

Energy Code for the State of Texas

The State of Texas uses 2000 IECC with 2001 Supplement as its energy code for commercial applications. It should be noted that ASHRAE 90.1-2004 is the Standard used for state funded commercial buildings.

The following are highlights of the Texas Energy Code (2000 IECC with 2001 Supplement) which pertain to lighting controls.

INTERIOR LIGHTING.

GENERAL. Each area enclosed by walls or floor-to-ceiling partitions shall have at least one accessible manual control for the lighting servicing that area. The manual controls shall be located within the area or be remote switches that identify the lights served and their status. Exceptions are security/emergency or stairway/corridor lighting.

BI-LEVEL SWITCHING. Each area required to have a manual controls shall also allow the occupant to reduce the lighting in a reasonably uniform illumination pattern by at least 50%.

Exceptions are areas that are controlled by occupancy sensors, areas that have only 1 luminaire, guest rooms, and corridors, storerooms, restrooms or public lobbies.

TANDEM WIRING. One or three-lamp fluorescent fixtures that are pendant or surface-mounted in continuous rows or recess mounted in an accessible ceiling and within 10 ft of each other shall be tandem wired. Exceptions are where electronic high-frequency ballasts are used, or luminaires not on the same switch control or in the same area.

GUESTROOMS. Guestrooms and suites within buildings shall have at least one master switch located near the entry that controls all lighting fixtures, except those located in bathrooms, within the area.

TOTAL INTERIOR LIGHTING POWER. The total connected interior lighting power, in Watts, shall be the sum of all interior lighting equipment. This total shall not exceed the interior power allowance.

The power associated with the following equipment is not included in calculating total interior lighting power:

1. Specialized medical, dental, and research lighting;
2. Professional sports area playing field lighting;
3. Display lighting for exhibits;
4. Guestroom lighting;
5. Emergency lighting automatically off during normal building operation.

INTERIOR POWER ALLOWANCE. The total connected light power of a building interior must not exceed the interior power allowance.

The connected light power is the sum of the watts of all interior lighting equipment. For low-voltage lighting, the wattage is the specified wattage of the transformer supplying the system. For low-voltage track lighting, the wattage shall be the greater of the wattages specified for the luminaires or 30W/lineal ft.

The interior power allowance, in Watts, can be calculated by 2 methods:

- (1) ENTIRE BUILDING METHOD: value for the building type times the conditioned floor area for the entire building.
- (2) BUILDING PORTION METHOD: the sum, for all building portions, of the conditioned floor area of each building portion times the value for that portion's use.

Values for calculating interior power allowances are listed on Table 805.4.2 of the 2000 IECC Standard.

EXTERIOR LIGHTING.

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

EXTERIOR LIGHTING. When the power for exterior lighting is supplied through the energy service of the building, all exterior lighting, other than low-voltage landscape lighting, shall have a source efficacy of at least 45 lumens/W.

The above is a very brief guideline, as interpreted by Douglas Lighting Controls. Refer to the Texas State Energy Code for details applicable to your lighting control project.

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