

ORDINANCE NO. 15952

AN ORDINANCE AMENDING THE FORT WORTH ENERGY CODE, BY ADOPTING THE 2003 INTERNATIONAL ENERGY CONSERVATION CODE, WITH LOCAL AMENDMENTS; AMENDING SECTIONS 7-41, 7-42, 7-43 AND 7-44 OF THE CODE OF THE CITY OF FORT WORTH (1986); REGULATING THE DESIGN OF BUILDING ENVELOPES FOR THE EFFECTIVE USE OF ENERGY AS ASSOCIATED WITH THE ERECTION, CONSTRUCTION, ENLARGEMENT, ALTERATION, REPAIR, MOVING, REMOVAL, DEMOLITION, CONVERSION, OCCUPANCY, EQUIPMENT, USE, AND MAINTENANCE OF BUILDINGS AND STRUCTURES IN THE CITY OF FORT WORTH; DEFINING CERTAIN TERMS; PROVIDING FOR THE INSPECTION OF BUILDINGS; PROVIDING FOR A SEVERABILITY CLAUSE; PROVIDING FOR A SAVINGS CLAUSE; PROVIDING FOR A PENALTY CLAUSE; PROVIDING THAT THIS ORDINANCE SHALL BE CUMULATIVE; PROVIDING FOR PUBLICATION IN PAMPHLET FORM; PROVIDING FOR PUBLICATION IN THE OFFICIAL NEWSPAPER; AND PROVIDING AN EFFECTIVE DATE.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF FORT WORTH, TEXAS:

SECTION 1.

That Section 7-41 of the Code of the City of Fort Worth (1986) is hereby amended to read as follows:

Sec. 7-41. THE 2003 EDITION OF THE INTERNATIONAL ENERGY CONSERVATION CODE ADOPTED.

(a) The Energy Code of the City of Fort Worth is hereby revised and amended to conform, with certain exceptions as specified below, to the 2003 International Energy Conservation Code of the International Code Council (ICC), and the same as amended is hereby adopted as the City's Energy Code. One (1) copy of the 2003 International Energy Conservation Code, marked as Exhibit "A" is incorporated herein by reference and shall be filed in the Office of the City Secretary for permanent record and inspection.

(b) The provisions of the Building Code, Residential Code, Electrical Code, Mechanical Code and Plumbing Code, as adopted elsewhere, shall be used as part of this code for any provision, requirement or method that does not exist in this code.

(c) Any Errata corrections, as they are discovered, are considered as part of this code since the same would have been adopted had they been known at the time of adoption.

SECTION 2.

That Section 7-42 of the Code of the City of Fort Worth (1986) is hereby amended to read as follows:

Sec. 7-42. Amendments.

The 2003 International Energy Conservation Code is hereby amended as provided in this Section:

IECC SECTION 101

**IECC Section 101.1; changed to read as follows:*

101.1 Title. These regulations shall be known as the Fort Worth Energy Code, may be cited as such and will be referred to herein as “this code.”

**IECC Section 101.2; change the exception to read as follows:*

Exception: ~~Energy conservation systems and components in existing buildings undergoing repair, alteration or additions, and change of occupancy, shall be permitted to comply with the *International Existing Building Code*.~~ Detached one- and two-family dwellings and multiple single-family dwellings (townhouses), as applicable in the Residential Code, may comply with Chapter 11 of that code.

**IECC Section 101.2.2; add a sentence to read as follows:*

Where there is a conflict between a general requirement and a specific requirement, the specific requirement shall be applicable.

**IECC Section 101.2.2.2; add a second paragraph to read as follows:*

Unless new calculations are provided, replacement equipment and/or systems shall meet the most restrictive requirement of having an equivalent energy usage as the replaced equipment and/or system, or comply with the prescriptive provisions of this code.

**IECC Section 101.2.2.3; changed to read as follows:*

101.2.2.3 Historic buildings. The provisions of this code relating to the construction, alteration, repair, enlargement, restoration, relocation or movement of

buildings or structures shall not be mandatory for design items considered to be historically significant in existing buildings or structures specifically identified and classified as historically significant by the state or local jurisdiction, listed in *The National Register of Historic Places* or which have been determined to be eligible for such listing where such buildings or structures are judged by the Building Official to not constitute a distinct life safety hazard.

Exception: For a change of occupancy, see Section 101.2.2.4.

Exempted provisions are as follows:

1. Exterior envelope.
2. Interior envelope when considered historically significant.
3. Placement, design or installation of light fixtures considered to contribute to the historical significance or ambiance. However, non-historical fixtures shall comply.
4. Vestibules, when the installation is considered detrimental to the historical significance.
5. Any other item determined to be historically significant.

**IECC Section 101.2.2.4; add an exception to read as follows:*

Exception: Historic buildings need not comply for the items exempted in Section 101.2.2.3.

**IECC Section 101.3; add a second paragraph to read as follows:*

The purpose of this code is not to create or otherwise establish or designate any particular class or group of persons who will or should be especially protected or benefited by the terms of this code.

**IECC Section 101.4; changed to read as follows:*

101.4 Compliance. Compliance with this code shall be determined in accordance with Sections 101.4.1, 101.4.2 or 101.4.3.

**IECC Section 101.4.3; added to read as follows:*

101.4.3. Alternative compliance. A building certified by a national, state, or local accredited energy program and determined by the Energy Systems Laboratory to be in compliance with the energy efficiency requirements of this section may, at the option of the Building Official, be considered in compliance. The United States

Environmental Protection Agency's Energy Star Program certification of energy code equivalency shall be considered in compliance.

**IECC Section 101.5; added to read as follows:*

101.5 Violations. It shall be unlawful for any person, firm or corporation to erect, construct, enlarge, alter, repair, move, improve, remove, convert or demolish, equip, use, occupy or maintain any building or structure or cause or permit the same to be done in violation of this code.

Any violation cited under the Building Code, Residential Code, Electrical Code, Mechanical Code and Plumbing Code, as adopted elsewhere, that is also associated with energy-efficient provisions of this code, may also be cited as a violation of this code.

Any person, firm or corporation violating any of the provisions of this ordinance shall be deemed guilty of a misdemeanor and upon conviction thereof shall be punishable by a fine not to exceed Two Thousand Dollars (\$2,000.00) for all violations involving fire safety, or public health and sanitation and shall be fined not more than Five Hundred Dollars (\$500.00) for all other violations of this ordinance. Each day or any portion thereof during which any violation of this ordinance occurs or continues shall be deemed a separate offense and upon conviction thereof shall be punishable as herein provided.

IECC SECTION 102

**IECC Section 102.4.1; changed to read as follows:*

102.4.1 Exterior basement or slab insulation. Because of "very heavy" termite classification, designs employing exterior insulation of basements or slabs shall not be utilized.

IECC SECTION 104

**IECC Section 104; changed to read as follows:*

SECTION 104 - ORGANIZATION AND ENFORCEMENT

104.1 Creation of Enforcement Agency. There is hereby established in this jurisdiction a code enforcement agency which shall be under the administrative and operational control of the building official.

104.2 Powers and Duties of Building Official.

104.2.1 General. Whenever the term “code official” is used in this code, it shall be construed to mean the Building Official or his authorized representative(s). The code official shall not be removed from office except for cause and after full opportunity to be heard on specific and relevant charges.

The building official is hereby authorized and directed to enforce all the provisions of this code. For such purposes, the building official shall have the powers of a law enforcement officer.

The building official shall have the power to render interpretations of this code and to adopt and enforce rules and supplemental regulations to clarify the application of its provisions. Such interpretations, rules and regulations shall be in conformance with the intent and purpose of this code.

104.2.2 Deputies. In accordance with prescribed procedures and with the approval of the appointing authority, the building official may appoint such number of technical officers and inspectors and other employees as shall be authorized from time to time. The building official may deputize such inspectors or employees as may be necessary to carry out the functions of the code enforcement agency.

For the purpose of this code, the regularly authorized deputy officials shall be per work as follows:

Provisions involving Mechanical - Chief Mechanical Inspector
Provisions involving Fuel Gas - Chief Plumbing Inspector
Provisions involving Plumbing - Chief Plumbing Inspector
Provisions involving Electrical - Chief Electrical Inspector

For all other parts, the Assistant Building Official(s) shall be the deputy official.

104.2.3 Right of entry. When it is necessary to make an inspection to enforce the provisions of this code, or when the building official has reasonable cause to believe that there exists in a building or upon a premises a condition that is contrary to or in violation of this code that makes the building or premises unsafe, dangerous or hazardous, the building official may enter the building or premises at reasonable times to inspect or to perform the duties imposed by this code, provided that if such building or premises be occupied that credentials be presented to the occupant and entry requested. If such building or premises be unoccupied, the building official shall first make a reasonable effort to locate the owner or other person having charge or control of the building or premises and request entry. If entry is refused, the building official shall have recourse to the remedies provided by law to secure entry.

An application for a permit shall be considered as permission from an authorized representative to inspect the premises.

104.2.4 Stop orders. Whenever any work is being done contrary to the provisions of this code, or other pertinent laws or ordinances implemented through the enforcement of this code, the building official may order the work stopped by notice in writing served on any persons engaged in the doing or causing such work to be done, and any such persons shall forthwith stop such work until authorized by the building official to proceed with the work.

104.2.5 Occupancy violations. Whenever any building or structure or equipment therein regulated by this code is being used contrary to the provisions of this code, the building official may order such use discontinued and the structure, or portion thereof, vacated by notice served on any person causing such use to be continued.

Such person shall discontinue the use within the time prescribed by the building official after receipt of such notice to make the structure, or portion thereof, comply with the requirements of this code.

104.2.6 Liability. The building official charged with the enforcement of this code, acting in good faith and without malice in the discharge of the duties required by this code or other pertinent law or ordinance shall not thereby be rendered personally liable for damages that may accrue to persons or property as a result of an act or by reason of an act or omission in the discharge of such duties. A suit brought against the building official or employee because of such act or omission performed by the building official or employee in the enforcement of any provision of such codes or other pertinent laws or ordinances implemented through the enforcement of this code or enforced by the code enforcement agency shall be defended by this jurisdiction until final termination of such proceedings, and any judgment resulting therefrom shall be assumed by this jurisdiction.

This code shall not be construed to relieve from or lessen the responsibility of any person owning, operating or controlling any building or structure for any damages to persons or property caused by defects, nor shall the code enforcement agency or its parent jurisdiction be held as assuming any such liability by reason of the inspections authorized by this code or any permits or certificates issued under this code.

104.2.7 Modifications. When there are practical difficulties involved in carrying out the provisions of this code, the building official may grant modifications for individual cases. The building official shall first find that a special individual reason makes the strict letter of this code impractical and that the modification is in conformance with the intent and purpose of this code and that such modification does not lessen any fire-protection requirements or any degree of structural integrity. The details of any action granting modifications shall be recorded and entered in the files of the code enforcement agency.

104.2.8 Alternate materials, alternate design and methods of construction. The provisions of this code are not intended to prevent the use of any material, alternate

design or method of construction not specifically prescribed by this code, provided any alternate has been approved and its use authorized by the building official.

The building official may approve any such alternate, provided the building official finds that the proposed design is satisfactory and complies with the provisions of this code and that the material, method or work offered is, for the purpose intended, at least the equivalent of that prescribed in this code in suitability, strength, effectiveness, fire resistance, durability, safety and sanitation.

The building official shall require that sufficient evidence or proof be submitted to substantiate any claims that may be made regarding its use. The details of any action granting approval of an alternate shall be recorded and entered in the files of the code enforcement agency.

104.2.9 Tests. Whenever there is insufficient evidence of compliance with any of the provisions of this code or evidence that any material or construction does not conform to the requirements of this code, the building official may require tests as proof of compliance to be made at no expense to this jurisdiction.

Test methods shall be as specified by this code or by other recognized test standards. If there are no recognized and accepted test methods for the proposed alternate, the building official shall determine test procedures.

All tests shall be made by an approved agency. Reports of such tests shall be retained by the building official for the period required for the retention of public records.

104.2.10 Material and equipment reuse. Materials, equipment and devices shall not be reused unless such elements have been reconditioned, tested, placed in good and proper working condition, and approved.

104.2.11 Cooperation of other officials and officers. The building official may request, and shall receive, the assistance and cooperation of other officials of this jurisdiction so far as is required in the discharge of the duties required by this code or other pertinent law or ordinance.

IECC SECTION 105

**IECC Section 105; changed to read as follows:*

SECTION 105 - CONSTRUCTION AND FIRE PREVENTION BOARD OF APPEALS

105 Applications for appeals shall be made to the Construction and Fire Prevention Board of Appeals under the same provision as permitted for the Building

Code. (See the Building Code.) All references to the "Board" shall be deemed to refer to the Construction and Fire Prevention Board of Appeals.

IECC SECTION 107

**IECC Section 107.1; changed to read as follows:*

107.1 General. The codes and standards, and portions thereof, which are referred to in this code and listed in Chapter 10, and such codes, when specifically adopted, and standards shall be considered part of the requirements of this code to the extent of 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 amendments as well. Any reference to NFPA 70 or the ICC *Electrical Code* shall mean the *Electrical Code* as adopted.

The provisions of the Building Code, Residential Code, Electrical Code, Mechanical Code and Plumbing Code, as adopted elsewhere, shall be used as part of this code for any provision, requirement or method that does not exist in this code.

**IECC Section 108; added to read as follows:*

IECC SECTION 108

For Permits, Fees, Inspections, Certificates of Occupancy and Third Party, see the applicable Building Code, Residential Code, Electrical Code, Mechanical Code and Plumbing Code, adopted elsewhere.

IECC SECTION 202

*IECC Section 202; the definitions of “Code Official” and “Commercial Building” are changed and new definitions are added to read as follows:

BUILDING CODE. Building Code shall mean the *International Building Code* as adopted by this jurisdiction.

CHANGE OF OCCUPANCY. A change in the purpose or level of activity within a building that involves a change in application of the requirements of this code. The definition shall also apply to the usage of the surrounding site and access to and from the building, structure or site, as necessary to achieve the purpose of this code, and to obtain compliance with other codes and ordinances of this jurisdiction.

CODE OFFICIAL. The officer or other designated authority charged with the administration and enforcement of this code. For the purpose of this code, the Code Official shall be the Building Official, and his regularly authorized deputy shall be as listed in 104.2.2.

ELECTRICAL CODE. Electrical Code shall mean the *National Electrical Code* as adopted by this jurisdiction. For the purpose of this code, all references to NFPA 70 and the *ICC Electrical Code* shall be assumed to mean the Electrical Code as defined herein.

ENERGY CODE. Energy Code shall mean the *International Energy Code* as adopted by this jurisdiction.

FIRE PREVENTION CODE (FIRE CODE). Fire Prevention Code, or Fire Code, shall mean the *International Fire Code* as adopted by this jurisdiction.

FUEL GAS CODE. Fuel Gas code shall mean the *International Fuel Gas Code* as adopted by this jurisdiction and shall be considered as part of the Plumbing Code. (See Plumbing Code.)

MECHANICAL CODE. Mechanical Code shall mean the *International Mechanical Code* as adopted by this jurisdiction.

MULTIPLE SINGLE-FAMILY DWELLING (TOWNHOUSE). A building not more than three stories in height consisting of multiple single-family dwelling units, constructed in a group of three or more attached units, individually separated by property lines, in which each unit extends from foundation to roof and with open space on at least two sides.

PLUMBING.

For the purpose of using the *International Plumbing Code*, or the Plumbing Section of the *International Residential Code*, as adopted, shall mean:

The practice, materials and fixtures utilized in the installation, maintenance, extension and alteration of all piping, fixtures, plumbing appliances and plumbing appurtenances, within or adjacent to any structure, in connection with sanitary drainage or storm drainage facilities; venting systems, and public or private water supply systems.

For the purpose of complying with the Texas State Plumbing License Law, shall mean:

All piping, fixtures, appurtenances, and appliances, including disposal systems, drain or waste pipes, or any combination of these that:
supply, recirculate, drain, or eliminate water, gas, medical gasses and vacuum, liquids, and sewage for all personal or domestic purposes in and about buildings where persons live, work, or assemble; connect the building on its outside with the source of water, gas, or other liquid supply, or combinations of these, on the premises, or the water main on public property; and carry waste water or sewage from or within a building to the sewer service lateral on public property or the disposal or septic terminal that holds private or domestic sewage.

The installation, repair, service, maintenance, alteration, or renovation of all piping, fixtures, appurtenances, and appliances on premises where persons live, work, or assemble that supply gas, medical gasses and vacuum, water, liquids, or any combination of these, or dispose of waste water or sewage.

PLUMBING CODE. Plumbing Code shall mean the *International Plumbing Code* and the *International Fuel Gas Code* as adopted by this jurisdiction. The term “Plumbing Code” applies to both codes as one combined code.

PLUMBING SYSTEM.

For the purpose of using this code, as adopted, shall mean:

Includes the water supply and distribution pipes, plumbing fixtures and traps, supports and appurtenances; water-treating or water-using equipment; soil, waste and vent pipes; sanitary drains, storm sewers and building sewers to an approved point of disposal, in addition to their respective connections, devices and appurtenances within a structure or premise.

RESIDENTIAL CODE. Residential Code shall mean the *International Residential Code* as adopted by this jurisdiction.

SHADING COEFFICIENT (The former method of rating windows for solar heat evaluation.) See Section 102.5.2. Shading coefficient = SHGC ÷ 0.87, or SHGC x 1.15.

IECC TABLE 302.1

**IECC Table 302.1; fill in and amend the footnotes to read as follows:*

**TABLE 302.1
EXTERIOR DESIGN CONDITIONS**

CONDITION	VALUE
Winter ^a , Design Dry-bulb (°F) (99.6%)	17
Summer ^a , Design Dry-bulb (°F) (0.4%)	100
Summer ^a , Design Wet-bulb (°F) (0.4%)	78
Degree days heating ^b	2407
Degree days cooling ^b	2603
Climate zone ^e	5B (hot and humid)
Termite	Very heavy

- a. *{delete footnote and replace}* These values are from ASHRAE Handbook of Fundamentals for Dallas/Ft. Worth International Airport 99.6% Winter DB, 0.4% Summer DB, and 0.4% Summer WB; and from Local Climatological Data for Dallas-Ft. Worth published by the National Climatic Data Center, National Oceanic and Atmospheric Administration. These values are for the purpose of providing a uniform basis of requirements for North Central Texas. This will not preclude licensed professionals from submitting design analyses based on site measurements or published data more specific to the building site. Adjustments shall be permitted to reflect local climates which differ from the tabulated values, or local weather experience determined by the code official.
- b. The degree days heating (base 65° F) and cooling (base 65° F) shall be selected from NOAA “Annual Degree Days to Selected Bases Derived from the 1961 – 1990 Normals,” data available from adjacent military installations, or other source of local weather data acceptable to the code official.
- e. ~~The climate zone shall be selected from the applicable map provided in Figures 902.1(1) through 902.1(51) in Chapter 9 of this code.~~

IECC SECTION 502

**IECC Section 502.1.1, exception #2; changed to read as follows:*

- 2. Where the county in which the building is being constructed is considered a hot and humid climate area and identified as such in Table 302.1 Figures 902.1(1) through 902.1(51) in Chapter 9 of this code. If a vapor retarder is installed, it shall be installed in a manner so as to not trap moisture.

**IECC Section 502.1.5; add the following exceptions:*

Exceptions:

- 1. Any glazing facing within 45 degrees of true north;
- 2. Any glazing facing within 45 degrees of true south which is continuously shaded along its full width by a permanent overhang with a projection factor of 0.3 or greater.

3. Any fenestration with permanently attached screens where the screens have a rated shading coefficient of 0.6 or less.

IECC TABLE 502.2

IECC Table 502.2; fill in and delete footnote a, amend footnote d and add footnote g as follows:

**TABLE 502.2 ^{a,g}
HEATING AND COOLING CRITERIA**

Element	Mode	Detached One- and Two-Family Dwellings U _o	Group R-2, R-4 or Townhouse Residential U _o
Walls	Heating or cooling	0.15	0.22
Roof/ceiling	Heating or cooling	0.03	0.03
Floors over unheated spaces	Heating or cooling	0.05	0.05
Heated slab on grade ^{b,f}	Heating	R-value = 6	R-value = 6
Unheated slab on grade ^{c,d,f}	Heating	R-value = 0	R-value = 0
Basement wall ^{e,f}	Heating or cooling	U-factor = 0.15	U-factor = 0.15
Crawl space wall ^{e,f}	Heating or cooling	U-factor = 0.15	U-factor = 0.15

a. *{deleted}*

b. *{no change}*

c. *{no change}*

d. Slab edge insulation is not ~~permitted~~ required for unheated slabs in areas of very heavy termite infestation probability in accordance with Section 502.2.1.4, and as shown in Figure 502.2(7).

e. *{no change}*

f. *{no change}*

g. These requirements apply only to the boundaries of conditioned space. Air conditioning equipment and ductwork is recommended, but not required, to be located within the conditioned space.

*IECC Figures 502.2(1-6); deleted.

*IECC Section 502.2.2; add a second paragraph to read as follows:

A building demonstrating envelope compliance at least 10% better than code may utilize R6 duct insulation in both supply and return air ducts in lieu of the insulation required by Table 503.3.3.3. In order to use this provision, a computer report must be submitted using the insulation as show on Table 503.3.3.3 and manually note that the passing score on the envelope of 10% or better justifies the usage of R6 duct insulation.

IECC TABLES 502.2.4(1-9)

IECC Tables 502.2.4(1-9); delete and replace with the Tables 502.2.4(1) and 502.2.4(2) as follows:

**Table 502.2.4(1)
Prescriptive Building Envelope Requirements,
One- and Two-Family Dwellings, Based on Window
Area as a Percent of Gross Exterior Wall Area**

% Glazing	Maximum	Minimum					
	Glazing U-factor	Ceiling R-value	Exterior wall R-value	Floor R-value	Basement wall R-value	Slab perimeter R-value and depth	Crawl space wall R-value
< 8%	0.70	R-26	R-11	R-11	R-5	R-0	R-6
≤12%	0.65	R-26	R-13	R-11	R-5	R-0	R-5
≤15%	0.65	R-30	R-13	R-19	R-6	R-0	R-7
≤18%	0.52	R-30	R-13	R-19	R-6	R-0	R-7
≤20%	0.50	R-38	R-13	R-19	R-6	R-0	R-7
≤25%	0.46	R-38	R-16	R-19	R-6	R-0	R-7

**Table 502.2.4(2)
Prescriptive Building Envelope Requirements,
Group R-2, R-4 or Townhouse Residential Buildings, Based on Window
Area as a Percent of Gross Exterior Wall Area**

% Glazing	Maximum	Minimum					
	Glazing U-factor	Ceiling R-value	Exterior wall R-value	Floor R-value	Basement wall R-value	Slab perimeter R-value and depth	Crawl space wall R-value
≤20%	0.55	R-30	R-13	R-11	R-5	R-0	R-5
≤25%	0.55	R-30	R-13	R-11	R-5	R-0	R-5
≤30%	0.47	R-38	R-13	R-19	R-7	R-0	R-8

IECC SECTION 503

*IECC Section 503.3.2.3; changed to read as follows:

503.3.2.3 Heat pump auxiliary heat. Heat pumps having supplementary electric resistance heaters shall have controls that prevent heater operation when the heating load is capable of being met by the heat pump. Except when necessary to assist the heat pump operation, supplemental Supplemental heater operation is only not allowed except during outdoor coil defrost cycles not exceeding 15 minutes.

*IECC Table 503.3.3.1; change footnote “a” to read as follows:

- a. For piping lengths in excess of five (5) feet exposed to outdoor air, increase the insulation thickness by 0.5 inch.

*IECC Table 503.3.3.3; add reference to footnote “e” in the title “Ducts in unconditioned attics or outside building” and add footnote “e” to read as follows:

Ducts in unconditioned attics or outside building ^e

e. See Section 502.2.2.

*IECC Section 503.3.3.4.4; added to read as follows:

503.3.3.4.4 Vapor retarders. Where ducts used for cooling are externally insulated, the insulation shall be covered with a vapor retarder having a maximum permeance of 0.05 perm [2.87 ng/(Pa × s × m²)] or aluminum foil having a minimum thickness of 2 mils (0.051 mm). Insulations having a permeance of 0.05 perms [2.87 ng/(Pa × s × m²)] or less shall not be required to be covered. All joints and seams shall be sealed to maintain the continuity of the vapor retarder.

IECC SECTION 601

*IECC Section 601.3.4; added to read as follows:

601.3.4 Exterior basement or slab insulation. Because of “very heavy” termite classification, designs employing exterior insulation of basements or slabs shall not be utilized.

IECC SECTION 602

**IECC Section 602.2; add the following exceptions:*

Exceptions:

1. Any glazing facing within 45 degrees of true north;
2. Any glazing facing within 45 degrees of true south which is continuously shaded along its full width by a permanent overhang with a projection factor of 0.3 or greater.
3. Any fenestration with permanently attached screens where the screens have a rated shading coefficient of 0.6 or less.

IECC TABLES 802.2(1) THRU 802.2(4)

**IECC Tables 802.2(1) thru 802.2(4); filled in and footnotes “f” and “g” added to read as follows:*

TABLE 802.2(1)
BUILDING ENVELOPE REQUIREMENTS^{b through e}

WINDOW AND GLAZED DOOR AREA 10 PERCENT OR LESS OF ABOVE-GRADE WALL AREA			
ELEMENT	CONDITION/VALUE		
Skylights (U-factor)	1 ^f		
Slab or below-grade wall (R-value)	R-0		
Windows and glass doors PF < 0.25 0.25 ≤ PF < 0.50 0.50 ≤ PF	SHGC		U-factor
	Any		Any
	Any		Any
	Any		Any
Roof assemblies (R-value) All-wood joist/truss Metal joist/truss Concrete slab or deck Metal purlin with thermal block Metal purlin without thermal block	Insulation between framing		Continuous insulation
	R-19		R-16
	R-25		R-17
	NA		R-16
	R-25		R-17
	X		R-17
Floors over outdoor air or unconditioned space (R-value) All-wood joist/truss Metal joist/truss Concrete slab or deck	Insulation between framing		Continuous insulation
	R-11		R-6
	R-11		R-6
	NA		R-6
Above-grade walls (R-value)	No framing	Metal framing	Wood framing
Framed			
R-value cavity	NA	R-11	R-11
R-value continuous	NA	R-0	R-0
CMU, ≥ 8 in., with integral insulation			
R-value cavity	NA	R-0	R-0
R-value continuous	R-0	R-0	R-0
Other masonry walls			
R-value cavity	NA	R-0	R-0
R-value continuous	R-0	R-0	R-0

PF – Projection Factor (See Section 802.2.3)

f. Skylights < 3% of roof area (See Section 802.2.5)

TABLE 802.2(2)
BUILDING ENVELOPE REQUIREMENTS^{b through e}

WINDOW AND GLAZED DOOR AREA OVER 10 PERCENT BUT NOT GREATER THAN 25 PERCENT OF ABOVE-GRADE WALL AREA			
ELEMENT	CONDITION/VALUE		
Skylights (U-factor)	1 ^f		
Slab or below-grade wall (R-value)	R-0		
Windows and glass doors PF < 0.25 0.25 ≤ PF < 0.50 0.50 ≤ PF	SHGC^g	U-factor	
	0.6	Any	
	0.7	Any	
	Any	Any	
Roof assemblies (R-value) All-wood joist/truss Metal joist/truss Concrete slab or deck Metal purlin with thermal block Metal purlin without thermal block	Insulation between framing	Continuous insulation	
	R-25	R-19	
	R-25	R-20	
	NA	R-19	
	R-30	R-20	
	X	R-20	
Floors over outdoor air or unconditioned space (R-value) All-wood joist/truss Metal joist/truss Concrete slab or deck	Insulation between framing	Continuous insulation	
	R-11	R-6	
	R-11	R-6	
	NA	R-6	
Above-grade walls (R-value)	No framing	Metal framing	Wood framing
Framed			
R-value cavity	NA	R-11	R-11
R-value continuous	NA	R-0	R-0
CMU, ≥ 8 in., with integral insulation			
R-value cavity	NA	R-11	R-11
R-value continuous	R-5	R-0	R-0
Other masonry walls			
R-value cavity	NA	R-11	R-11
R-value continuous	R-5	R-0	R-0

PF – Projection Factor (See Section 802.2.3)

f. Skylights < 3% of roof area (See Section 802.2.5)

g. Minimum SHGC requirements do not apply to glazing as follows:

1. Any glazing facing within 45 degrees of true north;
2. Any glazing facing within 45 degrees of true south which is continuously shaded along its full width by a permanent overhang with a projection factor of 0.3 or greater.
3. Any fenestration with permanently attached screens where the screens have a rated shading coefficient of 0.6 or less.

TABLE 802.2(3)
BUILDING ENVELOPE REQUIREMENTS^{b through e}

WINDOW AND GLAZED DOOR AREA OVER 25 PERCENT BUT NOT GREATER THAN 40 PERCENT OF ABOVE-GRADE WALL AREA			
ELEMENT	CONDITION/VALUE		
Skylights (U-factor)	1 ^f		
Slab or below-grade wall (R-value)	R-0		
Windows and glass doors PF < 0.25 0.25 < PF < 0.50 0.50 ≤ PF	SHGC^g		U-factor
	0.4		0.7
	0.5		0.7
	0.6		0.7
Roof assemblies (R-value) All-wood joist/truss Metal joist/truss Concrete slab or deck Metal purlin with thermal block Metal purlin without thermal block	Insulation between framing		Continuous insulation
	R-25		R-19
	R-25		R-20
	NA		R-19
	R-30		R-20
	X		R-20
Floors over outdoor air or unconditioned space (R-value) All-wood joist/truss Metal joist/truss Concrete slab or deck	Insulation between framing		Continuous insulation
	R-11		R-6
	R-11		R-6
	NA		R-6
Above-grade walls (R-value)	No framing	Metal framing	Wood framing
Framed			
R-value cavity	NA	R-11	R-11
R-value continuous	NA	R-0	R-0
CMU, ≥ 8 in., with integral insulation			
R-value cavity	NA	R-11	R-11
R-value continuous	R-5	R-0	R-0
Other masonry walls			
R-value cavity	NA	R-11	R-11
R-value continuous	R-5	R-0	R-0

PF – Projection Factor (See Section 802.2.3)

f. Skylights < 3% of roof area (See Section 802.2.5)

g. Minimum SHGC requirements do not apply to glazing as follows:

1. Any glazing facing within 45 degrees of true north;
2. Any glazing facing within 45 degrees of true south which is continuously shaded along its full width by a permanent overhang with a projection factor of 0.3 or greater.
3. Any fenestration with permanently attached screens where the screens have a rated shading coefficient of 0.6 or less.

TABLE 802.2(4)
BUILDING ENVELOPE REQUIREMENTS^{b through e}

WINDOW AND GLAZED DOOR AREA OVER 40 PERCENT BUT NOT GREATER THAN 50 PERCENT OF ABOVE-GRADE WALL AREA			
ELEMENT	CONDITION/VALUE		
Skylights (U-factor)	1 ^f		
Slab or below-grade wall (R-value)	R-0		
Windows and glass doors	SHGC^g	U-factor	
PF < 0.25	0.4	0.7	
0.25 ≤ PF < 0.50	0.5	0.7	
0.50 ≤ PF	0.6	0.7	
Roof assemblies (R-value)	Insulation between framing	Continuous insulation	
All-wood joist/truss	R-25	R-19	
Metal joist/truss	R-25	R-20	
Concrete slab or deck	NA	R-19	
Metal purlin with thermal block	R-30	R-20	
Metal purlin without thermal block	R-38	R-20	
Floors over outdoor air or unconditioned space (R-value)	Insulation between framing	Continuous insulation	
All-wood joist/truss	R-11	R-6	
Metal joist/truss	R-11	R-6	
Concrete slab or deck	NA	R-6	
Above-grade walls (R-value)	No framing	Metal framing	Wood framing
Framed			
R-value cavity	NA	R-13	R-11
R-value continuous	NA	R-3	R-0
CMU, ≥ 8 in., with integral insulation			
R-value cavity	NA	R-11	R-11
R-value continuous	R-5	R-0	R-0
Other masonry walls			
R-value cavity	NA	R-11	R-11
R-value continuous	R-5	R-0	R-0

PF – Projection Factor (See Section 802.2.3)

f. Skylights < 3% of roof area (See Section 802.2.5)

g. Minimum SHGC requirements do not apply to glazing as follows:

1. Any glazing facing within 45 degrees of true north;
2. Any glazing facing within 45 degrees of true south which is continuously shaded along its full width by a permanent overhang with a projection factor of 0.3 or greater.
3. Any fenestration with permanently attached screens where the screens have a rated shading coefficient of 0.6 or less.

IECC TABLES 802.2(5) THRU 802.2(37)

*IECC Tables 802.2(5) thru 802.2(37); deleted.

*IECC Section 802.3.6; amend exception 2 and 4 to read as follows:

2. Doors not intended to be used as building entrance door, such as doors to mechanical or electrical equipment rooms. This exception also applies to doors installed only for exiting. However, exterior doors opening to employee parking areas, or doors opening to playground or sports fields, etc., where it can be assumed that employees, students or sports individuals will be entering from, will be considered as entry doors.

4. Doors that open directly from a space less than 3,000 square feet (298 m²) in area. When the area containing an entry door is part of an area larger than 3,000 square feet, the entry area may qualify for this exception when separated from the remainder area by walls and self closing doors, eliminating as much air transfer as possible, and the entry area has its own HVAC system. The design goal is to prevent the HVAC system for the entire building or tenant space over 3,000 sq.ft. to operate because of front door activity.

IECC SECTION 805

*IECC Sections 805.2 through 805.2.4; changed to read as follows:

805.2 Lighting controls. Lighting systems shall be provided with controls as required in Sections 805.2.1, 805.2.2, ~~and 805.2.3~~ and 805.2.4.

805.2.1 Interior lighting controls. Each area of a building, including subdivided areas that are enclosed by walls or floor-to-ceiling partitions shall have at least one manual control for the lighting serving that area. The required controls shall be located within the area and subdivided area served by the controls or be a remote switch that identifies the lights served and indicated their status. Separate controls shall be provided for each 2500 square feet of floor area not subdivided.

Exceptions:

1. Areas designated as security or emergency areas that must be continuously lighted.
2. Lighting in stairways or corridors that are elements of the means of egress.

805.2.2 Additional controls. Each area ~~that is required to have a manual control~~ shall have additional controls that meet the requirements of Sections 805.2.2.1, and 805.2.2.2 ~~and 805.2.2.3.~~

Exceptions:

1. ~~Areas that have only one luminaire.~~
2. ~~Areas that are controlled by an occupant-sensing device.~~
3. ~~Corridors, storerooms, restrooms or public lobbies.~~

805.2.2.1 Light reduction controls. Each area that is required to have a manual control shall also allow the occupant to reduce the connected lighting load in a reasonably uniform illumination pattern by at least 50 percent. Lighting reduction shall be achieved by one of the following or other approved method:

1. Controlling all lamps or luminaires;
2. Dual switching of alternate rows of luminaires, alternate luminaires or alternate lamps;
3. Switching the middle lamp luminaires independently of the outer lamps; or
4. Switching each luminaire or each lamp.

Exceptions:

1. Areas that have only one luminaire.
2. Areas that are controlled by an occupant-sensing device.
3. Corridors, stairways, storerooms, restrooms or public lobbies.
4. Guestrooms.
5. Spaces that use less than 0.6 Watts per square foot (6.5 W/m) of lighting.
6. Areas designated as security or emergency areas that must be continuously lighted.
7. Group I-2 hospitals: patient sleeping rooms, including entire compartments with no uses other than sleeping rooms, nurse's stations and associated storage rooms; pre-op, operating and post-op rooms.

805.2.2.2 Automatic lighting shutoff. Buildings larger than 5,000 square feet (465 m²) shall be equipped with an automatic control device to shut off lighting ~~in those areas.~~ This automatic control device shall function on either:

1. A scheduled basis, using time-of-day, with an independent program schedule that controls the interior lighting in areas that do not exceed 25,000 square feet (2323 m²) and are not more than one floor; or
2. An unscheduled basis by occupant intervention, or;
3. An occupant-sensing device.

Exceptions:

1. Areas designated as security or emergency areas that must be continuously lighted.
2. Lighting in stairways, restrooms, corridors and public lobbies.
3. Group I-2 hospitals: patient sleeping rooms, including entire compartments with no uses other than sleeping rooms, nurse's stations and associated storage rooms; pre-op, operating and post-op rooms.

4. Guestrooms.

805.2.2.2.1 Occupant override. Where an automatic time switch control device is installed to comply with Section 805.2.2.2, Item 1, it shall incorporate an override switching device that:

1. Is readily accessible.
2. Is located so that a person using the device can see the lights or the area controlled by that switch, or so that the area being lit is annunciated.
3. Is manually operated.
4. Allows the lighting to remain on for no more than 2 hours when an override is initiated.
5. Controls an area not exceeding 5,000 square feet (465 m²).

Exceptions:

1. In malls and arcades, auditoriums, single-tenant retail spaces, industrial facilities and arenas, where captive-key override is utilized, override time may exceed 2 hours.
2. In malls and arcades, auditoriums, single-tenant retail spaces, industrial facilities and arenas, the area controlled may not exceed 20,000 square feet (1860 m²).

805.2.2.2.2 Holiday scheduling. If an automatic time switch control device is installed in accordance with Section 805.2.2.2, Item 1, it shall incorporate an automatic holiday scheduling feature that turns off all loads for at least 24 hours, then resumes the normally scheduled operation.

Exception: Retail stores and associated malls, restaurants, grocery stores, churches and theaters.

805.2.3 ~~805.2.2.3~~ Guestrooms. Guestrooms in hotels, motels, boarding houses or similar buildings shall have at least one master switch at the main entry door that controls all permanently wired lighting fixtures and switched receptacles, except those in the bathroom(s). Suites shall have a control meeting these requirements at the entry to each room or at the primary entry to the suite.

805.2.4 ~~805.2.3~~ Exterior lighting controls. Automatic switching or photocell controls shall be provided for all exterior lighting not intended for 24-hour operation. Automatic time switches shall have a combination seven-day and seasonal daylight program schedule adjustment, and a minimum 4-hour power backup.

*IECC Section 805.5.2.1; changed to read as follows:

805.5.2.1 Entire building method. Under this approach, the interior lighting power (Watts) is the value from Table 805.5.2 for the building type times the conditioned floor area of the entire building. The interior . . . {remainder of section unchanged}...

*IECC Section 805.5.2.2; changed to read as follows:

805.5.2.2 Tenant area or portion of building method. The total interior lighting power (Watts) is the sum of all interior lighting powers for all areas in the building covered in this permit. The interior lighting power is the conditioned floor area for each area type listed in Table 805.5.2 . . . {remainder of section unchanged}. . .

IECC CHAPTER 9

*IECC Chapter 9; delete.

IECC CHAPTER 10

*IECC Chapter 10; amend ASHRAE Standard 90.1 as follows:

~~ASHRAE 90.1-2001—Energy Standard for Buildings Except Low-Rise Residential Buildings~~

ASHRAE/IES – 99 Energy Efficient Design of New Buildings Except Low-Rise Residential Buildings – 1999 Edition.

SECTION 3.

Section 7-43 of the Code of the City of Fort Worth (1986) is amended to read as follows:

Sec. 7-43. Effect of conflict with other ordinances.

This article shall be cumulative of all provisions of ordinances of the Code of the City of Fort Worth, Texas (1986), affecting Energy Code provisions, as amended, and shall not repeal any of the provisions of such ordinances, except in those instances where provisions of such ordinances are in direct conflict with the provisions of this ordinance.

SECTION 4.

Section 7-44 of the Code of the City of Fort Worth (1986) is amended to read as follows:

Sec. 7-44. Penalty for violation.

Any person, firm, or corporation violating any of the provisions of this ordinance shall be deemed guilty of a misdemeanor and upon conviction thereof shall be punishable by a fine not to exceed Two Thousand Dollars (\$2,000.00) for all violations involving fire safety, or public health and sanitation and shall be fined not more than Five Hundred Dollars (\$500.00) for all other violations of this ordinance. Each day or any portion thereof during which any violation of this ordinance occurs or continues shall be deemed a separate offense and upon conviction thereof shall be punishable as herein provided.

SECTION 5.

This article shall be cumulative of all provisions of ordinances of the Code of the City of Fort Worth, Texas (1986), affecting Energy Code provisions, as amended, and shall not repeal any of the provisions of such ordinances, except in those instances where provisions of such ordinances are in direct conflict with the provisions of this ordinance.

SECTION 6.

It is hereby declared to be the intention of the City Council that the sections, paragraphs, sentences, clauses, and phrases of this ordinance are severable, and, if any phrase, clause, sentence, paragraph, or section of this ordinance shall be declared void,

ineffective, or unconstitutional by the valid judgment or decree of any court of competent jurisdiction, such voidness, ineffectiveness, or unconstitutionality shall not affect any of the remaining phrases, clauses, sentences, paragraphs, and sections of this ordinance, since the same would have been enacted by the City Council without the incorporation in this ordinance of any such void, ineffective, or unconstitutional phrase, clause, sentence, paragraph, or section.

SECTION 7.

Any person, firm, or corporation violating any of the provisions of this ordinance shall be deemed guilty of a misdemeanor and upon conviction thereof shall be punishable by a fine not to exceed Two Thousand Dollars (\$2,000.00) for all violations involving fire safety, or public health and sanitation and shall be fined not more than Five Hundred Dollars (\$500.00) for all other violations of this ordinance. Each day or any portion thereof during which any violation of this ordinance occurs or continues shall be deemed a separate offense and upon conviction thereof shall be punishable as herein provided.

SECTION 8.

All rights and remedies of the City of Fort Worth, Texas are expressly saved as to any and all violations of the previous codes, or any other ordinances affecting construction and fire safety, which have accrued at the time of the effective date of this ordinance: and, as to such accrued violations and all pending litigation, both civil and criminal, whether pending in court or not, under such ordinances, same shall not be affected by this ordinance but may be prosecuted until final disposition by the courts.

SECTION 9.

A copy of the 2003 International Energy Conservation Code, together with the local amendments contained in this ordinance, shall be filed in the office of the City Secretary for permanent record and inspection.

SECTION 10.

The Department of Development of the City of Fort Worth, Texas, is hereby authorized to publish this ordinance in pamphlet form for general distribution among the public, and the operative provisions of this ordinance as so published shall be admissible in evidence in all courts without further proof than the production thereof, as provided in Chapter XXV, Section 3, of the Charter of the City of Fort Worth, Texas.

SECTION 11.

The City Secretary of the City of Fort Worth, is hereby directed to publish the caption and Sections 1, 7, 9, 11 and 12 of this ordinance for two (2) days in the official newspaper of the City of Fort Worth, Texas as authorized by Section 2, Chapter XXV of the Charter of the City of Fort Worth, Texas and by Section 52.013 (a) of the Texas Local Government Code.

SECTION 12.

This ordinance shall take effect upon adoption and publication as required by law.

APPROVED AS TO FORM AND LEGALITY:

By: _____
Assistant City Attorney

Adopted: _____4-13-04_____

Effective: _____4-20-04_____

3-24-04