



INDUSTRIALIZED HOUSING AND BUILDINGS

Code Amendments to the 2006 International Codes and 2008 NEC

Effective date of adoption October 31, 2008

Bold underlined text is new language, [~~Strike through text~~] is deleted language

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2008 National Electrical Code Amendments – §70.101(c)

110.14 Electrical Connections

Reference rule §70.101(e)(1)

Because of different characteristics of dissimilar metals, devices such as pressure terminal or pressure splicing connectors and soldering lugs shall be identified for the material of the conductor and shall be properly installed and used. Conductors of dissimilar metals shall not be intermixed in a terminal or splicing connector where physical contact occurs between dissimilar conductors (such as copper and aluminum, copper and copper-clad aluminum, or aluminum and copper-clad aluminum), unless the device is identified for the purpose and conditions of use. Materials such as solder, fluxes, inhibitors, and compounds, where employed, shall be suitable for the use and shall be of a type that will not adversely affect the conductors, installation, or equipment. **Aluminum and copper-clad aluminum conductors shall be terminated using approved compression-type crimp lugs with approved inhibitors.**

310.1 Scope.

Reference rule §70.101(e)(1)

This article covers general requirements for conductors and their type designations, insulations, markings, mechanical strengths, ampacity ratings, and uses. These requirements do not apply to conductors that form an integral part of equipment, such as motors, motor controllers, and similar equipment. **Aluminum and copper-clad aluminum shall not be used for branch circuits in buildings classified as a residential occupancy; aluminum and copper-clad aluminum conductors, of size number 4 AWG or larger, may be used in branch circuits in buildings classified as occupancies other than residential.**

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2006 International Building Code Amendments – §70.101(d)

101.1 Title.

Reference 70.101(d)(1)

These regulations shall be known as the Building Code of Texas Industrialized Housing and Buildings Program [NAME-OF-JURISDICTION], hereinafter referred to as “this code.”

101.3 Intent.

Reference 70.101(d)(2)

The purpose of this code is to establish the minimum requirements to safeguard the public health, safety and general welfare through structural strength, means of egress facilities, stability, sanitation, adequate light and ventilation, energy conservation, and safety to life and property from fire and other hazards attributed to the built environment and to provide safety to fire fighters and emergency responders during emergency operations. Where conflicts occur between the provisions of this code and the provisions of Chapter 1202 of the Occupations Code, Industrialized Housing and Buildings, or the provisions of 16 Texas Administrative Code, Chapter 70, rules governing the Texas Industrialized Housing and Buildings program, the provisions of Chapter 1202 of the Occupations Code and 16 Administrative Code, Chapter 70 shall control.

101.4 Referenced codes.

Reference 70.101(d)(3)

The other codes listed in Sections 101.4.1 through 101.4.8 [101.4.7] and referenced elsewhere in this code shall be considered part of the requirements of this code to the prescribed extent of each such reference. Whenever amendments have been adopted to the referenced codes and standards, each reference to said code and standard shall be considered to reference the amendment as well. Any reference to NFPA 70 or the ICC Electrical Code shall mean the Electrical Code as adopted.

101.4.8 Alterations.

Reference 70.101(d)(4)

The provisions of the International Existing Building Code shall apply to all matters governing the repair, alterations or additions, and changes of occupancy of existing previously occupied industrialized buildings that are designed to be transported from one commercial site to another commercial site.

102.6 Existing structures.

Reference 70.101(d)(6)

The legal occupancy of any structure existing on the date of adoption of this code shall be permitted to continue without change, except as is specifically covered in this code, the International Property Maintenance Code or the International Fire Code, or as is deemed necessary by the building official for the general safety and welfare of the occupants and the public. **Existing industrialized buildings that bear an approved certification decal or insignia in accordance with the requirements of Chapter 1202 of the Occupations Code and 16 Texas Administrative Code, Chapter 70, and that have not been altered or modified, shall be considered to be in compliance with the current mandatory building code adopted by the Texas Industrialized Building Code Council.**

104.1 General.

Reference 70.101(d)(5)

The building official is hereby authorized and directed to enforce the provisions of this code. The building official shall have the authority to render interpretations of this code and to adopt policies and procedures in order to clarify the application of its provisions. Such interpretations, policies and procedures shall be in compliance with the intent and purpose of this code. Such policies and procedures shall not have the effect of waiving requirements specifically provided for in this code. **The term building official as used in this code, or as used in the codes and standards referenced in this code, shall mean the Texas Commission of Licensing and Regulations, the executive director of the Texas Department of Licensing and Regulation, the Texas Industrialized Building Code Council, or the local building official in accordance with the powers and duties assigned to each in Chapter 1202 of the Occupations Code, Industrialized Housing and Buildings.**

110.1 Use and occupancy.

Reference 70.101(d)(7)

No building or structure shall be used or occupied, and no change in the existing occupancy classification of a building or structure or portion thereof shall be made until the **local** building official has issued a certificate of occupancy **in accordance with the locally adopted rules and regulations.** [~~therefor as provided herein.~~] Issuance of a certificate of occupancy shall not be construed as an approval of a violation of the provisions of this code or of other ordinances of the jurisdiction.

110.2 Certificate issued.

Reference 70.101(d)(8)

The local building official shall issue a certificate of occupancy in accordance with the locally adopted rules and regulations. [~~After the building official inspects the building or structure and finds no~~

~~violations of the provisions of this code or other laws that are enforced by the department of building safety, the building official shall issue a certificate of occupancy that contains the following:~~

- ~~1. The building permit number.~~
- ~~2. The address of the structure.~~
- ~~3. The name and address of the owner.~~
- ~~4. A description of that portion of the structure for which the certificate is issued.~~
- ~~5. A statement that the described portion of the structure has been inspected for compliance with the requirements of this code for the occupancy and division of occupancy and the use for which the proposed occupancy is classified.~~
- ~~6. The name of the building official.~~
- ~~7. The edition of the code under which the permit was issued.~~
- ~~8. The use and occupancy, in accordance with the provisions of Chapter 3.~~
- ~~9. The type of construction as defined in Chapter 6.~~
- ~~10. The design occupant load.~~
- ~~11. If an automatic sprinkler system is provided, whether the sprinkler system is required.~~
- ~~12. Any special stipulations and conditions of the building permit.]~~

110.3 Temporary occupancy.

Reference 70.101(d)(9)

The local building official shall issue a temporary certificate of occupancy in accordance with locally adopted rules and regulations. [~~The building official is authorized to issue a temporary certificate of~~

~~occupancy before the completion of the entire work covered by the permit, provided that such portion or portions shall be occupied safely. The building official shall set a time period during which the temporary certificate of occupancy is valid.]~~

110.4 Revocation.

Reference 70.101(d)(10)

The local building official may suspend or revoke a certificate of occupancy or completion issued under the provisions of this code in accordance with locally adopted rules and regulations. [~~The~~

~~building official is authorized to, in writing, suspend or revoke a certificate of occupancy or completion issued under the provisions of this code wherever the certificate is issued in error, or on the basis of incorrect information supplied, or where it is determined that the building or structure or portion thereof is in violation of any ordinance or regulation or any of the provisions of this code.]~~

311.3 Low-hazard storage, Group S-2.

Reference 70.101(d)(11)

Includes, among others, buildings used for the storage of noncombustible materials such as products on wood pallets or in paper cartons with or without single thickness divisions; or in paper wrappings. Such products are permitted to have a negligible amount of plastic trim, such as knobs, handles or film wrapping. Storage uses shall include, but not be limited to, storage of the following:

Aircraft hangar

Asbestos

Beverages up to and including 12-percent alcohol in metal, glass or ceramic containers

Cement in bags

Chalk and crayons

Dairy products in nonwaxed coated paper containers

Dry cell batteries

Electrical coils

Electrical motors

Empty cans

Equipment shelters

Food products

Foods in noncombustible containers

Fresh fruits and vegetables in nonplastic trays or containers

Frozen foods

Glass

Glass bottles, empty or filled with noncombustible liquids

Gypsum board

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Inert pigments
Ivory
Meats
Metal cabinets
Metal desks with plastic tops and trim
Metal parts
Metals
Mirrors
Oil-filled and other types of distribution transformers
Parking garages, open or enclosed
Porcelain and pottery
Stoves
Talc and soapstones
Washers and dryers

Chapter 11 Accessibility – Delete Sections 1102 through 1110.

Reference 70.101(d)(12)]

1101.2 Design.

Reference 70.101(d)(12)]

Buildings and facilities shall be designed and constructed to be accessible in accordance with this code and the **Texas Accessibility Standards (TAS)**^[ICC A117.1]. **Wherever reference elsewhere in this code is made to ICC A117.1, ICC/ANSI A117.1, or ANSI A117.1, the TAS of Texas Government Code, Chapter 469, Elimination of Architectural Barriers shall be substituted. Buildings subject to the requirements of the Texas Accessibility Standards are described in Administrative Rules of the Texas Department of Licensing and Regulation, 16 Texas Administrative Code, Chapter 68.**

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Chapter 35 – Revise referenced standards as shown in tables below.

Reference 70.101(d)(13)(A) and 70.101(d)(13)(D)

ICC		International Code Council, Inc. 500 New Jersey Ave, NW 6th Floor Washington, DC 20001
Standard Reference Number	Title	Referenced in code section number
ICC/ANSI A117.1—03	Accessible and Usable Buildings and Facilities	406.2.2, 907.9.1.4, 1007.6.5, 1010.1, 1010.6.5, 1010.9, 1011.3, 1101.2, 1102.1, 1103.2.14, 1106.7, 1107.2, 1108.2.2, 1109.1, 1109.2, 1109.2.1.1, 1109.2.2, 1109.3, 1109.4, 1109.8, 3001.3, 3409.6, 3409.8.2, 3409.8.3]
ICC 300—02	ICC Standard on Bleachers, Folding and Telescopic Seating and Grandstands	1025.1.1, 3401.1
ICC EC—06	ICC Electrical Code®	101.4.1, 107.3, 414.5.4, 415.8.2.8.1, 904.3.1, 907.5, 909.11, 909.12.1, 909.16.3, 1205.4.1, 1405.10.4, 2701.1, 2701.1, 3401.3
ICC IEBC –06	<u>International Existing Building Code®</u>	<u>101.4.8</u>

<u>TDLR</u>		<u>Texas Department of Licensing and Regulation</u> <u>PO Box 12157</u> <u>Austin, TX 78711</u>
<u>Standard Reference Number</u>	<u>Title</u>	<u>Referenced in code section number</u>
<u>TAS</u>	<u>Texas Accessibility Standards as adopted under 16 Administrative Code, Chapter 68</u>	<u>101.9, 308.6, 308.8.2, 308.8.3, 605.1, 605.1.2, 605.1.3</u>

NFPA		National Fire Protection Association 1 Batterymarch Park Quincy, MA 02169-7471
<u>Standard Reference Number</u>	<u>Title</u>	<u>Referenced in code section number</u>
<u>70-08</u>	<u>National Electric Code</u>	<u>101.4.8</u>

2006 International Fuel Gas Code Amendments – §70.101(e)

101.1 Title.

Reference 70.101(e)(1)

These regulations shall be known as the Fuel Gas Code of the Texas Department of Licensing and Regulation [NAME OF JURISDICTION], hereinafter referred to as “this code.”

101.4 Intent.

Reference 70.101(e)(2)

The purpose of this code is to provide minimum standards to safeguard life or limb, health, property and public welfare by regulating and controlling the design, construction, installation, quality of materials, location, operation and maintenance or use of fuel gas systems. Where conflicts occur between the provisions of this code and the provisions of Chapter 1202 of the Occupations Code, Industrialized Housing and Buildings, or the provisions of 16 Texas Administrative Code, Chapter 70, rules governing the Texas Industrialized Housing and Buildings program, the provisions of Chapter 1202 of the Occupations Code and 16 Administrative Code, Chapter 70 shall control.

102.7 Moved buildings.

Reference 70.101(e)(3)

The provisions of the *International Existing Building Code* shall apply to all matters governing the repair, alterations or additions, and changes of existing previously occupied industrialized buildings that are designed to be transported from one commercial site to another commercial site. [Except as determined by Section 102.2, installations that are a part of buildings or structures moved into or within the jurisdiction shall comply with the provisions of this code for new installations.]

102.8 Referenced codes and standards.

Reference 70.101(e)(4)

The codes and standards referenced in this code shall be those that are listed in Chapter 8 and such codes and standards shall be considered part of the requirements of this code to the prescribed extent of each such reference. Where differences occur between provisions of this code and the referenced standards, the provisions of this code shall apply. Whenever amendments have been adopted to the referenced codes and standards, each reference to said code and standard shall be considered to reference the amendments as well.

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Exception: Where enforcement of a code provision would violate the conditions of the listing of the equipment or appliance, the conditions of the listing and the manufacturer’s installation instructions shall apply.

Chapter 8 Referenced Standards – Revise referenced standards as shown in tables below.

Reference 70.101(e)(5)

ICC		International Code Council, Inc. 500 New Jersey Ave, NW 6th Floor Washington, DC 20001
Standard Reference Number	Title	Referenced in code section number
IEBC—06	International Existing Building Code®	101.2, <u>102.7</u>

2006 International Plumbing Code Amendments – §70.101(f)

101.1 Title.

Reference 70.101(f)(1)

These regulations shall be known as the International Plumbing Code of the Texas Department of Licensing and Regulation ~~[[NAME OF JURISDICTION]]~~, hereinafter referred to as “this code.”

101.3 Intent.

Reference 70.101(f)(2)

The purpose of this code is to provide minimum standards to safeguard life or limb, health, property and public welfare by regulating and controlling the design, construction, installation, quality of materials, location, operation and maintenance or use of plumbing equipment and systems. Where conflicts occur between the provisions of this code and the provisions of Chapter 1202 of the Occupations Code, Industrialized Housing and Buildings, or the provisions of 16 Texas Administrative Code, Chapter 70, rules governing the Texas Industrialized Housing and Buildings program, the provisions of Chapter 1202 of the Occupations Code and 16 Administrative Code, Chapter 70 shall control.

102.7 Moved buildings.

Reference 70.101(f)(3)

The provisions of the *International Existing Building Code* shall apply to all matters governing the repair, alterations or additions, and changes of existing previously occupied industrialized buildings that are designed to be transported from one commercial site to another commercial site. [Except as determined by Section 102.2, plumbing systems that are a part of buildings or structures moved into or within the jurisdiction shall comply with the provisions of this code for new installations.]

102.8 Referenced codes and standards.

Reference 70.101(f)(4)

The codes and standards referenced in this code shall be those that are listed in Chapter 13 and such codes and standards shall be considered as part of the requirements of this code to the prescribed extent of each such reference. Where the differences occur between provisions of this code and the referenced standards, the provisions of this code shall be the minimum requirements. Whenever amendments have been adopted to the referenced codes and standards, each reference to said code and standard shall be considered to reference the amendments as well.

Chapter 13 Referenced Standards – Revise referenced standards as shown in tables below.

Reference 70.101(f)(5)(A) and (B)

NFPA		National Fire Protection Association 1 Batterymarch Park Quincy, MA 02169-7471
Standard Reference Number	Title	Referenced in code section number
<u>70-08</u> [70-05]	National Electric Code	502.1, 504.3, 1113.1.3

ICC		International Code Council, Inc. 500 New Jersey Ave, NW 6th Floor Washington, DC 20001
Standard Reference Number	Title	Referenced in code section number
IEBC—06	International Existing Building Code®	101.2, <u>102.7</u>

2006 International Mechanical Code Amendments – §70.101(g)

101.1 Title.

Reference 70.101(g)(1)

These regulations shall be known as the International Mechanical Code of the Texas Department of Licensing and Regulation ~~[[NAME OF JURISDICTION]]~~, hereinafter referred to as “this code.”

101.3 Intent.

Reference 70.101(g)(2)

The purpose of this code is to provide minimum standards to safeguard life or limb, health, property and public welfare by regulating and controlling the design, construction, installation, quality of materials, location, operation and maintenance or use of mechanical systems. Where conflicts occur between the provisions of this code and the provisions of Chapter 1202 of the Occupations Code, Industrialized Housing and Buildings, or the provisions of 16 Texas Administrative Code, Chapter 70, rules governing the Texas Industrialized Housing and Buildings program, the provisions of Chapter 1202 of the Occupations Code and 16 Administrative Code, Chapter 70 shall control.

102.7 Moved buildings.

Reference 70.101(g)(3)

The provisions of the *International Existing Building Code* shall apply to all matters governing the repair, alterations or additions, and changes of existing previously occupied industrialized buildings that are designed to be transported from one commercial site to another commercial site. ~~[Except as determined by Section 102.2, mechanical systems that are a part of buildings or structures moved into or within the jurisdiction shall comply with the provisions of this code for new installations.]~~

102.8 Referenced codes and standards.

Reference 70.101(g)(4)

The codes and standards referenced herein shall be those that are listed in Chapter 15 and such codes and standards shall be considered as part of the requirements of this code to the prescribed extent of each such reference. Where differences occur between provisions of this code and the referenced standards, the provisions of this code shall apply. Whenever amendments have been adopted to the referenced codes and standards, each reference to said code and standard shall be considered to reference the amendments as well.

Chapter 15 Referenced Standards – Revise referenced standards as shown in tables below.

Reference 70.101(g)(5)

ICC		International Code Council, Inc. 500 New Jersey Ave, NW 6th Floor Washington, DC 20001
Standard Reference Number	Title	Referenced in code section number
IEBC—06	International Existing Building Code®	101.2, <u>102.7</u>

2006 International Residential Building Code Amendments – §70.101(h)

R101.1 Title.

Reference 70.101(h)(1)

These provisions shall be known as the Residential Code for One- and Two-family Dwellings of the Texas Department of Licensing and Regulation [{NAME-OF-JURISDICTION}], and shall be cited as such and will be referred to herein as “this code.”

R101.4 Referenced Codes – Electrical.

Reference 70.101(h)(2)

The provisions of the National Electrical Code, NFPA 70, shall apply to the installation of electrical systems, including alterations, repairs, replacement, equipment, appliances, fixtures, fittings and appurtenances thereto.

SECTION R202 – DEFINITIONS

Reference 70.101(h)(3) and (h)(4)

GLAZING AREA. Total area of the glazed fenestration measured using the rough opening and includes the sash, curbing or other framing elements that enclose conditioned space. In walls bounding conditioned basements, the glazing area includes the area of all glazed fenestration assemblies. For doors where the daylight opening area is less than 50 percent of the door area, the glazing area is the daylight opening area. For all other doors, the glazing area is the rough opening area for the door including the door and the frame.

TOWNHOUSE. A single-family dwelling unit constructed in a group of ~~three or more~~ attached units separated by property lines in which each unit extends from foundation to roof and with open space on at least two sides.

R301.2 Climatic and geographic design criteria.

Reference 70.101(h)(5)

Buildings shall be constructed in accordance with the provisions of this code as limited by the provisions of this section. Additional criteria shall be established by the local jurisdiction and set forth in Table R301.2(1). If no criteria has been established, or if there is no local jurisdiction to set the criteria, then the criteria shall be in accordance with the requirements set in the footnotes of Table R301.2(1).

R303.8 Required heating.

Reference 70.101(h)(6)

Every ~~[When the winter design temperature in Table R301.2(1) is below 60°F (16°C), every]~~ dwelling unit shall be provided with heating facilities capable of maintaining a minimum room temperature of 68°F (20°C) at a point 3 feet (914 mm) above the floor and 2 feet (610 mm) from exterior walls in all habitable rooms at the design temperature. The installation of one or more portable space heaters shall not be used to achieve compliance with this section.

R317.1 Two-family dwellings.

Reference 70.101(h)(7)

Dwelling units in two-family dwellings shall be separated from each other by wall and/or floor assemblies having not less than a 1-hour fire-resistance rating when tested in accordance with ASTM E 119. Fire-resistance-rated floor-ceiling and wall assemblies shall extend to and be tight against the exterior wall, and wall assemblies shall extend to the underside of the roof sheathing.

Exceptions:

1. A fire-resistance rating of ½ hour shall be permitted in buildings equipped throughout with an automatic sprinkler system installed in accordance with NFPA 13.
2. Wall assemblies need not extend through attic spaces when the ceiling is protected by not less than 5/8-inch (15.9 mm) Type X gypsum board and an attic draft stop constructed as specified in Section R502.12.1 is provided above and along the wall assembly separating the dwellings. The structural framing supporting the ceiling shall also be protected by not less than 1/2 -inch (12.7 mm) gypsum board or equivalent.

3. Two-family dwelling units that are also divided by a property line through the structure shall be separated as required for townhouses.

N1101.2.1 Warm humid counties.

Reference 70.101(h)(8)

Warm humid counties for Texas are listed in Table N1101.2.2 and are listed in Table N1101.2.1 for other locations.

N1101.2.2 Compliance software tools.

Reference 70.101(h)(9)

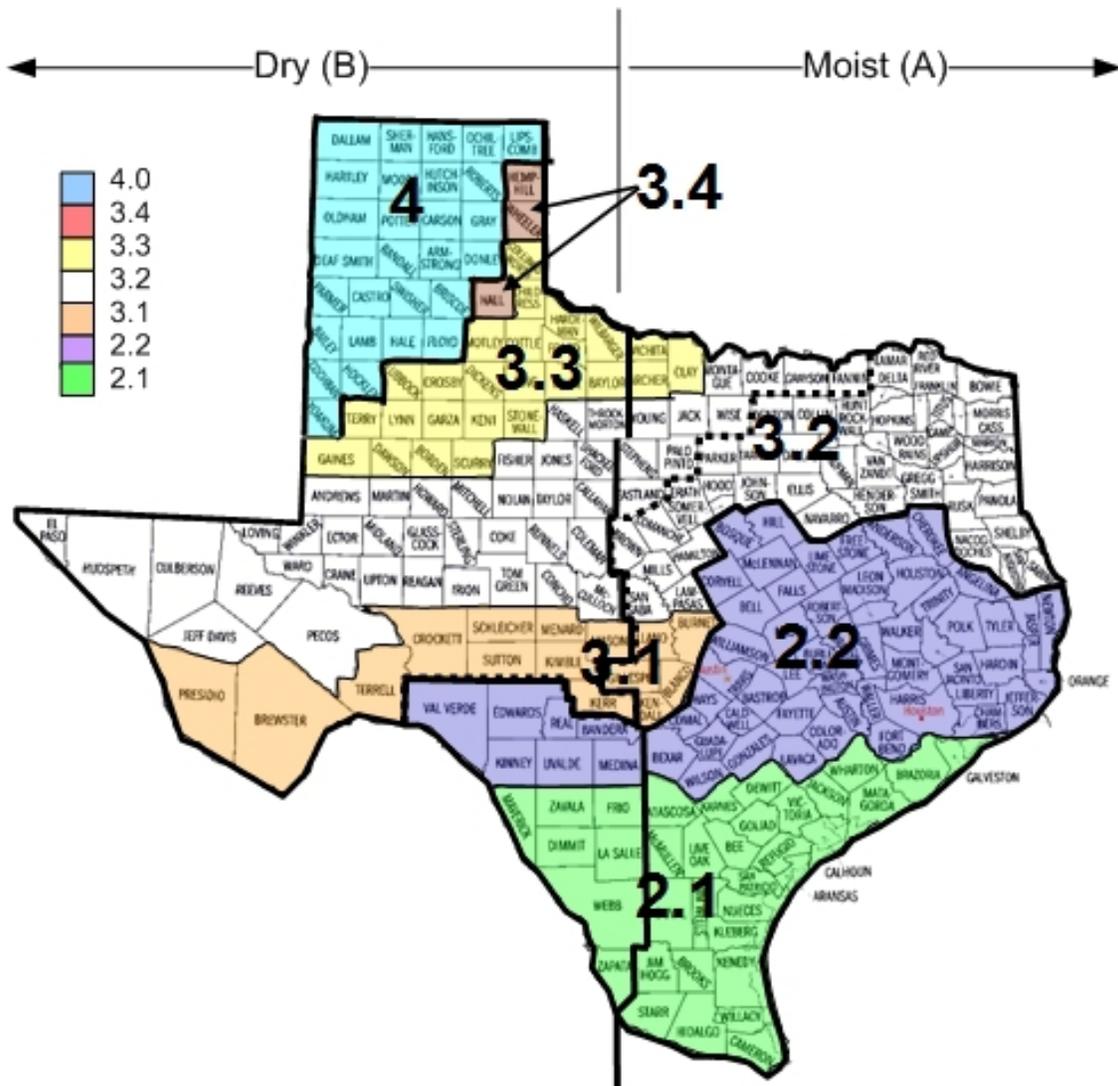
N1101.2.2 Compliance software tools.

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Software tools to demonstrate energy code compliance may be used if deemed acceptable by the code official or other authority having jurisdiction. The PNNL software program RESCheck may be used to demonstrate energy code compliance provided the code checked to is the 2003 IECC. The International Code Compliance Calculator (ICCC) from the Texas Energy System Laboratory may be used to demonstrate energy code compliance.

Amend Figure N1101.2 Climate Zones by replacing the map of Texas with the map of Texas shown below.

Reference 70.101(h)(10) – Exhibit 1



Delete climate zones for Texas and all the climate zones listed for Texas from “Table N1101.2 Climate Zones by States and Counties” and add the new section “Climate Zones and Sub-Climate Zones for Texas” to Table N1101.2 as shown below.

Reference 70.101(h)(11) – Exhibit 2

Table N1101.2--CLIMATE ZONES BY STATES AND COUNTIES

CLIMATE ZONES AND SUB CLIMATE ZONES FOR TEXAS

<u>Zone 2</u>							
<u>ANDERSON</u>	<u>2.2</u>	<u>DE WITT</u>	<u>2.1</u>	<u>JIM HOGG</u>	<u>2.1</u>	<u>ORANGE</u>	<u>2.2</u>
<u>ANGELINA</u>	<u>2.2</u>	<u>DIMITT</u>	<u>2.1</u>	<u>JIM WELLS</u>	<u>2.1</u>	<u>POLK</u>	<u>2.2</u>
<u>ARANSAS</u>	<u>2.1</u>	<u>DUVAL</u>	<u>2.1</u>	<u>KARNES</u>	<u>2.1</u>	<u>REAL</u>	<u>2.2</u>
<u>ATASCOSA</u>	<u>2.1</u>	<u>EDWARDS</u>	<u>2.2</u>	<u>KENEDY</u>	<u>2.1</u>	<u>REFUGIO</u>	<u>2.1</u>
<u>AUSTIN</u>	<u>2.2</u>	<u>FALLS</u>	<u>2.2</u>	<u>KINNEY</u>	<u>2.2</u>	<u>ROBERTSON</u>	<u>2.2</u>
<u>BANDERA</u>	<u>2.2</u>	<u>FAYETTE</u>	<u>2.2</u>	<u>KLEBERG</u>	<u>2.1</u>	<u>SAN JACINTO</u>	<u>2.2</u>
<u>BASTROP</u>	<u>2.2</u>	<u>FORT BEND</u>	<u>2.2</u>	<u>LA SALLE</u>	<u>2.1</u>	<u>SAN PATRICIO</u>	<u>2.1</u>
<u>BEE</u>	<u>2.1</u>	<u>FREESTONE</u>	<u>2.2</u>	<u>LAVACA</u>	<u>2.2</u>	<u>STARR</u>	<u>2.1</u>
<u>BELL</u>	<u>2.2</u>	<u>FRIO</u>	<u>2.1</u>	<u>LEE</u>	<u>2.2</u>	<u>TRAVIS</u>	<u>2.2</u>
<u>BEXAR</u>	<u>2.2</u>	<u>GALVESTON</u>	<u>2.1</u>	<u>LEON</u>	<u>2.2</u>	<u>TRINITY</u>	<u>2.2</u>
<u>BOSQUE</u>	<u>2.2</u>	<u>GOLIAD</u>	<u>2.1</u>	<u>LIBERTY</u>	<u>2.2</u>	<u>TYLER</u>	<u>2.2</u>
<u>BRAZORIA</u>	<u>2.1</u>	<u>GONZALES</u>	<u>2.2</u>	<u>LIMESTONE</u>	<u>2.2</u>	<u>UVALDE</u>	<u>2.2</u>
<u>BRAZOS</u>	<u>2.2</u>	<u>GRIMES</u>	<u>2.2</u>	<u>LIVE OAK</u>	<u>2.1</u>	<u>VAL VERDE</u>	<u>2.2</u>
<u>BROOKS</u>	<u>2.1</u>	<u>GUADALUPE</u>	<u>2.2</u>	<u>MADISON</u>	<u>2.2</u>	<u>VICTORIA</u>	<u>2.1</u>
<u>BURLESON</u>	<u>2.2</u>	<u>HARDIN</u>	<u>2.2</u>	<u>MATAGORDA</u>	<u>2.1</u>	<u>WALKER</u>	<u>2.2</u>
<u>CALDWELL</u>	<u>2.2</u>	<u>HARRIS</u>	<u>2.2</u>	<u>MAVERICK</u>	<u>2.1</u>	<u>WALLER</u>	<u>2.2</u>
<u>CALHOUN</u>	<u>2.1</u>	<u>HAYS</u>	<u>2.2</u>	<u>MCLENNAN</u>	<u>2.2</u>	<u>WASHINGTON</u>	<u>2.2</u>
<u>CAMERON</u>	<u>2.1</u>	<u>HIDALGO</u>	<u>2.1</u>	<u>MCMULLEN</u>	<u>2.1</u>	<u>WEBB</u>	<u>2.1</u>
<u>CHAMBERS</u>	<u>2.2</u>	<u>HILL</u>	<u>2.2</u>	<u>MEDINA</u>	<u>2.2</u>	<u>WHARTON</u>	<u>2.1</u>
<u>CHEROKEE</u>	<u>2.2</u>	<u>HOUSTON</u>	<u>2.2</u>	<u>MILAM</u>	<u>2.2</u>	<u>WILLACY</u>	<u>2.1</u>
<u>COLORADO</u>	<u>2.2</u>	<u>JACKSON</u>	<u>2.1</u>	<u>MONTGOMERY</u>	<u>2.2</u>	<u>WILLIAMSON</u>	<u>2.2</u>
<u>COMAL</u>	<u>2.2</u>	<u>JASPER</u>	<u>2.2</u>	<u>NEWTON</u>	<u>2.2</u>	<u>WILSON</u>	<u>2.2</u>
<u>CORYELL</u>	<u>2.2</u>	<u>JEFFERSON</u>	<u>2.2</u>	<u>NUECES</u>	<u>2.1</u>	<u>ZAPATA</u>	<u>2.1</u>
<u>Zone 3</u>							
<u>ANDREWS</u>	<u>3.2</u>	<u>EL PASO</u>	<u>3.2</u>	<u>KERR</u>	<u>3.1</u>	<u>ROCKWALL</u>	<u>3.2</u>
<u>ARCHER</u>	<u>3.3</u>	<u>ELLIS</u>	<u>3.2</u>	<u>KIMBLE</u>	<u>3.1</u>	<u>RUNNELS</u>	<u>3.2</u>
<u>BAYLOR</u>	<u>3.3</u>	<u>ERATH</u>	<u>3.2</u>	<u>KING</u>	<u>3.3</u>	<u>RUSK</u>	<u>3.2</u>
<u>BLANCO</u>	<u>3.1</u>	<u>FANNIN</u>	<u>3.2</u>	<u>KNOX</u>	<u>3.3</u>	<u>SABINE</u>	<u>3.2</u>
<u>BORDEN</u>	<u>3.3</u>	<u>FISHER</u>	<u>3.2</u>	<u>LAMAR</u>	<u>3.2</u>	<u>SAN AUGUSTINE</u>	<u>3.2</u>
<u>BOWIE</u>	<u>3.2</u>	<u>FOARD</u>	<u>3.3</u>	<u>LAMPASAS</u>	<u>3.2</u>	<u>SAN SABA</u>	<u>3.2</u>
<u>BREWSTER</u>	<u>3.1</u>	<u>FRANKLIN</u>	<u>3.2</u>	<u>LLANO</u>	<u>3.1</u>	<u>SCHLEICHER</u>	<u>3.1</u>
<u>BROWN</u>	<u>3.2</u>	<u>GAINES</u>	<u>3.3</u>	<u>LOVING</u>	<u>3.2</u>	<u>SCURRY</u>	<u>3.3</u>
<u>BURNET</u>	<u>3.1</u>	<u>GARZA</u>	<u>3.3</u>	<u>LUBBOCK</u>	<u>3.3</u>	<u>SHACKELFORD</u>	<u>3.2</u>
<u>CALLAHAN</u>	<u>3.2</u>	<u>GILLESPIE</u>	<u>3.1</u>	<u>LYNN</u>	<u>3.3</u>	<u>SHELBY</u>	<u>3.2</u>
<u>CAMP</u>	<u>3.2</u>	<u>GLASSCOCK</u>	<u>3.2</u>	<u>MARION</u>	<u>3.2</u>	<u>SMITH</u>	<u>3.2</u>
<u>CASS</u>	<u>3.2</u>	<u>GRAYSON</u>	<u>3.2</u>	<u>MARTIN</u>	<u>3.2</u>	<u>SOMERVELL</u>	<u>3.2</u>
<u>CHILDRESS</u>	<u>3.3</u>	<u>GREGG</u>	<u>3.2</u>	<u>MASON</u>	<u>3.1</u>	<u>STEPHENS</u>	<u>3.2</u>
<u>CLAY</u>	<u>3.3</u>	<u>HALL</u>	<u>3.4</u>	<u>MCCULLOCH</u>	<u>3.2</u>	<u>STERLING</u>	<u>3.2</u>
<u>COKE</u>	<u>3.2</u>	<u>HAMILTON</u>	<u>3.2</u>	<u>MENARD</u>	<u>3.1</u>	<u>STONEWALL</u>	<u>3.3</u>
<u>COLEMAN</u>	<u>3.2</u>	<u>HARDEMAN</u>	<u>3.3</u>	<u>MIDLAND</u>	<u>3.2</u>	<u>SUTTON</u>	<u>3.1</u>
<u>COLLIN</u>	<u>3.2</u>	<u>HARRISON</u>	<u>3.2</u>	<u>MILLS</u>	<u>3.2</u>	<u>TARRANT</u>	<u>3.2</u>
<u>COLLINGSWORTH</u>	<u>3.3</u>	<u>HASKELL</u>	<u>3.2</u>	<u>MITCHELL</u>	<u>3.2</u>	<u>TAYLOR</u>	<u>3.2</u>
<u>COMANCHE</u>	<u>3.2</u>	<u>HEMPHILL</u>	<u>3.4</u>	<u>MONTAGUE</u>	<u>3.2</u>	<u>TERRELL</u>	<u>3.1</u>
<u>CONCHO</u>	<u>3.2</u>	<u>HENDERSON</u>	<u>3.2</u>	<u>MORRIS</u>	<u>3.2</u>	<u>TERRY</u>	<u>3.3</u>
<u>COOKE</u>	<u>3.2</u>	<u>HOOD</u>	<u>3.2</u>	<u>MOTLEY</u>	<u>3.3</u>	<u>THROCKMORTON</u>	<u>3.2</u>
<u>COTTLE</u>	<u>3.3</u>	<u>HOPKINS</u>	<u>3.2</u>	<u>NACOGDOCHES</u>	<u>3.2</u>	<u>TITUS</u>	<u>3.2</u>
<u>CRANE</u>	<u>3.2</u>	<u>HOWARD</u>	<u>3.2</u>	<u>NAVARRO</u>	<u>3.2</u>	<u>TOM GREEN</u>	<u>3.2</u>
<u>CROCKETT</u>	<u>3.1</u>	<u>HUDSPETH</u>	<u>3.2</u>	<u>NOLAN</u>	<u>3.2</u>	<u>UPSHUR</u>	<u>3.2</u>

*Industrialized Housing and Buildings
Code Amendments for the 2006 International Codes and the 2008 NEC
Effective Date: October 31, 2008*

CLIMATE ZONES AND SUB CLIMATE ZONES FOR TEXAS

Zone 3 (continued)							
<u>CROSBY</u>	<u>3.3</u>	<u>HUNT</u>	<u>3.2</u>	<u>PALO PINTO</u>	<u>3.2</u>	<u>UPTON</u>	<u>3.2</u>
<u>CULBERSON</u>	<u>3.2</u>	<u>IRION</u>	<u>3.2</u>	<u>PANOLA</u>	<u>3.2</u>	<u>VAN ZANDT</u>	<u>3.2</u>
<u>DALLAS</u>	<u>3.2</u>	<u>JACK</u>	<u>3.2</u>	<u>PARKER</u>	<u>3.2</u>	<u>WARD</u>	<u>3.2</u>
<u>DAWSON</u>	<u>3.3</u>	<u>JEFF DAVIS</u>	<u>3.2</u>	<u>PECOS</u>	<u>3.2</u>	<u>WHEELER</u>	<u>3.4</u>
<u>DELTA</u>	<u>3.2</u>	<u>JOHNSON</u>	<u>3.2</u>	<u>PRESIDIO</u>	<u>3.1</u>	<u>WICHITA</u>	<u>3.3</u>
<u>DENTON</u>	<u>3.2</u>	<u>JONES</u>	<u>3.2</u>	<u>RAINS</u>	<u>3.2</u>	<u>WILBARGER</u>	<u>3.3</u>
<u>DICKENS</u>	<u>3.3</u>	<u>KAUFMAN</u>	<u>3.2</u>	<u>REAGAN</u>	<u>3.2</u>	<u>WINKLER</u>	<u>3.2</u>
<u>EASTLAND</u>	<u>3.2</u>	<u>KENDALL</u>	<u>3.1</u>	<u>RED RIVER</u>	<u>3.2</u>	<u>WISE</u>	<u>3.2</u>
<u>ECTOR</u>	<u>3.2</u>	<u>KENT</u>	<u>3.3</u>	<u>REEVES</u>	<u>3.2</u>	<u>WOOD</u>	<u>3.2</u>
						<u>YOUNG</u>	<u>3.2</u>
Zone 4							
<u>ARMSTRONG</u>		<u>DEAF SMITH</u>		<u>HOCKLEY</u>		<u>PARMER</u>	
<u>BAILEY</u>		<u>DONLEY</u>		<u>HUTCHINSON</u>		<u>POTTER</u>	
<u>BRISCOE</u>		<u>FLOYD</u>		<u>LAMB</u>		<u>RANDALL</u>	
<u>CARSON</u>		<u>GRAY</u>		<u>LIPSCOMB</u>		<u>ROBERTS</u>	
<u>CASTRO</u>		<u>HALE</u>		<u>MOORE</u>		<u>SHERMAN</u>	
<u>COCHRAN</u>		<u>HANSFORD</u>		<u>OCHILTREE</u>		<u>SWISHER</u>	
<u>DALLAM</u>		<u>HARTLEY</u>		<u>OLDHAM</u>		<u>YOAKUM</u>	

Delete the climate zones for Texas from “Table N1101.2.1 Warm Humid Counties.” Add new “Table N1101.2.2 Warm Humid Counties for Texas” as shown below.

Reference 70.101(h)(12)

TABLE N1102.2.2 WARM HUMID COUNTIES FOR TEXAS

<u>ANDERSON</u>	<u>2.2</u>	<u>DUVAL</u>	<u>2.1</u>	<u>KAUFMAN</u>	<u>3.2</u>	<u>RED RIVER</u>	<u>3.2</u>
<u>ANGELINA</u>	<u>2.2</u>	<u>EDWARDS</u>	<u>2.2</u>	<u>KENDALL</u>	<u>3.1</u>	<u>REAL</u>	<u>2.2</u>
<u>ARANSAS</u>	<u>2.1</u>	<u>ELLIS</u>	<u>3.2</u>	<u>KENEDY</u>	<u>2.1</u>	<u>REFUGIO</u>	<u>2.1</u>
<u>ATASCOSA</u>	<u>2.1</u>	<u>ERATH</u>	<u>3.2</u>	<u>KINNEY</u>	<u>2.2</u>	<u>ROBERTSON</u>	<u>2.2</u>
<u>AUSTIN</u>	<u>2.2</u>	<u>FALLS</u>	<u>2.2</u>	<u>KLEBERG</u>	<u>2.1</u>	<u>ROCKWALL</u>	<u>3.2</u>
<u>BANDERA</u>	<u>2.2</u>	<u>FAYETTE</u>	<u>2.2</u>	<u>LA SALLE</u>	<u>2.1</u>	<u>RUSK</u>	<u>3.2</u>
<u>BASTROP</u>	<u>2.2</u>	<u>FORT BEND</u>	<u>2.2</u>	<u>LAMAR</u>	<u>3.2</u>	<u>SABINE</u>	<u>3.2</u>
<u>BEE</u>	<u>2.1</u>	<u>FRANKLIN</u>	<u>3.2</u>	<u>LAMPASAS</u>	<u>3.2</u>	<u>SAN AUGUSTINE</u>	<u>3.2</u>
<u>BELL</u>	<u>2.2</u>	<u>FREESTONE</u>	<u>2.2</u>	<u>LAVACA</u>	<u>2.2</u>	<u>SAN JACINTO</u>	<u>2.2</u>
<u>BEXAR</u>	<u>2.2</u>	<u>FRIO</u>	<u>2.1</u>	<u>LEE</u>	<u>2.2</u>	<u>SAN PATRICIO</u>	<u>2.1</u>
<u>BLANCO</u>	<u>3.1</u>	<u>GALVESTON</u>	<u>2.1</u>	<u>LEON</u>	<u>2.2</u>	<u>SAN SABA</u>	<u>3.2</u>
<u>BOSQUE</u>	<u>2.2</u>	<u>GILLESPIE</u>	<u>3.1</u>	<u>LLANO</u>	<u>3.1</u>	<u>SHELBY</u>	<u>3.2</u>
<u>BOWIE</u>	<u>3.2</u>	<u>GOLIAD</u>	<u>2.1</u>	<u>LIBERTY</u>	<u>2.2</u>	<u>SMITH</u>	<u>3.2</u>
<u>BRAZORIA</u>	<u>2.1</u>	<u>GONZALES</u>	<u>2.2</u>	<u>LIMESTONE</u>	<u>2.2</u>	<u>STARR</u>	<u>2.1</u>
<u>BROWN</u>	<u>3.2</u>	<u>GREGG</u>	<u>3.2</u>	<u>LIVE OAK</u>	<u>2.1</u>	<u>SOMMERVELL</u>	<u>3.2</u>
<u>BRAZOS</u>	<u>2.2</u>	<u>GRIMES</u>	<u>2.2</u>	<u>MADISON</u>	<u>2.2</u>	<u>TARRANT</u>	<u>3.2</u>
<u>BROOKS</u>	<u>2.1</u>	<u>GUADALUPE</u>	<u>2.2</u>	<u>MARION</u>	<u>3.2</u>	<u>TITUS</u>	<u>3.2</u>
<u>BURLESON</u>	<u>2.2</u>	<u>HAMILTON</u>	<u>3.2</u>	<u>MATAGORDA</u>	<u>2.1</u>	<u>TRAVIS</u>	<u>2.2</u>
<u>BURNET</u>	<u>3.1</u>	<u>HARDIN</u>	<u>2.2</u>	<u>MAVERICK</u>	<u>2.1</u>	<u>TRINITY</u>	<u>2.2</u>
<u>CALDWELL</u>	<u>2.2</u>	<u>HARRIS</u>	<u>2.2</u>	<u>MCLENNAN</u>	<u>2.2</u>	<u>TYLER</u>	<u>2.2</u>
<u>CALHOUN</u>	<u>2.1</u>	<u>HARRISON</u>	<u>3.2</u>	<u>MCMULLEN</u>	<u>2.1</u>	<u>UPSHUR</u>	<u>3.2</u>
<u>CAMERON</u>	<u>2.1</u>	<u>HAYS</u>	<u>2.2</u>	<u>MEDINA</u>	<u>2.2</u>	<u>UVALDE</u>	<u>2.2</u>
<u>CHAMBERS</u>	<u>2.2</u>	<u>HENDERSON</u>	<u>3.2</u>	<u>MILAM</u>	<u>2.2</u>	<u>VAL VERDE</u>	<u>2.2</u>
<u>CAMP</u>	<u>3.2</u>	<u>HIDALGO</u>	<u>2.1</u>	<u>MILLS</u>	<u>3.2</u>	<u>VAN ZANDT</u>	<u>3.2</u>
<u>CASS</u>	<u>3.2</u>	<u>HOOD</u>	<u>3.2</u>	<u>MONTGOMERY</u>	<u>2.2</u>	<u>VICTORIA</u>	<u>2.1</u>
<u>CHEROKEE</u>	<u>2.2</u>	<u>HOPKINS</u>	<u>3.2</u>	<u>MORRIS</u>	<u>3.2</u>	<u>WALKER</u>	<u>2.2</u>
<u>COLLIN</u>	<u>3.2</u>	<u>HILL</u>	<u>2.2</u>	<u>NACOGDOCHES</u>	<u>3.2</u>	<u>WALLER</u>	<u>2.2</u>
<u>COLORADO</u>	<u>2.2</u>	<u>HOUSTON</u>	<u>2.2</u>	<u>NAVARRO</u>	<u>3.2</u>	<u>WASHINGTON</u>	<u>2.2</u>
<u>COMAL</u>	<u>2.2</u>	<u>HUNT</u>	<u>3.2</u>	<u>NEWTON</u>	<u>2.2</u>	<u>WEBB</u>	<u>2.1</u>
<u>COMANCHE</u>	<u>3.2</u>	<u>JACKSON</u>	<u>2.1</u>	<u>NUECES</u>	<u>2.1</u>	<u>WHARTON</u>	<u>2.1</u>

TABLE N1102.2.2 WARM HUMID COUNTIES FOR TEXAS

<u>CORYELL</u>	<u>2.2</u>	<u>JASPER</u>	<u>2.2</u>	<u>ORANGE</u>	<u>2.2</u>	<u>WILLACY</u>	<u>2.1</u>
<u>DALLAS</u>	<u>3.2</u>	<u>JEFFERSON</u>	<u>2.2</u>	<u>PALO PINTO</u>	<u>3.2</u>	<u>WILLIAMSON</u>	<u>2.2</u>
<u>DELTA</u>	<u>3.2</u>	<u>JIM HOGG</u>	<u>2.1</u>	<u>PANOLA</u>	<u>3.2</u>	<u>WILSON</u>	<u>2.2</u>
<u>DENTON</u>	<u>3.2</u>	<u>JIM WELLS</u>	<u>2.1</u>	<u>PARKER</u>	<u>3.2</u>	<u>WOOD</u>	<u>3.2</u>
<u>DE WITT</u>	<u>2.1</u>	<u>JOHNSON</u>	<u>3.2</u>	<u>POLK</u>	<u>2.2</u>	<u>ZAPATA</u>	<u>2.1</u>
<u>DIMITT</u>	<u>2.1</u>	<u>KARNES</u>	<u>2.1</u>	<u>RAINS</u>	<u>3.2</u>	<u>ZAVALA</u>	<u>2.1</u>

N1101.7 Above code programs.

Reference 70.101(h)(13)

A building certified by a national, state, or local accredited energy efficiency program and determined by the Energy Systems Laboratory to be in compliance with the energy efficiency requirements of Chapter 388 of the Texas Health and Safety Code may be considered in compliance if deemed acceptable by the code official or other authority having jurisdiction. [~~The building official or other authority having jurisdiction shall be permitted to deem a national, state or local energy efficiency program to exceed the energy efficiency required by this chapter. Buildings approved in writing by such an energy efficiency program shall be considered in compliance with this chapter.~~]

N1102.1 Insulation and fenestration criteria.

Reference 70.101(h)(14)

The building thermal envelope shall meet the requirements of Table N1102.1 based on the climate zone specified in Table N1101.2. **When compliance using Table 1102.1 is demonstrated with a ceiling R-value of R30 or less, no more than 33% of the total projected ceiling area may be of cathedral type construction (ceiling joist/roof rafter assembly) and the required insulation R-value may be reduced to a minimum of R22 insulation when the remaining ceiling area insulation is increased to R38.**

*Industrialized Housing and Buildings
Code Amendments for the 2006 International Codes and the 2008 NEC
Effective Date: October 31, 2008*

Replace “Table N1102.1 Insulation and Fenestration Requirements by Component” with new “Table N1102.1 Insulation and Fenestration Requirements by Component (Texas)” as shown below.

Reference 70.101(h)(15)

**IRC TABLE N1102.1 and IECC TABLE 402.1.1
INSULATION AND FENESTRATION REQUIREMENTS BY COMPONENT (TEXAS)^a**

CLIMATE - SUB CLIMATE ZONE	MAX GLAZED AREA TO WALL AREA RATIO	MAX GLAZED FENESTRATION U-FACTOR	MAX SKYLIGHT U-FACTOR ^b	MAX GLAZED FENESTRATION SHGC	MIN CEILING R-VALUE	MIN WOOD FRAME WALL R-VALUE ^a	MASS WALL R-VALUE	MIN FLOOR R-VALUE	MIN BASEMENT WALL R-VALUE	MIN SLAB R-VALUE & DEPTH ^c	MIN CRAWL SPACE WALL R-VALUE
2.1	15	0.75	0.75	0.38	19	13	6	19	0	0	5
	20	0.70	0.75	0.38	30	13	6	19	0	0	5
	25	0.65	0.75	0.35	30	13	6	19	0	0	5
	30	0.54	0.75	0.35	38	13	6	19	0	0	5
2.2	15	0.65	0.75	0.38	30	13	6	19	5	0	6
	20	0.65	0.75	0.38	38	13	6	19	6	0	6
	25	0.54	0.75	0.35	38	13	6	19	8	0	10
	30	0.46	0.75	0.35	38	16, 13 + 3.7 ^e	6	19	8	0	10
3.1	15	0.65	0.65	0.40	30	13	6	19	5	0	6
	20	0.55	0.65	0.40	38	13	6	19	5	0	6
	25	0.54	0.65	0.35	38	13	6	19	8	0	10
	30	0.46	0.65	0.35	38	16, 13 + 3.7 ^e	7	19	8	0	10
3.2	15	0.60	0.65	0.40	30	13	6	19	6	0	7
	20	0.54	0.65	0.40	38	13	6	19	6	0	7
	25	0.51	0.65	0.40	38	16 or 13 + 3.7 ^e	7	19	6	0	7
	30	0.46	0.65	0.38	38	16 or 13 + 3.7 ^e	7	19	6	0	7
3.3	15	0.51	0.65	0.40	30	13	6	19	7	0	8
	20	0.45	0.65	0.40	38	13	6	19	7	0	9
	25	0.40	0.65	0.40	38	16 or 13 + 3.7 ^e	7	19	7	0	9
	30	0.40	0.65	0.40	38	19 or 13 + 8.1 ^e	9	19	7	0	9
3.4	15	0.45	0.60	NR	38	13	6	19	8	5, 2 ft	11
	20	0.37	0.60	NR	38	13	6	19	8	6, 2 ft	13
	25	0.37	0.60	NR	38	19 or 13 + 8.1 ^e	9	19	8	6, 2 ft	13
	30	0.37	0.60	NR	38	19 or 13 + 8.1 ^e	9	30	8	6, 2 ft	13
4	15	0.45	0.60	NR	38	13	8	19	8	5, 2 ft	11
	20	0.37	0.60	NR	38	13	8	19	9	6, 2 ft	13
	25	0.37	0.60	NR	38	19 or 13 + 8.1 ^e	10	19	9	6, 2 ft	13
	30	0.37	0.60	NR	38	19 or 13 + 8.1 ^e	10	30	9	6, 2 ft	13

Replace “Table N1102.1.2 Equivalent U-Factors” with new “Table N1102.1.2 Equivalent U-Factors (Texas)” as shown below.

Reference 70.101(h)(16)

TABLE N1102.1.2 – EQUIVALENT U-FACTORS^a (TEXAS)

<u>Climate- Sub Climate Zone</u>	<u>Max Glazed Area to Wall Area Ratio</u>	<u>Max Glazed Fenestration U- Factor</u>	<u>Max Skylight U-Factor</u>	<u>Max Ceiling U-Factor</u>	<u>Max Wood Frame Wall U-Factor</u>	<u>Max Mass Wall U- Factor</u>	<u>Max Floor U- Factor</u>	<u>Max Basement U-Factor</u>	<u>Max Crawl Space Wall U-Factor</u>
2.1	<u>15</u>	<u>0.75</u>	<u>0.75</u>	<u>0.039</u>	<u>0.082</u>	<u>0.124</u>	<u>0.047</u>	<u>0.360</u>	<u>0.136</u>
	<u>20</u>	<u>0.65</u>	<u>0.75</u>	<u>0.030</u>	<u>0.082</u>	<u>0.124</u>	<u>0.047</u>	<u>0.210</u>	<u>0.100</u>
	<u>25</u>	<u>0.54</u>	<u>0.75</u>	<u>0.030</u>	<u>0.082</u>	<u>0.124</u>	<u>0.047</u>	<u>0.119</u>	<u>0.065</u>
	<u>30</u>	<u>0.46</u>	<u>0.65</u>	<u>0.030</u>	<u>0.071</u>	<u>0.112</u>	<u>0.047</u>	<u>0.119</u>	<u>0.065</u>
2.2	<u>15</u>	<u>0.65</u>	<u>0.75</u>	<u>0.034</u>	<u>0.082</u>	<u>0.124</u>	<u>0.047</u>	<u>0.210</u>	<u>0.100</u>
	<u>20</u>	<u>0.65</u>	<u>0.75</u>	<u>0.030</u>	<u>0.082</u>	<u>0.124</u>	<u>0.047</u>	<u>0.210</u>	<u>0.100</u>
	<u>25</u>	<u>0.54</u>	<u>0.75</u>	<u>0.030</u>	<u>0.082</u>	<u>0.124</u>	<u>0.047</u>	<u>0.119</u>	<u>0.065</u>
	<u>30</u>	<u>0.46</u>	<u>0.75</u>	<u>0.030</u>	<u>0.071</u>	<u>0.124</u>	<u>0.047</u>	<u>0.119</u>	<u>0.065</u>
3.1	<u>15</u>	<u>0.65</u>	<u>0.65</u>	<u>0.034</u>	<u>0.082</u>	<u>0.124</u>	<u>0.047</u>	<u>0.210</u>	<u>0.100</u>
	<u>20</u>	<u>0.55</u>	<u>0.65</u>	<u>0.030</u>	<u>0.082</u>	<u>0.124</u>	<u>0.047</u>	<u>0.210</u>	<u>0.100</u>
	<u>25</u>	<u>0.54</u>	<u>0.65</u>	<u>0.030</u>	<u>0.082</u>	<u>0.124</u>	<u>0.047</u>	<u>0.119</u>	<u>0.065</u>
	<u>30</u>	<u>0.46</u>	<u>0.65</u>	<u>0.030</u>	<u>0.071</u>	<u>0.112</u>	<u>0.047</u>	<u>0.119</u>	<u>0.065</u>
3.2	<u>15</u>	<u>0.51</u>	<u>0.65</u>	<u>0.034</u>	<u>0.082</u>	<u>0.124</u>	<u>0.047</u>	<u>0.179</u>	<u>0.075</u>
	<u>20</u>	<u>0.45</u>	<u>0.65</u>	<u>0.030</u>	<u>0.082</u>	<u>0.124</u>	<u>0.047</u>	<u>0.179</u>	<u>0.075</u>
	<u>25</u>	<u>0.40</u>	<u>0.65</u>	<u>0.030</u>	<u>0.075</u>	<u>0.112</u>	<u>0.047</u>	<u>0.179</u>	<u>0.075</u>
	<u>30</u>	<u>0.40</u>	<u>0.65</u>	<u>0.030</u>	<u>0.061</u>	<u>0.112</u>	<u>0.047</u>	<u>0.179</u>	<u>0.075</u>
3.3	<u>15</u>	<u>0.51</u>	<u>0.65</u>	<u>0.034</u>	<u>0.082</u>	<u>0.124</u>	<u>0.047</u>	<u>0.149</u>	<u>0.061</u>
	<u>20</u>	<u>0.45</u>	<u>0.65</u>	<u>0.030</u>	<u>0.082</u>	<u>0.124</u>	<u>0.047</u>	<u>0.149</u>	<u>0.058</u>
	<u>25</u>	<u>0.40</u>	<u>0.65</u>	<u>0.030</u>	<u>0.075</u>	<u>0.112</u>	<u>0.047</u>	<u>0.149</u>	<u>0.058</u>
	<u>30</u>	<u>0.40</u>	<u>0.65</u>	<u>0.030</u>	<u>0.061</u>	<u>0.094</u>	<u>0.047</u>	<u>0.149</u>	<u>0.058</u>
3.4	<u>15</u>	<u>0.45</u>	<u>0.60</u>	<u>0.030</u>	<u>0.082</u>	<u>0.124</u>	<u>0.047</u>	<u>0.119</u>	<u>0.083</u>
	<u>20</u>	<u>0.37</u>	<u>0.60</u>	<u>0.030</u>	<u>0.082</u>	<u>0.124</u>	<u>0.047</u>	<u>0.119</u>	<u>0.152</u>
	<u>25</u>	<u>0.37</u>	<u>0.60</u>	<u>0.030</u>	<u>0.061</u>	<u>0.094</u>	<u>0.047</u>	<u>0.119</u>	<u>0.152</u>
	<u>30</u>	<u>0.37</u>	<u>0.60</u>	<u>0.030</u>	<u>0.061</u>	<u>0.094</u>	<u>0.033</u>	<u>0.119</u>	<u>0.152</u>
4	<u>15</u>	<u>0.45</u>	<u>0.60</u>	<u>0.030</u>	<u>0.082</u>	<u>0.102</u>	<u>0.047</u>	<u>0.119</u>	<u>0.083</u>
	<u>20</u>	<u>0.37</u>	<u>0.60</u>	<u>0.030</u>	<u>0.082</u>	<u>0.102</u>	<u>0.047</u>	<u>0.089</u>	<u>0.152</u>
	<u>25</u>	<u>0.37</u>	<u>0.60</u>	<u>0.030</u>	<u>0.061</u>	<u>0.087</u>	<u>0.047</u>	<u>0.089</u>	<u>0.152</u>
	<u>30</u>	<u>0.37</u>	<u>0.60</u>	<u>0.030</u>	<u>0.061</u>	<u>0.087</u>	<u>0.033</u>	<u>0.089</u>	<u>0.152</u>

N1102.3.2 Glazed fenestration SHGC.

Reference 70.101(h)(17)

An area-weighted average of fenestration products more than 50 percent glazed shall be permitted to satisfy the solar heat gain coefficient (SHGC) requirements. **The maximum area-weighted average SHGC shall not exceed 0.40 in sub-climate zones 2.1, 2.2, 3.1, 3.2, and 3.3.**

N1102.3.3 Glazed fenestration exemption.

Reference 70.101(h)(18)

Up to **1 percent** [15 square feet (1.4 m²)] of glazed fenestration per dwelling unit shall be permitted to be exempt from U-factor and solar heat gain coefficient (SHGC) requirements in Section N1102.1.

N1102.3.5 Thermally isolated sunroom U-factor.

Reference 70.101(h)(19)

[For zones 4 through 8 the maximum fenestration U-factor shall be 0.50 and the maximum skylight U-factor shall be 0.75.] New windows and doors separating the sunroom from conditioned space shall meet the building thermal envelope requirements.

N1102.3.6 Replacement fenestration.

Reference 70.101(h)(20)

Where some or all of an existing fenestration unit is replaced with a new fenestration product, including sash and glazing, the replacement fenestration unit shall meet the applicable requirements for U-factor and solar heat gain coefficient (SHGC) in Table N1102.1.

Exceptions:

- 1. Replacement fenestration units may comply with the original construction documents.**
- 2. The area weighted average SHGC shall not exceed 0.40 in sub-climate zones 2.1, 2.2, 3.1, 3.2, and 3.3.**

N1102.3.7 Prescriptive path for additions.

Reference 70.101(h)(21)

N1102.3.7 Prescriptive path for additions As an alternative for demonstrating compliance, additions with a conditioned floor area less than 500 square feet (46.5 m²) to existing single-family residential buildings and structures shall meet the prescriptive envelope component criteria in Table 1102.3.7 for the sub climate zone applicable to the location. The U-factor of each individual fenestration product (windows, doors and skylights) shall be used to calculate an area-weighted average fenestration product U-factor for the addition, which shall not exceed the applicable listed values in Table 1102.3.7. For additions, other than sunroom additions, the total area of fenestration products shall not exceed 40 percent of the gross wall and roof area of the addition. The R-values for opaque thermal envelope components shall be equal to or greater than the applicable listed values in Table 1102.3.7.

Conditioned sunroom additions shall maintain thermal isolation and shall not be used as kitchens or sleeping rooms.

In sub climate zones 2.1, 2.2, 3.1, 3.2 and 3.3, the area weighted average solar heat gain coefficient of all glazed fenestration products used in additions in accordance with this section shall not exceed 0.40.

Add new Table N1102.3.7.

Reference 70.101(h)(22)

**IRC TABLE N1102.3.7 – PRESCRIPTIVE ENVELOPE COMPONENT CRITERIA
 ADDITIONS TO AND REPLACEMENT WINDOWS FOR EXISTING DETACHED
 ONE- AND TWO-FAMILY DWELLINGS^d**

SUB CLIMATE ZONES	MAXIMUM	MINIMUM					
	Fenestration U-factor	Ceiling R-value ^{a, e}	Wall R-value ^e	Floor R-value	Basement wall R-value ^b	Slab perimeter R-value	Crawl space wall R-value
2.1	0.75	R-26	R-13	R-11	R-5	R-0	R-5
2.2, 3.1, 3.2, 3.3 and 3.4	0.50	R-30	R-13	R-19	R-8	R-0	R-10
4	0.50	R-38	R-13	R-21	R-10	R-0	R-19

- a. "Ceiling R-value" shall be required for flat or inclined (cathedral) ceilings. Floors over outside air shall meet "Ceiling R-value" requirements.
- b. Basement wall insulation to be installed in accordance with Section 402.2.6.
- c. "Crawl space wall R-value" shall apply to unventilated crawl spaces only. Crawl space insulation shall be installed in accordance with Section 402.2.8.
- d. Sunroom additions shall be required to have a maximum fenestration U-factor of 0.5. in all sub climate zones except sub climate zone 2.1. In all sub climate zones, the minimum ceiling R-value for sunroom additions shall be R-19 and the minimum wall R-value shall be R-13.

DELETE "PART VIII – ELECTRICAL, CHAPTERS 33 THROUGH 42."

Reference 70.101(h)(23)

Chapter 43 Referenced Standards – Revise referenced standards as shown in tables below.

Reference 70.101(h)(24)(A) through (D)

NFPA		National Fire Protection Association 1 Batterymarch Park Quincy, MA 02169-7471
Standard Reference Number	Title	Referenced in code section number
70-08 [70-05]	National Electric Code	R101.4 [E3301.1, E3301.2, E4201.1, Table E4203.2, E4204.3, E4204.4]

<u>PNNL/DOE</u>		<u>Pacific Northwest National Laboratory/Department of Energy Conservation Code</u> http://www.energycodes.gov/
Standard Reference Number	Title	Referenced in code section number
<u>REScheck Version 4.1.1 or later</u>	<u>Residential Energy Compliance Software ...</u>	<u>N1101.2.2</u>

<u>Texas Energy Systems Laboratory</u>		<u>Energy Systems Laboratory</u> <u>Room 214, Wisenbaker Engineering Research Center</u> <u>Bizzell Street, 3581 TAMU</u> <u>Texas A&M University</u> <u>College Station, Texas 77843-3581</u>
<u>Standard Reference Number</u>	<u>Title</u>	<u>Referenced in code section number</u>
ICC, v2.0.8.1 or later	International Code Compliance Calculator ..	N1101.2.2

**Texas Industrialized Housing and Building Program
Code Amendments for the 2006 International Codes and the 2008 NEC
Effective date: October 31, 2008**

2006 International Existing Building Code Amendments – §70.101(i)

101.1 Title.

Reference 70.101(i)(1)

These regulations shall be known as the Existing Building Code of the Texas Department of Licensing and Regulation ~~[[NAME-OF-JURISDICTION]]~~, hereinafter referred to as “this code.”

101.4.1 Buildings not previously occupied.

Reference 70.101(i)(3)

A building or portion of a building that has not been previously occupied or used for its intended purpose in accordance with the laws in existence at the time of its completion shall comply with the provisions of the International Building Code or International Residential Code, as applicable, as adopted by the Texas Industrialized Housing and Buildings program at the time of construction of the building. ~~[for new construction or with any current permit for such occupancy.]~~

101.9 TAS.

Reference 70.101(i)(2)

Wherever reference elsewhere in this code is made to ICC A117.1, ICC/ANSI A117.1, or ANSI A117.1, the Texas Accessibility Standards (TAS) of Texas Government Code, Chapter 469, Elimination of Architectural Barriers shall be substituted. Wherever reference in this code is made to chapter 11, or portions of chapter 11, of the International Building Code, the TAS shall be substituted.

Delete “Chapter 11, Historic Buildings” in its entirety.

Reference 70.101(i)(4)

1301.2 Applicability.

Reference 70.101(i)(5)

Structures existing prior to October 31, 2008, ~~[[DATE TO BE INSERTED BY THE JURISDICTION]]. Note: it is recommended that this date coincide with the effective date of building codes within the jurisdiction],~~ in which there is work involving additions, alterations, or changes of occupancy shall be made to conform to the requirements of this chapter or the provisions of Chapters 4 through 12. The provisions of Sections 1301.2.1 through 1301.2.5 shall apply to existing occupancies that will continue to be, or are proposed to be, in Groups A, B, E, F, M, R, and S. These provisions shall not apply to buildings with occupancies in Group H or Group I.

Chapter 15 Referenced Standards – Revise referenced standards as shown in tables below.

Reference 70.101(i)(6)(A)through (C)

ICC		International Code Council 5203 Leesburg Pike, Suite 600 Falls Church, VA 22041
Standard Reference Number	Title	Referenced in code section number
[ICC/ANSI A117.1—03]	Accessible and Usable Buildings and Facilities	308.6, 308.8.2, 308.8.3, 605.1, 605.1.2, 605.1.3]

<u>TDLR</u>		<u>Texas Department of Licensing and Regulation</u> <u>PO Box 12157</u> <u>Austin, TX 78711</u>
<u>Standard Reference Number</u>	<u>Title</u>	<u>Referenced in code section number</u>
<u>TAS</u>	<u>Texas Accessibility Standards as adopted under 16 Administrative Code, Chapter 68</u>	<u>101.9, 308.6, 308.8.2, 308.8.3, 605.1, 605.1.2, 605.1.3</u>

NFPA		National Fire Protection Association 1 Batterymarch Park Quincy, MA 02169-7471
Standard Reference Number	Title	Referenced in code section number
<u>70-08</u> [70-05]	National Electric Code	507.1.1, 507.1.2, 507.1.3, 507.1.4, 507.1.5

2006 International Energy Conservation Code Amendments – §70.101(j)

101.1 Title.

Reference 70.101(j)(1)

These regulations shall be known as the International Energy Conservation Code of the Texas Department of Licensing and Regulation [NAME-OF-JURISDICTION], hereinafter referred to as “this code.”

103.1.1 Above code programs.

Reference 70.101(j)(2)

103.1.1 Alternative compliance. [Above code programs.]

A building certified by a national, state, or local accredited energy efficiency program and determined by the Energy Systems Laboratory to be in compliance with the energy efficiency requirements of Chapter 388 of the Texas Health and Safety Code may be considered in compliance if deemed acceptable by the code official or other authority having jurisdiction. [The code official or other authority having jurisdiction shall be permitted to deem a national, state or local energy efficiency program to exceed the energy efficiency required by this code. Buildings approved in writing by such an energy efficiency program shall be considered in compliance with this code.]

SECTION 202 – General Definitions

Reference 70.101(j)(3)

GLAZING AREA. **Total area of the glazed fenestration measured using the rough opening and includes the sash, curbing or other framing elements that enclose conditioned space. In walls bounding conditioned basements, the glazing area includes the area of all glazed fenestration assemblies. For doors where the daylight opening area is less than 50 percent of the door area, the glazing area is the daylight opening area. For all other doors, the glazing area is the rough opening area for the door including the door and the frame.**

301.1 General.

Reference 70.101(j)(4)

Climate zones from Figure 301.1 or Table 301.1 shall be used in determining the applicable requirements from **Chapter** [Chapters 4 and] **5. Climate zones from Figure 301.2, Table 301.1(1), or Table 301.2(1) shall be used in determining the applicable requirements from Chapter 4.** Locations not in Table 301.1 (outside the US) shall be assigned a climate zone based on Section 301.3.

Insert "Figure 301.2 – Texas Residential Climate Zones" immediately following Figure 301.1.
 Reference 70.101(j)(5)

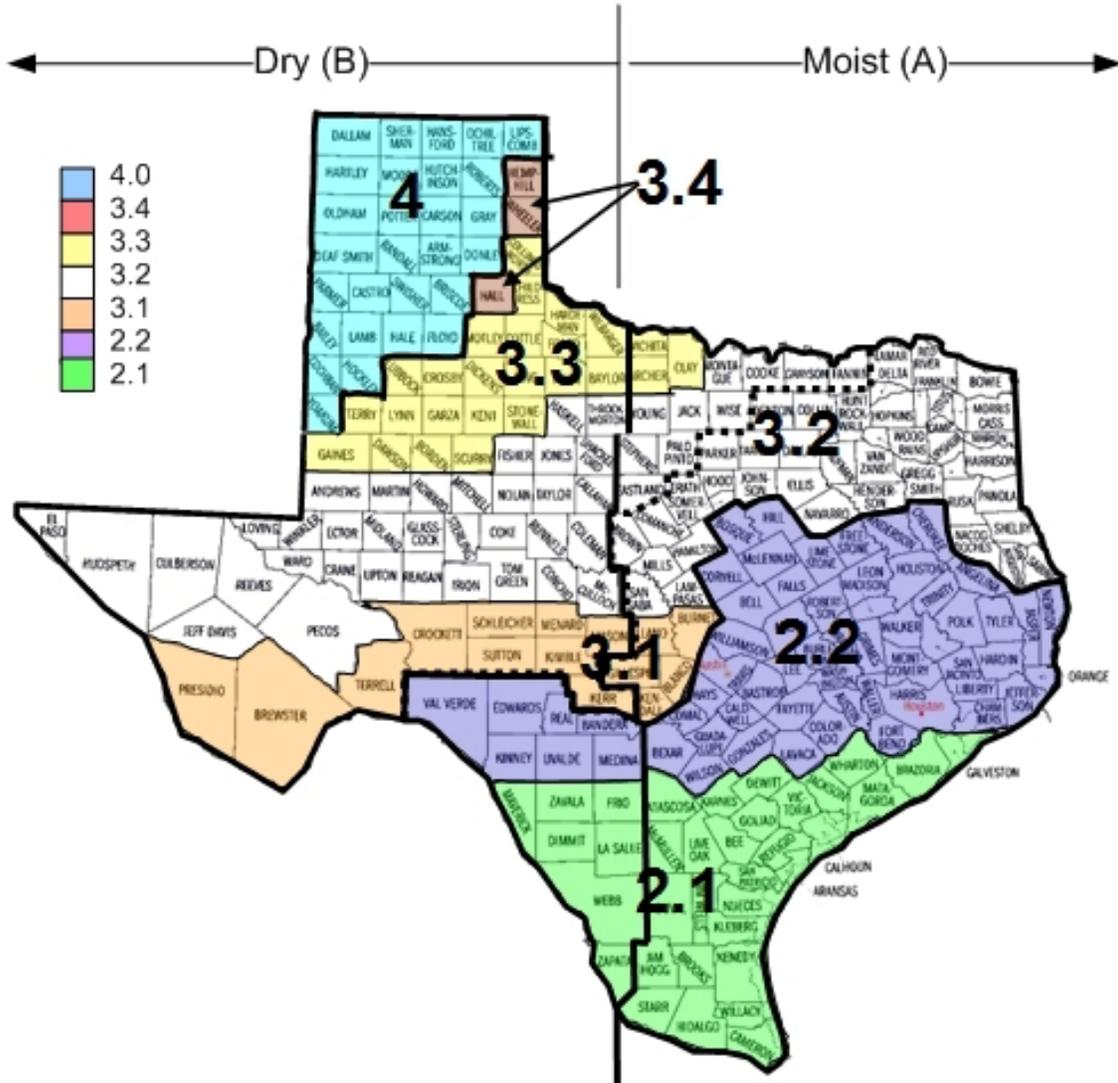


Figure 301.2 – Texas Residential Climate Zones

Texas Industrialized Housing and Building Program
Code Amendments for the 2006 International Codes and the 2008 NEC
Effective date: October 31, 2008

Revise TABLE 301.1 – CLIMATE ZONES BY STATE, COUNTY AND TERRITORIES

Reference 70.101(j)(6)

TEXAS – Commercial Buildings Only

Zone 2 Moist [Except]	<u>Madison</u>	Cottle	Upton	San Augustine
<u>Anderson</u>	<u>Matagorda</u>	Crane	Ward	San Saba
<u>Angelina</u>	<u>Mclennan</u>	Crockett	Wheeler	Shelby
<u>Aransas</u>	<u>McMullen</u>	Crosby	Wilbarger	Smith
<u>Atascosa</u>	<u>Milam</u>	Culberson	Winkler	Somervell
<u>Bastrop</u>	<u>Montgomery</u>	Dawson		Stephens
<u>Bee</u>	<u>Newton</u>	Dickens	Zone 3 Moist	Tarrant
<u>Bell</u>	<u>Nueces</u>	Ector	Archer	Titus
<u>Bexar</u>	<u>Orange</u>	El Paso	Blanco	Upshur
<u>Bosque</u>	<u>Polk</u>	Fisher	Bowie	Van Zandt
<u>Brazoria</u>	<u>Refugio</u>	Foard	Brown	Wichita
<u>Brazos</u>	<u>Robertson</u>	Gaines	Burnet	Wise
<u>Brooks</u>	<u>San Jacinto</u>	Garza	Camp	Wood
<u>Burleson</u>	<u>San Patricio</u>	Glasscock	Cass	Young
<u>Caldwell</u>	<u>Starr</u>	Hall	Clay	
<u>Calhoun</u>	<u>Travis</u>	Hardeman	Collin	Zone 4
<u>Cameron</u>	<u>Trinity</u>	Haskell	Comanche	Armstrong
<u>Chambers</u>	<u>Tyler</u>	Hemphill	Cooke	Bailey
<u>Cherokee</u>	<u>Victoria</u>	Howard	Dallas	Briscoe
<u>Colorado</u>	<u>Walker</u>	Hudspeth	Delta	Carson
<u>Comal</u>	<u>Waller</u>	Irion	Denton	Castro
<u>Coryell</u>	<u>Washington</u>	Jeff Davis	Eastland	Cochran
<u>De Witt</u>	<u>Wharton</u>	Jones	Ellis	Dallam
<u>Duval</u>	<u>Willacy</u>	Kent	Erath	Deaf Smith
<u>Falls</u>	<u>Williamson</u>	Kerr	Fannin	Donley
<u>Fayette</u>	<u>Wilson</u>	Kimble	Franklin	Floyd
<u>Fort Bend</u>		King	Gillespie	Gray
<u>Freestone</u>	Zone 2 Dry	Knox	Grayson	Hale
<u>Galveston</u>	Bandera	Loving	Gregg	Hansford
<u>Goliad</u>	Dimmit	Lubbock	Hamilton	Hartley
<u>Gonzales</u>	Edwards	Lynn	Harrison	Hockley
<u>Grimes</u>	Frio	Martin	Henderson	Hutchinson
<u>Guadalupe</u>	Kinney	Mason	Hood	Lamb
<u>Hardin</u>	La Salle	Mcculloch	Hopkins	Lipscomb
<u>Harris</u>	Maverick	Menard	Hunt	Moore
<u>Hays</u>	Medina	Midland	Jack	Ochiltree
<u>Hidalgo</u>	Real	Mitchell	Johnson	Oldham
<u>Hill</u>	Uvalde	Motley	Kaufman Kendall	Parmer
<u>Houston</u>	Val Verde	Nolan	Lamar	Potter
<u>Jackson</u>	Webb	Pecos	Lampasas Llano	Randall
<u>Jasper</u>	Zapata	Presidio	Marion	Roberts
<u>Jefferson</u>	Zavala	Reagan	Mills	Sherman
<u>Jim Hogg</u>		Reeves	Montague	Swisher
<u>Jim Wells</u>	Zone 3 Dry	Runnels	Morris	Yoakum
<u>Karnes</u>	Andrews	Schleicher	Nacogdoches	
<u>Kenedy</u>	Baylor	Scurry	Navarro	
<u>Kleberg</u>	Borden	Shackelford	Palo Pinto	
<u>Lavaca</u>	Brewster	Sterling	Panola	
<u>Lee</u>	Callahan	Stonewall	Parker	
<u>Leon</u>	Childress	Sutton	Rains	
<u>Liberty</u>	Coke	Taylor	Red River	
<u>Limestone</u>	Coleman	Terrell	Rockwall	
<u>Live Oak</u>	Collingsworth	Terry	Rusk	
	Concho	Throckmorton	Sabine	
		Tom Green		

Insert "Table 301.1(1) – Residential Climate Zones and Sub-Climate Zones for Texas" immediately following Table 301.1.

Reference 70.101(j)(7)

TABLE 301.1(1) RESIDENTIAL CLIMATE ZONES AND SUB CLIMATE ZONES FOR TEXAS

<u>Zone 2</u>							
<u>ANDERSON</u>	<u>2.2</u>	<u>DE WITT</u>	<u>2.1</u>	<u>JIM HOGG</u>	<u>2.1</u>	<u>ORANGE</u>	<u>2.2</u>
<u>ANGELINA</u>	<u>2.2</u>	<u>DIMMIT</u>	<u>2.1</u>	<u>JIM WELLS</u>	<u>2.1</u>	<u>POLK</u>	<u>2.2</u>
<u>ARANSAS</u>	<u>2.1</u>	<u>DUVAL</u>	<u>2.1</u>	<u>KARNES</u>	<u>2.1</u>	<u>REAL</u>	<u>2.2</u>
<u>ATASCOSA</u>	<u>2.1</u>	<u>EDWARDS</u>	<u>2.2</u>	<u>KENEDY</u>	<u>2.1</u>	<u>REFUGIO</u>	<u>2.1</u>
<u>AUSTIN</u>	<u>2.2</u>	<u>FALLS</u>	<u>2.2</u>	<u>KINNEY</u>	<u>2.2</u>	<u>ROBERTSON</u>	<u>2.2</u>
<u>BANDERA</u>	<u>2.2</u>	<u>FAYETTE</u>	<u>2.2</u>	<u>KLEBERG</u>	<u>2.1</u>	<u>SAN JACINTO</u>	<u>2.2</u>
<u>BASTROP</u>	<u>2.2</u>	<u>FORT BEND</u>	<u>2.2</u>	<u>LA SALLE</u>	<u>2.1</u>	<u>SAN PATRICIO</u>	<u>2.1</u>
<u>BEE</u>	<u>2.1</u>	<u>FREESTONE</u>	<u>2.2</u>	<u>LAVACA</u>	<u>2.2</u>	<u>STARR</u>	<u>2.1</u>
<u>BELL</u>	<u>2.2</u>	<u>FRIO</u>	<u>2.1</u>	<u>LEE</u>	<u>2.2</u>	<u>TRAVIS</u>	<u>2.2</u>
<u>BEXAR</u>	<u>2.2</u>	<u>GALVESTON</u>	<u>2.1</u>	<u>LEON</u>	<u>2.2</u>	<u>TRINITY</u>	<u>2.2</u>
<u>BOSQUE</u>	<u>2.2</u>	<u>GOLIAD</u>	<u>2.1</u>	<u>LIBERTY</u>	<u>2.2</u>	<u>TYLER</u>	<u>2.2</u>
<u>BRAZORIA</u>	<u>2.1</u>	<u>GONZALES</u>	<u>2.2</u>	<u>LIMESTONE</u>	<u>2.2</u>	<u>UVALDE</u>	<u>2.2</u>
<u>BRAZOS</u>	<u>2.2</u>	<u>GRIMES</u>	<u>2.2</u>	<u>LIVE OAK</u>	<u>2.1</u>	<u>VAL VERDE</u>	<u>2.2</u>
<u>BROOKS</u>	<u>2.1</u>	<u>GUADALUPE</u>	<u>2.2</u>	<u>MADISON</u>	<u>2.2</u>	<u>VICTORIA</u>	<u>2.1</u>
<u>BURLESON</u>	<u>2.2</u>	<u>HARDIN</u>	<u>2.2</u>	<u>MATAGORDA</u>	<u>2.1</u>	<u>WALKER</u>	<u>2.2</u>
<u>CALDWELL</u>	<u>2.2</u>	<u>HARRIS</u>	<u>2.2</u>	<u>MAVERICK</u>	<u>2.1</u>	<u>WALLER</u>	<u>2.2</u>
<u>CALHOUN</u>	<u>2.1</u>	<u>HAYS</u>	<u>2.2</u>	<u>MCLENNAN</u>	<u>2.2</u>	<u>WASHINGTON</u>	<u>2.2</u>
<u>CAMERON</u>	<u>2.1</u>	<u>HIDALGO</u>	<u>2.1</u>	<u>MCMULLEN</u>	<u>2.1</u>	<u>WEBB</u>	<u>2.1</u>
<u>CHAMBERS</u>	<u>2.2</u>	<u>HILL</u>	<u>2.2</u>	<u>MEDINA</u>	<u>2.2</u>	<u>WHARTON</u>	<u>2.1</u>
<u>CHEROKEE</u>	<u>2.2</u>	<u>HOUSTON</u>	<u>2.2</u>	<u>MILAM</u>	<u>2.2</u>	<u>WILLACY</u>	<u>2.1</u>
<u>COLORADO</u>	<u>2.2</u>	<u>JACKSON</u>	<u>2.1</u>	<u>MONTGOMERY</u>	<u>2.2</u>	<u>WILLIAMSON</u>	<u>2.2</u>
<u>COMAL</u>	<u>2.2</u>	<u>JASPER</u>	<u>2.2</u>	<u>NEWTON</u>	<u>2.2</u>	<u>WILSON</u>	<u>2.2</u>
<u>CORYELL</u>	<u>2.2</u>	<u>JEFFERSON</u>	<u>2.2</u>	<u>NUECES</u>	<u>2.1</u>	<u>ZAPATA</u>	<u>2.1</u>
						<u>ZAVALA</u>	<u>2.1</u>
<u>Zone 3</u>							
<u>ANDREWS</u>	<u>3.2</u>	<u>EL PASO</u>	<u>3.2</u>	<u>KERR</u>	<u>3.1</u>	<u>ROCKWALL</u>	<u>3.2</u>
<u>ARCHER</u>	<u>3.3</u>	<u>ELLIS</u>	<u>3.2</u>	<u>KIMBLE</u>	<u>3.1</u>	<u>RUNNELS</u>	<u>3.2</u>
<u>BAYLOR</u>	<u>3.3</u>	<u>ERATH</u>	<u>3.2</u>	<u>KING</u>	<u>3.3</u>	<u>RUSK</u>	<u>3.2</u>
<u>BLANCO</u>	<u>3.1</u>	<u>FANNIN</u>	<u>3.2</u>	<u>KNOX</u>	<u>3.3</u>	<u>SABINE</u>	<u>3.2</u>
<u>BORDEN</u>	<u>3.3</u>	<u>FISHER</u>	<u>3.2</u>	<u>LAMAR</u>	<u>3.2</u>	<u>SAN AUGUSTINE</u>	<u>3.2</u>
<u>BOWIE</u>	<u>3.2</u>	<u>FOARD</u>	<u>3.3</u>	<u>LAMPASAS</u>	<u>3.2</u>	<u>SAN SABA</u>	<u>3.2</u>
<u>BREWSTER</u>	<u>3.1</u>	<u>FRANKLIN</u>	<u>3.2</u>	<u>LLANO</u>	<u>3.1</u>	<u>SCHLEICHER</u>	<u>3.1</u>
<u>BROWN</u>	<u>3.2</u>	<u>GAINES</u>	<u>3.3</u>	<u>LOVING</u>	<u>3.2</u>	<u>SCURRY</u>	<u>3.3</u>
<u>BURNET</u>	<u>3.1</u>	<u>GARZA</u>	<u>3.3</u>	<u>LUBBOCK</u>	<u>3.3</u>	<u>SHACKELFORD</u>	<u>3.2</u>
<u>CALLAHAN</u>	<u>3.2</u>	<u>GILLESPIE</u>	<u>3.1</u>	<u>LYNN</u>	<u>3.3</u>	<u>SHELBY</u>	<u>3.2</u>
<u>CAMP</u>	<u>3.2</u>	<u>GLASSCOCK</u>	<u>3.2</u>	<u>MARION</u>	<u>3.2</u>	<u>SMITH</u>	<u>3.2</u>
<u>CASS</u>	<u>3.2</u>	<u>GRAYSON</u>	<u>3.2</u>	<u>MARTIN</u>	<u>3.2</u>	<u>SOMERVELL</u>	<u>3.2</u>
<u>CHILDRESS</u>	<u>3.3</u>	<u>GREGG</u>	<u>3.2</u>	<u>MASON</u>	<u>3.1</u>	<u>STEPHENS</u>	<u>3.2</u>
<u>CLAY</u>	<u>3.3</u>	<u>HALL</u>	<u>3.4</u>	<u>MCCULLOCH</u>	<u>3.2</u>	<u>STERLING</u>	<u>3.2</u>
<u>COKE</u>	<u>3.2</u>	<u>HAMILTON</u>	<u>3.2</u>	<u>MENARD</u>	<u>3.1</u>	<u>STONEWALL</u>	<u>3.3</u>
<u>COLEMAN</u>	<u>3.2</u>	<u>HARDEMAN</u>	<u>3.3</u>	<u>MIDLAND</u>	<u>3.2</u>	<u>SUTTON</u>	<u>3.1</u>
<u>COLLIN</u>	<u>3.2</u>	<u>HARRISON</u>	<u>3.2</u>	<u>MILLS</u>	<u>3.2</u>	<u>TARRANT</u>	<u>3.2</u>
<u>COLLINGSWORTH</u>	<u>3.3</u>	<u>HASKELL</u>	<u>3.2</u>	<u>MITCHELL</u>	<u>3.2</u>	<u>TAYLOR</u>	<u>3.2</u>
<u>COMANCHE</u>	<u>3.2</u>	<u>HEMPHILL</u>	<u>3.4</u>	<u>MONTAGUE</u>	<u>3.2</u>	<u>TERRELL</u>	<u>3.1</u>
<u>CONCHO</u>	<u>3.2</u>	<u>HENDERSON</u>	<u>3.2</u>	<u>MORRIS</u>	<u>3.2</u>	<u>TERRY</u>	<u>3.3</u>
<u>COOKE</u>	<u>3.2</u>	<u>HOOD</u>	<u>3.2</u>	<u>MOTLEY</u>	<u>3.3</u>	<u>THROCKMORTON</u>	<u>3.2</u>
<u>COTTLE</u>	<u>3.3</u>	<u>HOPKINS</u>	<u>3.2</u>	<u>NACOGDOCHES</u>	<u>3.2</u>	<u>TITUS</u>	<u>3.2</u>
<u>CRANE</u>	<u>3.2</u>	<u>HOWARD</u>	<u>3.2</u>	<u>NAVARRO</u>	<u>3.2</u>	<u>TOM GREEN</u>	<u>3.2</u>
<u>CROCKETT</u>	<u>3.1</u>	<u>HUDSPETH</u>	<u>3.2</u>	<u>NOLAN</u>	<u>3.2</u>	<u>UPSHUR</u>	<u>3.2</u>
<u>CROSBY</u>	<u>3.3</u>	<u>HUNT</u>	<u>3.2</u>	<u>PALO PINTO</u>	<u>3.2</u>	<u>UPTON</u>	<u>3.2</u>
<u>CULBERSON</u>	<u>3.2</u>	<u>IRION</u>	<u>3.2</u>	<u>PANOLA</u>	<u>3.2</u>	<u>VAN ZANDT</u>	<u>3.2</u>
<u>DALLAS</u>	<u>3.2</u>	<u>JACK</u>	<u>3.2</u>	<u>PARKER</u>	<u>3.2</u>	<u>WARD</u>	<u>3.2</u>

Texas Industrialized Housing and Building Program
Code Amendments for the 2006 International Codes and the 2008 NEC
Effective date: October 31, 2008

TABLE 301.1(1) RESIDENTIAL CLIMATE ZONES AND SUB CLIMATE ZONES FOR TEXAS

<u>Zone 3 (continued)</u>							
<u>DAWSON</u>	<u>3.3</u>	<u>JEFF DAVIS</u>	<u>3.2</u>	<u>PECOS</u>	<u>3.2</u>	<u>WHEELER</u>	<u>3.4</u>
<u>DELTA</u>	<u>3.2</u>	<u>JOHNSON</u>	<u>3.2</u>	<u>PRESIDIO</u>	<u>3.1</u>	<u>WICHITA</u>	<u>3.3</u>
<u>DENTON</u>	<u>3.2</u>	<u>JONES</u>	<u>3.2</u>	<u>RAINS</u>	<u>3.2</u>	<u>WILBARGER</u>	<u>3.3</u>
<u>DICKENS</u>	<u>3.3</u>	<u>KAUFMAN</u>	<u>3.2</u>	<u>REAGAN</u>	<u>3.2</u>	<u>WINKLER</u>	<u>3.2</u>
<u>EASTLAND</u>	<u>3.2</u>	<u>KENDALL</u>	<u>3.1</u>	<u>RED RIVER</u>	<u>3.2</u>	<u>WISE</u>	<u>3.2</u>
<u>ECTOR</u>	<u>3.2</u>	<u>KENT</u>	<u>3.3</u>	<u>REEVES</u>	<u>3.2</u>	<u>WOOD</u>	<u>3.2</u>
						<u>YOUNG</u>	<u>3.2</u>
<u>Zone 4</u>							
<u>ARMSTRONG</u>		<u>DEAF SMITH</u>		<u>HOCKLEY</u>		<u>PARMER</u>	
<u>BAILEY</u>		<u>DONLEY</u>		<u>HUTCHINSON</u>		<u>POTTER</u>	
<u>BRISCOE</u>		<u>FLOYD</u>		<u>LAMB</u>		<u>RANDALL</u>	
<u>CARSON</u>		<u>GRAY</u>		<u>LIPSCOMB</u>		<u>ROBERTS</u>	
<u>CASTRO</u>		<u>HALE</u>		<u>MOORE</u>		<u>SHERMAN</u>	
<u>COCHRAN</u>		<u>HANSFORD</u>		<u>OCHILTREE</u>		<u>SWISHER</u>	
<u>DALLAM</u>		<u>HARTLEY</u>		<u>OLDHAM</u>		<u>YOAKUM</u>	

Revise Table 301.2 as shown below.

Reference 70.101(j)(8)

TABLE 301.2 – WARM HUMID COUNTIES AND TERRITORIES

TEXAS – Commercial Buildings Only

[All in Zone 2-Plus]

<u>Anderson</u>	<u>Cherokee</u>	Harrison	<u>Limestone</u>	Rusk
<u>Angelina</u>	<u>Colorado</u>	<u>Hays</u>	<u>Live Oak</u>	Sabine
<u>Aransas</u>	<u>Comal</u>	Henderson	Llano	San Augustine
<u>Austin</u>	<u>Coryell</u>	<u>Hidalgo</u>	<u>Madison</u>	<u>San Jacinto</u>
<u>Bastrop</u>	Dallas	<u>Hill</u>	Marion	<u>San Patricio</u>
<u>Bee</u>	Delta	Hood	<u>Matagorda</u>	San Saba
<u>Bell</u>	Denton	Hopkins	<u>McLennan</u>	Shelby
<u>Bexar</u>	<u>De Witt</u>	<u>Houston</u>	<u>McMullen</u>	Smith
Blanco	<u>Duval</u>	Hunt	<u>Milam</u>	Somervell
<u>Bosque</u>	Ellis	<u>Jackson</u>	Mills	<u>Starr</u>
Bowie	Erath	<u>Jasper</u>	<u>Montgomery</u>	Tarrant
<u>Brazoria</u>	<u>Falls</u>	<u>Jefferson</u>	Morris	Titus
<u>Brazos</u>	<u>Fayette</u>	<u>Jim Hogg</u>	Nacogdoches	<u>Travis</u>
<u>Brooks</u>	<u>Fort Bend</u>	<u>Jim Wells</u>	Navarro	<u>Trinity</u>
Brown	Franklin	Johnson	<u>Newton</u>	<u>Tyler</u>
<u>Burleson</u>	<u>Freestone</u>	<u>Karnes</u>	<u>Nueces</u>	Upshur
Burnet	<u>Galveston</u>	Kaufman	<u>Orange</u>	Van Zandt
<u>Caldwell</u>	Gillespie	Kendall	Palo Pinto	<u>Victoria</u>
<u>Calhoun</u>	<u>Goliad</u>	<u>Kenedy</u>	Panola	<u>Walker</u>
<u>Cameron</u>	<u>Gonzales</u>	<u>Kleberg</u>	Parker	<u>Waller</u>
Camp	Gregg	Lamar	<u>Polk</u>	<u>Washington</u>
Cass	<u>Grimes</u>	Lampasas	Rains	Wood
Collin	<u>Guadalupe</u>	<u>Lavaca</u>	Red River	<u>Wharton</u>
Comanche	Hamilton	<u>Lee</u>	<u>Refugio</u>	<u>Willacy</u>
<u>Chambers</u>	<u>Hardin</u>	<u>Leon</u>	<u>Robertson</u>	<u>Williamson</u>
	<u>Harris</u>	<u>Liberty</u>	Rockwall	<u>Wilson</u>

Insert “Table 301.2(1) – Warm Humid Counties for Texas - Residential” immediately following Table 301.2.

Reference 70.101(j)(9)

TABLE 301.2(1) WARM HUMID COUNTIES FOR TEXAS - RESIDENTIAL

<u>ANDERSON</u>	<u>2.2</u>	<u>DUVAL</u>	<u>2.1</u>	<u>KAUFMAN</u>	<u>3.2</u>	<u>RED RIVER</u>	<u>3.2</u>
<u>ANGELINA</u>	<u>2.2</u>	<u>EDWARDS</u>	<u>2.2</u>	<u>KENDALL</u>	<u>3.1</u>	<u>REAL</u>	<u>2.2</u>
<u>ARANSAS</u>	<u>2.1</u>	<u>ELLIS</u>	<u>3.2</u>	<u>KENEDY</u>	<u>2.1</u>	<u>REFUGIO</u>	<u>2.1</u>
<u>ATASCOSA</u>	<u>2.1</u>	<u>ERATH</u>	<u>3.2</u>	<u>KINNEY</u>	<u>2.2</u>	<u>ROBERTSON</u>	<u>2.2</u>
<u>AUSTIN</u>	<u>2.2</u>	<u>FALLS</u>	<u>2.2</u>	<u>KLEBERG</u>	<u>2.1</u>	<u>ROCKWALL</u>	<u>3.2</u>
<u>BANDERA</u>	<u>2.2</u>	<u>FAYETTE</u>	<u>2.2</u>	<u>LA SALLE</u>	<u>2.1</u>	<u>RUSK</u>	<u>3.2</u>
<u>BASTROP</u>	<u>2.2</u>	<u>FORT BEND</u>	<u>2.2</u>	<u>LAMAR</u>	<u>3.2</u>	<u>SABINE</u>	<u>3.2</u>
<u>BEE</u>	<u>2.1</u>	<u>FRANKLIN</u>	<u>3.2</u>	<u>LAMPASAS</u>	<u>3.2</u>	<u>SAN AUGUSTINE</u>	<u>3.2</u>
<u>BELL</u>	<u>2.2</u>	<u>FREESTONE</u>	<u>2.2</u>	<u>LAVACA</u>	<u>2.2</u>	<u>SAN JACINTO</u>	<u>2.2</u>
<u>BEXAR</u>	<u>2.2</u>	<u>FRIO</u>	<u>2.1</u>	<u>LEE</u>	<u>2.2</u>	<u>SAN PATRICIO</u>	<u>2.1</u>
<u>BLANCO</u>	<u>3.1</u>	<u>GALVESTON</u>	<u>2.1</u>	<u>LEON</u>	<u>2.2</u>	<u>SAN SABA</u>	<u>3.2</u>
<u>BOSQUE</u>	<u>2.2</u>	<u>GILLESPIE</u>	<u>3.1</u>	<u>LLANO</u>	<u>3.1</u>	<u>SHELBY</u>	<u>3.2</u>
<u>BOWIE</u>	<u>3.2</u>	<u>GOLIAD</u>	<u>2.1</u>	<u>LIBERTY</u>	<u>2.2</u>	<u>SMITH</u>	<u>3.2</u>
<u>BRAZORIA</u>	<u>2.1</u>	<u>GONZALES</u>	<u>2.2</u>	<u>LIMESTONE</u>	<u>2.2</u>	<u>STARR</u>	<u>2.1</u>
<u>BROWN</u>	<u>3.2</u>	<u>GREGG</u>	<u>3.2</u>	<u>LIVE OAK</u>	<u>2.1</u>	<u>SOMMERVELL</u>	<u>3.2</u>
<u>BRAZOS</u>	<u>2.2</u>	<u>GRIMES</u>	<u>2.2</u>	<u>MADISON</u>	<u>2.2</u>	<u>TARRANT</u>	<u>3.2</u>
<u>BROOKS</u>	<u>2.1</u>	<u>GUADALUPE</u>	<u>2.2</u>	<u>MARION</u>	<u>3.2</u>	<u>TITUS</u>	<u>3.2</u>
<u>BURLESON</u>	<u>2.2</u>	<u>HAMILTON</u>	<u>3.2</u>	<u>MATAGORDA</u>	<u>2.1</u>	<u>TRAVIS</u>	<u>2.2</u>
<u>BURNET</u>	<u>3.1</u>	<u>HARDIN</u>	<u>2.2</u>	<u>MAVERICK</u>	<u>2.1</u>	<u>TRINITY</u>	<u>2.2</u>
<u>CALDWELL</u>	<u>2.2</u>	<u>HARRIS</u>	<u>2.2</u>	<u>MCLENNAN</u>	<u>2.2</u>	<u>TYLER</u>	<u>2.2</u>
<u>CALHOUN</u>	<u>2.1</u>	<u>HARRISON</u>	<u>3.2</u>	<u>MCMULLEN</u>	<u>2.1</u>	<u>UPSHUR</u>	<u>3.2</u>
<u>CAMERON</u>	<u>2.1</u>	<u>HAYS</u>	<u>2.2</u>	<u>MEDINA</u>	<u>2.2</u>	<u>UVALDE</u>	<u>2.2</u>
<u>CHAMBERS</u>	<u>2.2</u>	<u>HENDERSON</u>	<u>3.2</u>	<u>MILAM</u>	<u>2.2</u>	<u>VAL VERDE</u>	<u>2.2</u>
<u>CAMP</u>	<u>3.2</u>	<u>HIDALGO</u>	<u>2.1</u>	<u>MILLS</u>	<u>3.2</u>	<u>VAN ZANDT</u>	<u>3.2</u>
<u>CASS</u>	<u>3.2</u>	<u>HOOD</u>	<u>3.2</u>	<u>MONTGOMERY</u>	<u>2.2</u>	<u>VICTORIA</u>	<u>2.1</u>
<u>CHEROKEE</u>	<u>2.2</u>	<u>HOPKINS</u>	<u>3.2</u>	<u>MORRIS</u>	<u>3.2</u>	<u>WALKER</u>	<u>2.2</u>
<u>COLLIN</u>	<u>3.2</u>	<u>HILL</u>	<u>2.2</u>	<u>NACOGDOCHES</u>	<u>3.2</u>	<u>WALLER</u>	<u>2.2</u>
<u>COLORADO</u>	<u>2.2</u>	<u>HOUSTON</u>	<u>2.2</u>	<u>NAVARRO</u>	<u>3.2</u>	<u>WASHINGTON</u>	<u>2.2</u>
<u>COMAL</u>	<u>2.2</u>	<u>HUNT</u>	<u>3.2</u>	<u>NEWTON</u>	<u>2.2</u>	<u>WEBB</u>	<u>2.1</u>
<u>COMANCHE</u>	<u>3.2</u>	<u>JACKSON</u>	<u>2.1</u>	<u>NUECES</u>	<u>2.1</u>	<u>WHARTON</u>	<u>2.1</u>
<u>CORYELL</u>	<u>2.2</u>	<u>JASPER</u>	<u>2.2</u>	<u>ORANGE</u>	<u>2.2</u>	<u>WILLACY</u>	<u>2.1</u>
<u>DALLAS</u>	<u>3.2</u>	<u>JEFFERSON</u>	<u>2.2</u>	<u>PALO PINTO</u>	<u>3.2</u>	<u>WILLIAMSON</u>	<u>2.2</u>
<u>DELTA</u>	<u>3.2</u>	<u>JIM HOGG</u>	<u>2.1</u>	<u>PANOLA</u>	<u>3.2</u>	<u>WILSON</u>	<u>2.2</u>
<u>DENTON</u>	<u>3.2</u>	<u>JIM WELLS</u>	<u>2.1</u>	<u>PARKER</u>	<u>3.2</u>	<u>WOOD</u>	<u>3.2</u>
<u>DE WITT</u>	<u>2.1</u>	<u>JOHNSON</u>	<u>3.2</u>	<u>POLK</u>	<u>2.2</u>	<u>ZAPATA</u>	<u>2.1</u>
<u>DIMMIT</u>	<u>2.1</u>	<u>KARNES</u>	<u>2.1</u>	<u>RAINS</u>	<u>3.2</u>	<u>ZAVALA</u>	<u>2.1</u>

401.2.1 Compliance Software Tools

Reference 70.101(j)(10)

401.2.1 Compliance Software Tools

Software tools to demonstrate energy code compliance may be used if deemed acceptable by the code official or other authority having jurisdiction. The software program REScheck may be used to demonstrate energy code compliance provided the code checked to is the 2003 IECC. The International Code Compliance Calculator (ICCC) from the Texas Energy System Laboratory may be used to demonstrate energy code compliance.

402.1.1 Insulation and fenestration criteria.

Reference 70.101(j)(11)

The building thermal envelope shall meet the requirements of Table 402.1.1 based on the climate zone specified in Chapter 3. **When compliance using Table 402.1.1 is demonstrated with a ceiling R-value of R30 or less, no more than 33% of the total projected ceiling area may be of cathedral type construction (ceiling joist/roof rafter assembly) and the required insulation R-value may be reduced to a minimum of R22 insulation when the remaining ceiling area insulation is increased to R38.**

Replace Table 402.1.1 with new Table 402.1.1.

Reference 70.101(j)(12)

TABLE 402.1.1 – INSULATION AND FENESTRATION REQUIREMENTS BY COMPONENT (TEXAS)^a

CLIMATE - SUB CLIMATE ZONE	MAX GLAZED AREA TO WALL AREA RATIO	MAX GLAZED FENESTRATION U-FACTOR	MAX SKYLIGHT U-FACTOR ^b	MAX GLAZED FENESTRATION SHGC	MIN CEILING R-VALUE	MIN WOOD FRAME WALL R-VALUE ^d	MASS WALL R-VALUE	MIN FLOOR R-VALUE	MIN BASEMENT WALL R-VALUE	MIN SLAB R-VALUE & DEPTH ^c	MIN CRAWL SPACE WALL R-VALUE
2.1	15	0.75	0.75	0.38	19	13	6	19	0	0	5
	20	0.70	0.75	0.38	30	13	6	19	0	0	5
	25	0.65	0.75	0.35	30	13	6	19	0	0	5
	30	0.54	0.75	0.35	38	13	6	19	0	0	5
2.2	15	0.65	0.75	0.38	30	13	6	19	5	0	6
	20	0.65	0.75	0.38	38	13	6	19	6	0	6
	25	0.54	0.75	0.35	38	13	6	19	8	0	10
	30	0.46	0.75	0.35	38	16, 13 + 3.7 ^e	6	19	8	0	10
3.1	15	0.65	0.65	0.40	30	13	6	19	5	0	6
	20	0.55	0.65	0.40	38	13	6	19	5	0	6
	25	0.54	0.65	0.35	38	13	6	19	8	0	10
	30	0.46	0.65	0.35	38	16, 13 + 3.7 ^e	7	19	8	0	10
3.2	15	0.60	0.65	0.40	30	13	6	19	6	0	7
	20	0.54	0.65	0.40	38	13	6	19	6	0	7
	25	0.51	0.65	0.40	38	16 or 13 + 3.7 ^e	7	19	6	0	7
	30	0.46	0.65	0.38	38	16 or 13 + 3.7 ^e	7	19	6	0	7
3.3	15	0.51	0.65	0.40	30	13	6	19	7	0	8
	20	0.45	0.65	0.40	38	13	6	19	7	0	9
	25	0.40	0.65	0.40	38	16 or 13 + 3.7 ^e	7	19	7	0	9
	30	0.40	0.65	0.40	38	19 or 13 + 8.1 ^e	9	19	7	0	9
3.4	15	0.45	0.60	NR	38	13	6	19	8	5, 2 ft	11
	20	0.37	0.60	NR	38	13	6	19	8	6, 2 ft	13
	25	0.37	0.60	NR	38	19 or 13 + 8.1 ^e	9	19	8	6, 2 ft	13
	30	0.37	0.60	NR	38	19 or 13 + 8.1 ^e	9	30	8	6, 2 ft	13
4	15	0.45	0.60	NR	38	13	8	19	8	5, 2 ft	11
	20	0.37	0.60	NR	38	13	8	19	9	6, 2 ft	13
	25	0.37	0.60	NR	38	19 or 13 + 8.1 ^e	10	19	9	6, 2 ft	13
	30	0.37	0.60	NR	38	19 or 13 + 8.1 ^e	10	30	9	6, 2 ft	13

For SI: 1 foot = 304.8 mm.

- R-values are minimums. U-factors and SHGC are maximums. R-19 shall be permitted to be compressed into a 2 x 6 cavity.*
- The fenestration U-factor column excludes skylights. The SHGC column applies to all glazed fenestration.*
- R-5 shall be added to the required slab edge R-values for heated slabs.*
- The total R-value may be achieved with a combination of cavity insulation and insulating sheathing that covers 100% of the exterior wall.*
- The wall insulation may be the sum of the two values where the first value is the cavity insulation and the second value is insulating sheathing. The combination of cavity insulation plus insulating sheathing may be used where structural sheathing covers not more than 25% of the exterior wall area and insulating sheathing is not required where structural sheathing is used. If*

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structural sheathing covers more than 25% of exterior wall area then the wall insulation requirement may only be satisfied with the single insulation value.

Replace Table 402.1.3 with new Table 402.1.3.

Reference 70.101(j)(13)

TABLE 402.1.3 – EQUIVALENT U-FACTORS^a (TEXAS)

<u>Climate-Sub Climate Zone</u>	<u>Max Glazed Area to Wall Area Ratio</u>	<u>Max Glazed Fenestration U-Factor</u>	<u>Max Skylight U-Factor</u>	<u>Max Ceiling U-Factor</u>	<u>Max Wood Frame Wall U-Factor</u>	<u>Max Mass Wall U-Factor</u>	<u>Max Floor U-Factor</u>	<u>Max Basement U-Factor</u>	<u>Max Crawl Space Wall U-Factor</u>
<u>2.1</u>	<u>15</u>	<u>0.75</u>	<u>0.75</u>	<u>0.039</u>	<u>0.082</u>	<u>0.124</u>	<u>0.047</u>	<u>0.360</u>	<u>0.136</u>
	<u>20</u>	<u>0.65</u>	<u>0.75</u>	<u>0.030</u>	<u>0.082</u>	<u>0.124</u>	<u>0.047</u>	<u>0.210</u>	<u>0.100</u>
	<u>25</u>	<u>0.54</u>	<u>0.75</u>	<u>0.030</u>	<u>0.082</u>	<u>0.124</u>	<u>0.047</u>	<u>0.119</u>	<u>0.065</u>
	<u>30</u>	<u>0.46</u>	<u>0.65</u>	<u>0.030</u>	<u>0.071</u>	<u>0.112</u>	<u>0.047</u>	<u>0.119</u>	<u>0.065</u>
<u>2.2</u>	<u>15</u>	<u>0.65</u>	<u>0.75</u>	<u>0.034</u>	<u>0.082</u>	<u>0.124</u>	<u>0.047</u>	<u>0.210</u>	<u>0.100</u>
	<u>20</u>	<u>0.65</u>	<u>0.75</u>	<u>0.030</u>	<u>0.082</u>	<u>0.124</u>	<u>0.047</u>	<u>0.210</u>	<u>0.100</u>
	<u>25</u>	<u>0.54</u>	<u>0.75</u>	<u>0.030</u>	<u>0.082</u>	<u>0.124</u>	<u>0.047</u>	<u>0.119</u>	<u>0.065</u>
	<u>30</u>	<u>0.46</u>	<u>0.75</u>	<u>0.030</u>	<u>0.071</u>	<u>0.124</u>	<u>0.047</u>	<u>0.119</u>	<u>0.065</u>
<u>3.1</u>	<u>15</u>	<u>0.65</u>	<u>0.65</u>	<u>0.034</u>	<u>0.082</u>	<u>0.124</u>	<u>0.047</u>	<u>0.210</u>	<u>0.100</u>
	<u>20</u>	<u>0.55</u>	<u>0.65</u>	<u>0.030</u>	<u>0.082</u>	<u>0.124</u>	<u>0.047</u>	<u>0.210</u>	<u>0.100</u>
	<u>25</u>	<u>0.54</u>	<u>0.65</u>	<u>0.030</u>	<u>0.082</u>	<u>0.124</u>	<u>0.047</u>	<u>0.119</u>	<u>0.065</u>
	<u>30</u>	<u>0.46</u>	<u>0.65</u>	<u>0.030</u>	<u>0.071</u>	<u>0.112</u>	<u>0.047</u>	<u>0.119</u>	<u>0.065</u>
<u>3.2</u>	<u>15</u>	<u>0.51</u>	<u>0.65</u>	<u>0.034</u>	<u>0.082</u>	<u>0.124</u>	<u>0.047</u>	<u>0.179</u>	<u>0.075</u>
	<u>20</u>	<u>0.45</u>	<u>0.65</u>	<u>0.030</u>	<u>0.082</u>	<u>0.124</u>	<u>0.047</u>	<u>0.179</u>	<u>0.075</u>
	<u>25</u>	<u>0.40</u>	<u>0.65</u>	<u>0.030</u>	<u>0.075</u>	<u>0.112</u>	<u>0.047</u>	<u>0.179</u>	<u>0.075</u>
	<u>30</u>	<u>0.40</u>	<u>0.65</u>	<u>0.030</u>	<u>0.061</u>	<u>0.112</u>	<u>0.047</u>	<u>0.179</u>	<u>0.075</u>
<u>3.3</u>	<u>15</u>	<u>0.51</u>	<u>0.65</u>	<u>0.034</u>	<u>0.082</u>	<u>0.124</u>	<u>0.047</u>	<u>0.149</u>	<u>0.061</u>
	<u>20</u>	<u>0.45</u>	<u>0.65</u>	<u>0.030</u>	<u>0.082</u>	<u>0.124</u>	<u>0.047</u>	<u>0.149</u>	<u>0.058</u>
	<u>25</u>	<u>0.40</u>	<u>0.65</u>	<u>0.030</u>	<u>0.075</u>	<u>0.112</u>	<u>0.047</u>	<u>0.149</u>	<u>0.058</u>
	<u>30</u>	<u>0.40</u>	<u>0.65</u>	<u>0.030</u>	<u>0.061</u>	<u>0.094</u>	<u>0.047</u>	<u>0.149</u>	<u>0.058</u>
<u>3.4</u>	<u>15</u>	<u>0.45</u>	<u>0.60</u>	<u>0.030</u>	<u>0.082</u>	<u>0.124</u>	<u>0.047</u>	<u>0.119</u>	<u>0.083</u>
	<u>20</u>	<u>0.37</u>	<u>0.60</u>	<u>0.030</u>	<u>0.082</u>	<u>0.124</u>	<u>0.047</u>	<u>0.119</u>	<u>0.152</u>
	<u>25</u>	<u>0.37</u>	<u>0.60</u>	<u>0.030</u>	<u>0.061</u>	<u>0.094</u>	<u>0.047</u>	<u>0.119</u>	<u>0.152</u>
	<u>30</u>	<u>0.37</u>	<u>0.60</u>	<u>0.030</u>	<u>0.061</u>	<u>0.094</u>	<u>0.033</u>	<u>0.119</u>	<u>0.152</u>
<u>4</u>	<u>15</u>	<u>0.45</u>	<u>0.60</u>	<u>0.030</u>	<u>0.082</u>	<u>0.102</u>	<u>0.047</u>	<u>0.119</u>	<u>0.083</u>
	<u>20</u>	<u>0.37</u>	<u>0.60</u>	<u>0.030</u>	<u>0.082</u>	<u>0.102</u>	<u>0.047</u>	<u>0.089</u>	<u>0.152</u>
	<u>25</u>	<u>0.37</u>	<u>0.60</u>	<u>0.030</u>	<u>0.061</u>	<u>0.087</u>	<u>0.047</u>	<u>0.089</u>	<u>0.152</u>
	<u>30</u>	<u>0.37</u>	<u>0.60</u>	<u>0.030</u>	<u>0.061</u>	<u>0.087</u>	<u>0.033</u>	<u>0.089</u>	<u>0.152</u>

a. Nonfenestration U-factors shall be obtained from measurement, calculation or an approved source.

402.3.2 Glazed fenestration SHGC.

Reference 70.101(j)(14)

An area-weighted average of fenestration products more than 50 percent glazed shall be permitted to satisfy the SHGC requirements. **The area-weighted average SHGC of all glazed fenestration products in the building shall not exceed 0.40 in climate zones 2.1, 2.2, 3.1, 3.2, and 3.3.**

402.3.3 Glazed fenestration exemption.

Reference 70.101(j)(15)

Up to **1 percent** [15 square feet (1.4 m²)] of glazed fenestration per dwelling unit shall be permitted to be exempt from U-factor and SHGC requirements in Section 402.1.1.

402.3.5 Thermally isolated sunroom U-factor.

Reference 70.101(j)(16)

[For Zones 4 through 8, the maximum fenestration U-factor shall be 0.50 and the maximum skylight U-factor shall be 0.75.] New windows and doors separating the sunroom from conditioned space shall meet the building thermal envelope requirements.

402.3.6 Replacement fenestration.

Reference 70.101(j)(17)

Where some or all of an existing fenestration unit is replaced with a new fenestration product, including sash and glazing, the replacement fenestration unit shall meet the applicable requirements for U-factor and SHGC in Table 402.1.1.

Exceptions:

- 1. Replacement fenestration units may comply with the original construction documents.**
- 2. The area weighted average SHGC shall not exceed 0.40 in sub-climate zones 2.1, 2.2, 3.1, 3.2, and 3.3.**

402.3.7 Prescriptive path for additions.

Reference 70.101(j)(18)

As an alternative for demonstrating compliance, additions with a conditioned floor area less than 500 square feet (46.5 m²) to existing single-family residential buildings and structures shall meet the prescriptive envelope component criteria in Table 402.3.7 for the sub climate zone applicable to the location. The U-factor of each individual fenestration product (windows, doors and skylights) shall be used to calculate an area-weighted average fenestration product U-factor for the addition, which shall not exceed the applicable listed values in Table 402.3.7. For additions, other than sunroom additions, the total area of fenestration products shall not exceed 40 percent of the gross wall and roof area of the addition. The R-values for opaque thermal envelope components shall be equal to or greater than the applicable listed values in Table 402.3.7.

Conditioned sunroom additions shall maintain thermal isolation and shall not be used as kitchens or sleeping rooms.

In sub climate zones 2.1, 2.2, 3.1, 3.2 and 3.3, the area weighted average solar heat gain coefficient of all glazed fenestration products used in additions in accordance with this section shall not exceed 0.40.

Add Table 402.3.7.

Reference 70.101(j)(19)

**TABLE 402.3.7 – PRESCRIPTIVE ENVELOPE COMPONENT CRITERIA
ADDITIONS TO AND REPLACEMENT WINDOWS FOR EXISTING DETACHED
ONE- AND TWO-FAMILY DWELLINGS^d**

<u>SUB CLIMATE ZONES</u>	<u>MAXIMUM</u>	<u>MINIMUM</u>					
	<u>Fenestration U-factor</u>	<u>Ceiling R-value^{a, e}</u>	<u>Wall R-value^e</u>	<u>Floor R-value</u>	<u>Basement wall R-value^b</u>	<u>Slab perimeter R-value</u>	<u>Crawl space wall R-value</u>
<u>2.1</u>	<u>0.75</u>	<u>R-26</u>	<u>R-13</u>	<u>R-11</u>	<u>R-5</u>	<u>R-0</u>	<u>R-5</u>
<u>2.2, 3.1, 3.2, 3.3 and 3.4</u>	<u>0.50</u>	<u>R-30</u>	<u>R-13</u>	<u>R-19</u>	<u>R-8</u>	<u>R-0</u>	<u>R-10</u>
<u>4</u>	<u>0.50</u>	<u>R-38</u>	<u>R-13</u>	<u>R-21</u>	<u>R-10</u>	<u>R-0</u>	<u>R-19</u>

- a. “Ceiling R-value” shall be required for flat or inclined (cathedral) ceilings. Floors over outside air shall meet “Ceiling R-value” requirements.
- b. Basement wall insulation to be installed in accordance with Section 402.2.6.
- c. “Crawl space wall R-value” shall apply to unventilated crawl spaces only. Crawl space insulation shall be installed in accordance with Section 402.2.8.
- d. Sunroom additions shall be required to have a maximum fenestration U-factor of 0.5. in all sub climate zones except sub climate zone 2.1. In all sub climate zones, the minimum ceiling R-value for sunroom additions shall be R-19 and the minimum wall R-value shall be R-13.

501.3 Compliance software tools.

Reference 70.101(j)(20)

501.3 Compliance software tools.

Software tools used to demonstrate energy code compliance that are deemed acceptable by the code official may only utilize the energy chapter of the 2006 International Energy Conservation Code or the 2004 Edition of AHSRAE 90.1 Energy Standard for Buildings Except Low-rise Residential Buildings when code edition and/or standard selection is available. The PNNL software program COMcheck may be used to demonstrate energy code compliance.

Chapter 6 Referenced Standards – Revise referenced standards as shown in tables below.

Reference 70.101(j)(21)(A)(i) and 70.101(j)(21)(A)(ii)

<u>PNNL/DOE</u>		<u>Pacific Northwest National Laboratory/Department of Energy Conservation Code</u> http://www.energycodes.gov/
<u>Standard Reference Number</u>	<u>Title</u>	<u>Referenced in code section number</u>
<u>REScheck Version 4.1.1 or later</u>	<u>Residential Energy Compliance Software ...</u>	<u>N1101.2.2</u>
<u>COMcheck Version 3.5.1 or later</u>	<u>Commercial Energy Compliance Software ...</u>	<u>501.3</u>

<u>Texas Energy Systems Laboratory</u>		<u>Energy Systems Laboratory</u> <u>Room 214, Wisenbaker Engineering Research Center</u> <u>Bizzell Street, 3581 TAMU</u> <u>Texas A&M University</u> <u>College Station, Texas 77843-3581</u>
<u>Standard Reference Number</u>	<u>Title</u>	<u>Referenced in code section number</u>
<u>ICCC, v2.0.8.1 or later</u>	<u>International Code Compliance Calculator ..</u>	<u>N1101.2.2</u>

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Effective date: October 31, 2008**

2006 ICC Electrical Code Amendments – §70.101(k)

101.1 Title.

Reference 70.101(k)(1)

These regulations shall be known as the Electrical Code—Administrative Provisions of the Texas Industrialized Housing and Buildings Program ~~[[NAME OF JURISDICTION]]~~, hereinafter referred to as “this code.”

101.3 Scope.

Reference 70.101(k)(2)

This code shall regulate the design, construction, installation, alteration, repairs, relocation, replacement, addition to, use or maintenance of electrical systems and equipment. Where conflicts occur between the provisions of this code and the provisions of Chapter 1202 of the Occupations Code, Industrialized Housing and Buildings, or the provisions of 16 Texas Administrative Code, Chapter 70, rules governing the Texas Industrialized Housing and Buildings program, the provisions of Chapter 1202 of the Occupations Code and 16 Administrative Code, Chapter 70 shall control.

102.1.5 Moved buildings.

Reference 70.101(k)(3)

The provisions of the *International Existing Building Code* shall apply to all matters governing the repair, alterations or additions, and changes of existing previously occupied industrialized buildings that are designed to be transported from one commercial site to another commercial site. [Electrical systems and equipment that are a part of buildings or structures moved into or within the jurisdiction shall comply with the provisions of this code for new installations.]

102.6 Referenced codes and standards.

Reference 70.101(k)(4)

The codes and standards referenced in this code shall be those that are listed in Chapter 13 and such codes and standards shall be considered part of the requirements of this code to the prescribed extent of each such reference. Where differences occur between provisions of this code and referenced codes or standards, the provisions of this code shall apply. Whenever amendments have been adopted to the referenced codes and standards, each reference to said code and standard shall be considered to reference the amendment as well.

Exception: Where enforcement of a code provision would violate the conditions of the listing of the equipment or appliance, the conditions of the listing and manufacturer’s instructions shall apply.

**Texas Industrialized Housing and Building Program
Code Amendments for the 2006 International Codes and the 2008 NEC
Effective date: October 31, 2008**

1201.1.1 Adoption.

Reference 70.101(k)(5)

Electrical systems and equipment shall be designed and constructed in accordance with ~~the International Residential Code or~~ NFPA 70 ~~[as applicable,]~~ except as otherwise provided in this code.

Chapter 13 Referenced Standards – Revise referenced standards as shown in tables below.

Reference 70.101(k)(6)(A)and (B)

ICC		International Code Council 5203 Leesburg Pike, Suite 600 Falls Church, VA 22041
Standard Reference Number	Title	Referenced in code section number
<u>IEBC-06</u>	<u>International Existing Building Code</u>	<u>102.1.5</u>

NFPA		National Fire Protection Association 1 Batterymarch Park Quincy, MA 02169-7471
Standard Reference Number	Title	Referenced in code section number
<u>70-08</u> [70-05]	National Electric Code	507.1.1, 507.1.2, 507.1.3, 507.1.4, 507.1.5