing or any person who directly supervised the investigation. The hearing official shall consider only the evidence presented at the hearing in rendering a decision. The decision of the hearing official shall be set forth in writing and shall be served on each party in the same manner as a notice of a right to a hearing.

# CHAPTER 2 [CE]

## DEFINITIONS

### SECTION C201 GENERAL

**C201.3 Terms defined in other codes.** Terms that are not defined in this code but are defined in the *International Building Code*, *International Fire Code*, *International Fuel-Gas Code*, *Electrical Code*, *International Mechanical Code*, *International Plumbing Code* or the *International Residential Code* shall have the meanings ascribed to them in those codes.

### SECTION C202 GENERAL DEFINITIONS

[EDITORIAL NOTE: ALL PORTIONS OF SECTION C202 NOT SHOWN REMAIN AS SET FORTH IN THE 2021 IECC.]

**BUILDING CODE.** The *City of Houston Building Code*, as adopted and amended by this jurisdiction.

**CITY CODE.** The *Code of Ordinances*, Houston, Texas.

**CODE OFFICIAL.** The officer or other designated authority charged with the administration and enforcement of this code jurisdiction's *Director of Houston Public Works*, or a duly authorized representative. Also known as the *building official*.

**CONSTRUCTION CODE.** The *City of Houston Construction Code*, consisting of the *Building Code*, *Existing Building Code*, *Fire Code*, *Electrical Code*, *Mechanical Code*, *Plumbing Code*, *Residential Code*, *Energy Conservation Code*, and the *Swimming Pool and Spa Code*.

**ELECTRICAL CODE.** The *National Electrical Code* promulgated by the National Fire Protection Association, as adopted by this jurisdiction, and the *City of Houston Electrical Code*.

**FIRE CODE.** The *City of Houston Fire Code*, as adopted and amended by this jurisdiction.

**INTERNATIONAL BUILDING CODE.** The *City of Houston Building Code*, as adopted and amended by this jurisdiction.

**INTERNATIONAL EXISTING BUILDING CODE.** The *City of Houston Existing Building Code*, as adopted and amended by this jurisdiction.

**INTERNATIONAL FIRE CODE.** The *City of Houston Fire Code*, as adopted and amended by this jurisdiction.

**INTERNATIONAL FUEL GAS CODE.** *The City of Houston Plumbing Code, as adopted and amended by this jurisdiction.*

**INTERNATIONAL MECHANICAL CODE.** *The City of Houston Mechanical Code, as adopted and amended by this jurisdiction.*

**INTERNATIONAL PLUMBING CODE.** *The City of Houston Plumbing Code, as adopted and amended by this jurisdiction.*

**INTERNATIONAL PROPERTY MAINTENANCE CODE.** Chapter 10 of the *City Code*, which includes the *Houston Building Standards Code*.

**INTERNATIONAL RESIDENTIAL CODE.** *The City of Houston Residential Code, as adopted and amended by this jurisdiction.*

**INTERNATIONAL SWIMMING POOL AND SPA CODE.** *The City of Houston Swimming Pool and Spa Code, as adopted and amended by this jurisdiction.*

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**PLUMBING CODE.** *The City of Houston Plumbing Code, as adopted and amended by this jurisdiction.*

**RESIDENTIAL CODE.** *The City of Houston Residential Code, as adopted and amended by this jurisdiction.*

# CHAPTER 3 [CE]

## GENERAL REQUIREMENTS

### SECTION C302 DESIGN CONDITIONS

**C302.2 Exterior design conditions.** When using the total building performance method of compliance, the criteria shall be as set forth in Table C302.2.

**TABLE C302.2**  
**EXTERIOR DESIGN CONDITIONS**

| <b><u>CONDITION</u></b>                           | <b><u>VALUE</u></b> |
|---|---------------------|
| <u>Winter, design dry-bulb (<math>E_F</math>)</u> | <u>28°F</u>         |
| <u>Summer, design dry-bulb</u>                    | <u>96°F</u>         |
| <u>Summer, design wet-bulb</u>                    | <u>80.5°F</u>       |
| <u>Degree days heating (base 65)</u>              | <u>1371</u>         |
| <u>Degree days cooling (base 50)</u>              | <u>7357</u>         |
| <u>Climate zone</u>                               | <u>2A</u>           |



# CHAPTER 4 [CE]

## COMMERCIAL ENERGY EFFICIENCY

### SECTION C407 TOTAL BUILDING PERFORMANCE

**C407.3.1 Compliance report.** Permit submittals shall include a report documenting that the proposed design has annual energy costs less than or equal to the annual energy costs of the standard reference design. The compliance documentation shall include the following information:

1. Address of the building.
2. An inspection checklist documenting the building component characteristics of the *proposed design* as specified in Table C407.4.1(1). The inspection checklist shall show the estimated annual energy cost for both the *standard reference design* and the *proposed design*.
3. Name of individual completing the compliance report.
4. Name and version of the compliance software tool.
5. Seal, signature, and date of a Professional Engineer licensed to practice in the State of Texas.

# CHAPTER 5 [CE]

## EXISTING BUILDINGS

### SECTION C501 GENERAL

**C501.5 Historic buildings.** Provisions of this code relating to the construction, *repair*, *alteration*, restoration and movement of structures, and *change of occupancy* shall not be mandatory for *historic buildings* provided that a report has been submitted to the *code official* and signed by a ~~registered design professional~~, or a representative of the State Historic Preservation Office or the historic preservation authority having jurisdiction, demonstrating that compliance with that provision would threaten, degrade or destroy the historic form, fabric or function of the *building*.

# APPENDIX CB

## SOLAR-READY ZONE—COMMERCIAL

*The provisions contained in this appendix are optional and are not mandatory unless specifically referenced in the adopting ordinance.*

[EDITORIAL NOTE: THE REMAINDER OF THIS APPENDIX REMAINS AS SET FORTH IN THE 2021 IECC.]

# APPENDIX CD

## ELECTRIC VEHICLE “EV” READY

### COMMERCIAL PROVISIONS

EDITORIAL NOTE: THE PROVISIONS LOCATED IN THIS APPENDIX ARE OPTIONAL AND ARE NOT MANDATORY.]

#### SECTION CD101

##### DEFINITIONS

**ELECTRIC VEHICLE.** An automotive-type vehicle for on-road use primarily powered by an electric motor that draws current from an onboard battery charged through a building electrical service, electric vehicle supply equipment (EVSE), or another source of electric current.

**ELECTRIC VEHICLE SUPPLY EQUIPMENT (EVSE).** The apparatus installed specifically for the purpose of transferring energy between the premises wiring and the Electric Vehicle.

**EV-CAPABLE SPACE.** A dedicated parking space with electrical panel capacity and space for a branch circuit that supports the EV parking space that is not less than 40-ampere and 208/240-volt and equipped with raceways, both underground and surface mounted, to enable the future installation of electric vehicle supply equipment. For two adjacent EV-Capable spaces, a single branch circuit is permitted.

**EV-READY SPACE.** A designated parking space which is provided with a dedicated branch circuit that is not less than 40-ampere and 208/240-volt assigned for electric vehicle supply equipment terminating in a receptacle or junction box located in close proximity to the proposed location of the EV parking space. For two adjacent EV-Ready spaces, a single branch circuit is permitted.

#### SECTION CD102

##### COMMERCIAL EV-READY REQUIREMENTS

**CD102.1 Electric Vehicle Power Transfer Infrastructure.** New parking facilities shall be provided with electric vehicle power transfer infrastructure in compliance with Sections CD102.2 through CD102.8.

**CD102.2 Quantity.** The number of required EV spaces, EV capable spaces and EV ready spaces shall be determined in accordance with this Section and Table CD102.2 based on the total number of automobile parking spaces and shall be rounded up to the nearest whole number. For R-2 buildings, the Table requirements shall be based on the total number of dwelling units or the total number of automobile parking spaces, whichever is less.

1. Where more than one parking facility is provided on a building site, the number of required automobile parking spaces required to have EV power transfer infrastructure shall be calculated separately for each parking facility.
2. Where one shared parking facility serves multiple building occupancies, the required number of spaces shall be determined proportionally based on the floor area of each building occupancy.

3. Installed EVSE spaces that exceed the minimum requirements of this section may be used to meet minimum requirements for EV ready spaces and EV capable spaces.
4. Installed EV ready spaces that exceed the minimum requirements of this section may be used to meet minimum requirements for EV capable spaces.
5. Where the number of EV ready spaces allocated for R-2 occupancies is equal to the number of dwelling units or to the number of automobile parking spaces allocated to R-2 occupancies, whichever is less, requirements for EVSE spaces for R-2 occupancies shall not apply.
6. Requirements for a Group S-2 parking garage shall be determined by the occupancies served by that parking garage. Where new automobile spaces do not serve specific occupancies, the values for Group S-2 parking garage in Table CD102.2 shall be used.

**Exception:** Parking facilities, serving occupancies other than R-2 with fewer than 10 automobile parking spaces.

**TABLE CD102.2  
REQUIRED EV POWER TRANSFER INFRASTRUCTURE**

| <u>Occupancy</u>                              | <u>EVSE Spaces</u> | <u>EV Ready Spaces</u> | <u>EV Capable Spaces</u> |
|---|--------------------|------------------------|--------------------------|
| <u>Group A</u>                                | <u>10%</u>         | <u>0%</u>              | <u>10%</u>               |
| <u>Group B</u>                                | <u>15%</u>         | <u>0%</u>              | <u>30%</u>               |
| <u>Group E</u>                                | <u>2%</u>          | <u>0%</u>              | <u>5%</u>                |
| <u>Group F</u>                                | <u>2%</u>          | <u>0%</u>              | <u>5%</u>                |
| <u>Group H</u>                                | <u>1%</u>          | <u>0%</u>              | <u>0%</u>                |
| <u>Group I</u>                                | <u>2%</u>          | <u>0%</u>              | <u>5%</u>                |
| <u>Group M</u>                                | <u>10%</u>         | <u>0%</u>              | <u>10%</u>               |
| <u>Group R-1</u>                              | <u>20%</u>         | <u>5%</u>              | <u>75%</u>               |
| <u>Group R-2</u>                              | <u>20%</u>         | <u>5%</u>              | <u>75%</u>               |
| <u>Group R-3 and R-4</u>                      | <u>2%</u>          | <u>0%</u>              | <u>5%</u>                |
| <u>Group S (exclusive of parking garages)</u> | <u>1%</u>          | <u>0%</u>              | <u>0%</u>                |
| <u>Group S-2 (parking garages)</u>            | <u>1%</u>          | <u>0%</u>              | <u>0%</u>                |

**CD102.3 EV Capable Spaces.** Each EV capable space used to meet the requirements of Section CD102.2 shall comply with all of the following:

1. A continuous raceway or cable assembly shall be installed between an enclosure or outlet located within 3 feet (914 mm) of the EV capable space and a suitable panelboard or other onsite electrical distribution equipment.

2. Installed raceway or cable assembly shall be sized and rated to supply a minimum circuit capacity in accordance with CD102.6.
3. The electrical distribution equipment to which the raceway or cable assembly connects shall have sufficient dedicated space and spare electrical capacity for a 2-pole circuit breaker or set of fuses.
4. The electrical enclosure or outlet and the electrical distribution equipment directory shall be marked: "For future electric vehicle supply equipment (EVSE)."
5. Reserved capacity shall be no less than 4.1 kVA (20A 208/240V) for each EV capable space.

**CD102.3. EV Ready spaces.** Each branch circuit serving EV ready spaces used to meet the requirements of Section CD102.2 shall comply with all of the following:

1. Terminate at an outlet or enclosure located within 3 feet (914 mm) of each EV ready space it serves.
2. Have a minimum circuit capacity in accordance with CD102.6.
3. The panelboard or other electrical distribution equipment directory shall designate the branch circuit as "Fire electric vehicle supply equipment (EVSE)" and the outlet or enclosure shall be marked "For electric vehicle supply equipment (EVSE)."

**CD102.4 EVSE Spaces.** An installed EVSE with multiple output connections shall be permitted to serve multiple EVSE spaces. Each EVSE installed to meet the requirements of Section CD102.2, serving either a single EVSE space or multiple EVSE spaces, shall comply with all of the following:

1. Have a minimum circuit capacity in accordance with CD102.6.
2. Have a minimum charging rate in accordance with CD102.5.
3. Be located within 3 feet (914 mm) of each EVSE space it serves.
4. Be installed in accordance with Section CD102.8.

**CD102.5 Minimum charging rate.** Each installed EVSE shall comply with one of the following:

1. Be capable of charging at a minimum rate of 6.2 kVA (or 30A at 208/240V).
2. When serving multiple EVSE spaces and controlled by an energy management system providing load management, be capable of simultaneously sharing each EVSE space at a minimum rate of no less than 3.3 kVA.
3. When serving EVSE spaces allowed to have a minimum circuit capacity of 2.7 kVA in accordance with CD102.7 and controlled by an energy management system providing load management, be capable of simultaneously charging each ESVE space at a minimum rate of no less than 2.1 kVA.

**CD102.6 Circuit capacity.** The capacity of electrical infrastructure serving each EV capable space, EV ready space, and EVSE space shall comply with one of the following:

1. A branch circuit shall have a rated capacity not less than 8.3 kVA (or 40A at 208/240V) for each EV ready space or EVSE space it serves.
2. The requirements of CD102.7.

**CD102.7 Circuit capacity management.** The capacity of each branch circuit serving multiple EVSE spaces, EV ready spaces or EV capable spaces designed to be controlled by an energy

management system providing load management in accordance with NFPA 70, shall comply with one of the following:

1. Have a minimum capacity of 4.1 kVA per space.
2. Have a minimum capacity of 2.7 kVA per space when serving EV ready spaces or EVSE space for R02 occupancies when all (100%) of the automobile parking spaces designated for R-2 occupancies are designed to be EV ready spaces or EVSE spaces.
3. Have a minimum capacity of 2.7 kVA per space when serving EV ready spaces or EVSE spaces for a building site when all (100%) of the automobile parking spaces are designed to be EV ready or EVSE spaces.

**CD102.8 EVSE installation.** EVSE shall be installed in accordance with NFPA 70 and shall be listed and labeled in accordance with UL 2202 or UL 2594. EVSE shall be accessible in accordance with *International Building Code* Section 1107.

# ***IECC—RESIDENTIAL PROVISIONS***

## **CHAPTER 1 SCOPE AND ADMINISTRATION**

### **SECTION R101 SCOPE AND GENERAL REQUIREMENTS**

**R101.1 Title.** This code shall be known as the *City of Houston Residential Energy Conservation Code*, of ~~[NAME OF JURISDICTION]~~, and shall ~~may be cited as such, and shall be.~~ It is referred to herein as “this code.” The *City of Houston Construction Code* collectively includes this volume and certain other codes, pamphlets, specifications, and documents that are adopted in or by reference to the Adopting Ordinance, City of Houston Ordinance No. 2023-907.

**R101.6 Appendices.** Provisions in the appendices shall not apply unless specifically adopted. Appendix RB and RD, including any amendments thereto adopted by this jurisdiction, is hereby adopted and shall be incorporated into and made part of this code.

### **SECTION R103 CONSTRUCTION DOCUMENTS**

**R103.5 Retention of construction documents.** One set of *approved* construction documents shall ~~may~~ be retained by the *code official* for a period of not less than 180 days from date of completion of the permitted work, or as required by state or local laws.

### **SECTION R104 FEES**

**R104.1 Fees.** Fees shall be as set forth in the *Building Code*. ~~A permit shall not be issued until the fees prescribed in Section R104.2 have been paid, nor shall an amendment to a permit be released until the additional fee, if any, has been paid.~~

**R104.3 Work commencing before permit issuance.** Any person who commences any work before obtaining the necessary permits shall be subject to an ~~additional~~ investigation fee established by the *code official* that shall be in addition to the required permit fees. The investigation fee shall be equal to the amount of the permit fee required by the *Houston Construction Code*.

### **SECTION R109 STOP WORK ORDER**

**R109.2 Issuance.** The stop work order shall be in writing and shall be given to the owner of the property, the owner’s authorized agent or the person performing the work. Upon issuance of a



stop work order, the cited work shall immediately cease. The stop work order shall state the reason for the order and the conditions under which the cited work is authorized to resume.

At the time a stop work order is issued, the person performing the work and the permit holder shall be given notice of a right to a hearing on the matter by the *building official*, who shall deliver the notice to the persons performing the work, if present at the site, or otherwise conspicuously post the notice at the site. Upon request, a hearing shall be held within three business days unless the permit holder or person who was doing the work requests an extension of time. Any stop work order that has been issued shall remain in effect pending any hearing that has been requested unless the stop work order is withdrawn by the *building official*.

## **SECTION R110 MEANS OF APPEAL**

**R110.1 General.** The General Appeals Board, in accordance with the provisions of the *Building Code*, shall in order to hear and decide appeals of orders, decisions or determinations made by the *code official* relative to the application and interpretation of this code, there shall be and is hereby created a board of appeals. The *code official* shall be an ex officio member of said board but shall not have a vote on any matter before the board. The board of appeals shall be appointed by the governing body and shall hold office at its pleasure. The board shall adopt rules of procedure for conducting its business, and shall render all decisions and findings in writing to the appellant with a duplicate copy to the *code official*.

**R110.2 [RESERVED] Limitations on authority.** An application for appeal shall be based on a claim that the true intent of this code or the rules legally adopted thereunder have been incorrectly interpreted, the provisions of this code do not fully apply or an equally good or better form of construction is proposed. The board shall not have authority to waive requirements of this code.

**R110.3 [RESERVED] Qualifications.** The board of appeals shall consist of members who are qualified by experience and training and are not employees of the jurisdiction.

## **SECTION R111 HEARING PROCEDURES**

**R111.1 Hearing notices.** Unless otherwise specifically provided, whenever notice is to be given to any person concerning the right to a hearing, the notice may be given by personal delivery or by certified mail, return receipt requested.

If notice is being given to a building owner or to a tenant therein and the *code official* is unable to determine the name or address of such person after checking the building and the applicable records of the jurisdiction's Houston Public Works department, the County Appraisal District, the electrical utility company, the gas utility company, and the water utility provider, notice shall be mailed to the billing addresses of the building as shown on the records of the electrical company and the gas company and shall be posted on or in view of each entrance to the building. Additionally, if any notice is mailed to a building owner or a building tenant and is returned without delivery, notice shall be effective if posted on or in view of each entrance to the building.

**R111.2 Hearings.** Except where otherwise specifically provided, all hearings held pursuant to this code shall be conducted by the jurisdiction's Houston Public Works department or a representative, who shall hereinafter be referred to as the "hearing official". The director shall not designate any person to be hearing official under this code who has taken part in the investigation of the matter that is the subject of the hearing or any person who directly supervised the investigation. The hearing official shall consider only the evidence presented at the hearing in

rendering a decision. The decision of the hearing official shall be set forth in writing and shall be served on each party in the same manner as a notice of a right to a hearing.

# CHAPTER 2 [CE]

## DEFINITIONS

### SECTION R201 GENERAL

**R201.3 Terms defined in other codes.** Terms that are not defined in this code but are defined in the *International Building Code*, *International Fire Code*, *International Fuel Gas Code*, *Electrical Code*, *International Mechanical Code*, *International Plumbing Code* or the *International Residential Code* shall have the meanings ascribed to them in those codes.

### SECTION R202 GENERAL DEFINITIONS

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# CHAPTER 3 [CE]

## GENERAL REQUIREMENTS

### SECTION R302 DESIGN CONDITIONS

**R302.2 Exterior design conditions.** When using the total building performance or ERI method of compliance, the criteria shall be as set forth in Table C302.2.

**TABLE C302.2**  
**EXTERIOR DESIGN CONDITIONS**

| <b><u>CONDITION</u></b>                        | <b><u>VALUE</u></b> |
|--|---------------------|
| <u>Winter, design dry-bulb (E<sub>F</sub>)</u> | <u>28°F</u>         |
| <u>Summer, design dry-bulb</u>                 | <u>96°F</u>         |
| <u>Summer, design wet-bulb</u>                 | <u>80.5°F</u>       |
| <u>Degree days heating (base 65)</u>           | <u>1371</u>         |
| <u>Degree days cooling (base 50)</u>           | <u>7357</u>         |
| <u>Climate zone</u>                            | <u>2A</u>           |

# CHAPTER 4 [CE]

## COMMERCIAL ENERGY EFFICIENCY

### SECTION R402 BUILDING THERMAL ENVELOPE

**TABLE R402.1.2  
MAXIMUM ASSEMBLY U-FACTORS<sup>a</sup> AND FENESTRATION REQUIREMENTS**

| CLIMATE ZONE | FENESTRATION U-FACTOR <sup>f</sup> | SKYLIGHT U-FACTOR | GLAZED FENESTRATION SHGC <sup>d, e</sup> | ROOF/CEILING U-FACTOR | WOOD FRAME WALL U-FACTOR | MASS WALL U-FACTOR <sup>b</sup> | FLOOR U-FACTOR | BASEMENT WALL U-FACTOR | CRAWL SPACE WALL U-FACTOR |
|--------------|------------------------------------|-------------------|--|-----------------------|--------------------------|---------------------------------|----------------|------------------------|---------------------------|
|--------------|------------------------------------|-------------------|--|-----------------------|--------------------------|---------------------------------|----------------|------------------------|---------------------------|

EDITORIAL NOTE: ALL PORTIONS OF TABLE R402.1.2 NOT SHOWN REMAIN AS SET FORTH IN THE 2021 IECC.]

**TABLE R402.1.3  
INSULATION MINIMUM R-VALUES AND FENESTRATION REQUIREMENTS BY COMPONENT<sup>a</sup>**

| CLIMATE ZONE | FENESTRATION U-FACTOR <sup>b, i</sup> | SKYLIGHT U-FACTOR | GLAZED FENESTRATION SHGC <sup>b, e</sup> | ROOF/CEILING R-VALUE | WOOD FRAME WALL R-VALUE <sup>h</sup> | MASS WALL R-VALUE <sup>h</sup> | FLOOR R-VALUE | BASEMENT <sup>c, g</sup> WALL U-FACTOR | SLAB <sup>d</sup> R-VALUE & DEPTH | CRAWL SPACE <sup>c, g</sup> WALL R-VALUE |
|--------------|---------------------------------------|-------------------|--|----------------------|--------------------------------------|--------------------------------|---------------|--|-----------------------------------|--|
|--------------|---------------------------------------|-------------------|--|----------------------|--------------------------------------|--------------------------------|---------------|--|-----------------------------------|--|

EDITORIAL NOTE: ALL PORTIONS OF TABLE R402.1.3 NOT SHOWN REMAIN AS SET FORTH IN THE 2021 IECC.]

**R402.2.13 Air barrier requirement.** Insulation (including but not limited to loose fill, spray applied cellular fiber insulation as well as other blanket and batts insulation) installed in assemblies 60 degrees or more from the horizontal must be in substantial contact with an air barrier on all sides.

**Exception:** Air impermeable insulation. Air impermeable insulation is defined as: A material having an air permeance equal to or less than 0.02 L/s-m<sup>2</sup> at 75 Pa pressure differential, tested in accordance with ASTM E2178 or E283.

**R402.4.1.4 Sampling options for R-2 multifamily dwelling units.** For buildings with eight or more testing units that must be tested as required by R402.4.1.2 or R402.4.1.3, the greater of seven units or 20 percent of the testing units in the building shall be tested, including a top floor unit, a ground floor unit, a middle floor unit, and a unit with the largest testing unit enclosure area. For each tested unit that exceeds the maximum air leakage rate, an additional three units shall be tested, including a mixture of testing unit types and locations. Where buildings have fewer than eight testing units, each testing unit shall be tested.

**SECTION R403  
SYSTEMS**

**R403.3.8 Sampling options for R-2 multifamily dwelling units.** Sample Testing must follow Chapter 6 of the Mortgage Industry National Home Energy Rating Systems Standards. For buildings with eight or more testing units that must be tested as required by R403.3.5, the greater of seven units or 20 percent of the testing units in the building shall be tested, including a top floor unit, a ground floor unit, a middle floor unit, and a unit with the largest testing unit floor area. For each tested unit that exceeds the maximum duct leakage rate, an additional three units shall be tested, including a mixture of testing unit types and locations. Where buildings have fewer than eight testing units, each testing unit shall be tested.

**R403.6.4 Sampling options for R-2 multifamily dwelling units.** Sample Testing must follow Chapter 6 of the Mortgage Industry National Home Energy Rating Systems Standards. For buildings with eight or more testing units that must be tested as required by R403.6.3, the greater of seven units or 20 percent of the testing units in the building shall be tested, including a top floor unit, a ground floor unit, a middle floor unit, and a unit with the largest testing unit floor area. For each tested unit that does not meet the minimum ventilation rate, an additional three units shall be tested, including a mixture of testing unit types and location. Where building have fewer than eight testing units, each testing unit shall be tested.

**SECTION R406  
ENERGY RATING INDEX COMPLIANCE ALTERNATIVE**

**TABLE R406.5  
MAXIMUM ENERGY RATING INDEX**

| CLIMATE ZONE | ENERGY RATING INDEX  |
|--------------|--|
| 0-1          | 52   |
| 2            | <u>5259, Effective until August 31, 2025</u><br><u>57, Effective from September 1, 2025 to August 31, 2028</u><br><u>55, Effective from September 1, 2028 to September 1, 2031</u> |
| 3            | 51   |
| 4            | 54   |
| 5            | 55   |
| 6            | 54   |
| 7            | 53   |
| 8            | 53   |

# CHAPTER 5 [CE]

## EXISTING BUILDINGS

### SECTION R501 GENERAL

**R501.6 Historic buildings.** Provisions of this code relating to the construction, *repair, alteration*, restoration and movement of structures, and *change of occupancy* shall not be mandatory for *historic buildings* provided that a report has been submitted to the code official and signed by the owner, ~~a registered design professional~~, or a representative of the State Historic Preservation Office or the historic preservation authority having jurisdiction, demonstrating that compliance with that provision would threaten, degrade or destroy the historic form, fabric or function of the *building*.



# APPENDIX RB

## SOLAR-READY PROVISIONS—DETACHED ONE- AND TWO-FAMILY DWELLINGS AND TOWNHOUSES

*The provisions contained in this appendix are not-mandatory-unless specifically referenced in the adopting ordinance.*

**RB103.6 Capped roof penetration sleeve.** A capped roof penetration sleeve shall be provided indicated on the construction documents adjacent to a solar-ready zone located on a roof slope of not greater than 1 unit vertical in 12 units horizontal (8-percent slope). The capped roof penetration sleeve shall be sized to accommodate the future photovoltaic system conduit, but shall have an inside diameter of not less than 1¼ inches (32 mm).

**[EDITORIAL NOTE: ALL OTHER PROVISIONS OF THIS APPENDIX REMAIN AS SET FORTH IN 2021 IECC.]**

# APPENDIX RD

## ELECTRIC VEHICLE “EV” READY

### RESIDENTIAL PROVISIONS

EDITORIAL NOTE: THE PROVISIONS LOCATED IN THIS APPENDIX ARE OPTIONAL AND ARE NOT MANDATORY.]

#### SECTION RD101

##### DEFINITIONS

**ELECTRIC VEHICLE (EV).** An automotive-type vehicle for on-road use, such as passenger automobiles, buses, trucks, vans, neighborhood electric vehicles, and electric motorcycles, primarily powered by an electric motor that draws current from a building electrical service, EVSE, a rechargeable storage battery, a fuel cell, a photovoltaic array, or another source of electric current.

**ELECTRIC VEHICLE SUPPLY EQUIPMENT (EVSE).** Equipment for plug-in power transfer including the ungrounded, grounded and equipment grounding conductors, and the *electric vehicle* connectors, attached plugs, personal protection system and all other fittings, devices, power outlets or apparatus installed specifically for the purpose of transferring energy between the premises wiring and the *electric vehicle*.

**ELECTRIC VEHICLE READY SPACE (EV READY SPACE).** An *automobile parking space* that is provided with a branch circuit and either an outlet, junction box or receptacle, that will support an installed *EVSE*.

#### SECTION RD102

##### RESIDENTIAL EV-READY REQUIREMENTS

**RD102.1 Electric Vehicle Power Transfer Infrastructure.** New *automobile parking spaces* for one- and two-family dwellings and townhouses shall be provided in accordance with this section. All other new *residential* parking facilities shall be provided with electric vehicle power transfer infrastructure in accordance with Appendix CD.

**RD102.2 Quantity.** Each *dwelling unit* with a designated attached or detached garage or other onsite private parking provided adjacent to the *dwelling unit* shall be provided with one *EV ready space*.

**RD102.3 EV Ready Spaces.** Each branch circuit serving *EV ready spaces* used to comply with Section RD102.2 shall comply with all of the following:

1. Terminate at an outlet or enclosure located within 3 feet (914 mm) of each *EV ready space* it serves.
2. Have a minimum circuit capacity of 9.6 kVA (or 40A at 240V).
3. The panelboard or other electrical distribution equipment directory shall designate the branch circuit as “For electric vehicle supply equipment (EVSE)” and the outlet or enclosure shall be marked “For electric vehicle supply equipment (EVSE).”
4. Where a circuit is shared or managed, it shall be in accordance with NFPA 70.