



COMcheck Software Version 3.9.4
Interior Lighting Compliance Certificate

2009 IECC

Section 1: Project Information

Project Type: **New Construction**
 Project Title : SHOE DEPOT. ENCORE

Construction Site:
 CROSSROADS MALL
 GREENVILLE, TX

Owner/Agent:

Designer/Contractor:

Section 2: Interior Lighting and Power Calculation

A Area Category	B Floor Area (ft2)	C Allowed Watts / ft2	D Allowed Watts (B x C)
Retail	12173	1.5	18260
Total Allowed Watts =			18260

Section 3: Interior Lighting Fixture Schedule

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixtures	D Fixture Watt.	E (C X D)
Retail (12173 sq.ft.)				
Linear Fluorescent: PENDANT 1X4: 46" T5 HO 54W: Electronic:	3	79	169	13351
Linear Fluorescent: PENDANT 1X2: 22" T5 HO 24W: Electronic:	3	12	79	948
Linear Fluorescent: STRIP 8'-0": 48" T8 32W: Electronic:	2	21	60	1260
Linear Fluorescent: STRIP 4'-0": 48" T8 32W: Electronic:	1	8	30	240
Linear Fluorescent: STRIP 2'-0": 24" T8 17W: Electronic:	1	2	17	34
Compact Fluorescent: TRACK LIGHTING F4,S8: Other: Electronic:	1	28	23	644
Compact Fluorescent: DOWN LIGHT: Other: Electronic:	1	27	16	432
Compact Fluorescent: RESTROOM FAN/LIGHT: Other: Electronic:	1	2	19	38
Halogen: CUSTOM LIGHT: Halogen MR-16 50W:	1	9	50	450
Total Proposed Watts =			17397	

Section 4: Requirements Checklist

Interior Lighting PASSES: Design 5% better than code.

Lighting Wattage:

1. Total proposed watts must be less than or equal to total allowed watts.

Allowed Watts	Proposed Watts	Complies
18260	17397	YES

Controls, Switching, and Wiring:

2. Daylight zones under skylights more than 15 feet from the perimeter have lighting controls separate from daylight zones adjacent to vertical fenestration.
3. Daylight zones have individual lighting controls independent from that of the general area lighting.

Exceptions:

- Contiguous daylight zones spanning no more than two orientations are allowed to be controlled by a single controlling device.



COMcheck Software Version 3.9.4

Mechanical Compliance Certificate

2009 IECC

Section 1: Project Information

Project Type: **New Construction**
Project Title : SHOE DEPOT. ENCORE

Construction Site:
CROSSROADS MALL
GREENVILLE, TX

Owner/Agent:

Designer/Contractor:

Section 2: General Information

Building Location (for weather data): **Greenville, Texas**
Climate Zone: **3a**

Section 3: Mechanical Systems List

Quantity System Type & Description

- 1 RTU-1 (Single Zone) :
Heating: 1 each - Central Furnace, Electric, Capacity = 184 kBtu/h
No minimum efficiency requirement applies
Cooling: 1 each - Single Package DX Unit, Capacity = 203 kBtu/h, Air-Cooled Condenser, Air Economizer
Proposed Efficiency = 11.00 EER, Required Efficiency = 11.00 EER
Fan System: None
- 1 RTU-2 (Single Zone) :
Heating: 1 each - Central Furnace, Electric, Capacity = 184 kBtu/h
No minimum efficiency requirement applies
Cooling: 1 each - Single Package DX Unit, Capacity = 203 kBtu/h, Air-Cooled Condenser, Air Economizer
Proposed Efficiency = 11.00 EER, Required Efficiency = 11.00 EER
Fan System: None
- 1 RTU-3 (Single Zone) :
Heating: 1 each - Central Furnace, Electric, Capacity = 61 kBtu/h
No minimum efficiency requirement applies
Cooling: 1 each - Single Package DX Unit, Capacity = 55 kBtu/h, Air-Cooled Condenser, Air Economizer
Proposed Efficiency = 13.00 SEER, Required Efficiency = 13.00 SEER
Fan System: None

Section 4: Requirements Checklist

Requirements Specific To: RTU-1 :

- 1. Equipment minimum efficiency: Single Package Unit: 11.00 EER
- 2. Newly purchased equipment meets the efficiency requirements
- 3. Integrated economizer is required for this location and system.
- 4. Cooling system provides a means to relieve excess outdoor air during economizer operation.
- 5. Hot gas bypass prohibited unless system has multiple steps of unloading or continuous capacity modulation
- 6. Hot gas bypass limited to 50% of total cooling capacity

Requirements Specific To: RTU-2 :

- 1. Equipment minimum efficiency: Single Package Unit: 11.00 EER
- 2. Newly purchased equipment meets the efficiency requirements
- 3. Integrated economizer is required for this location and system.

- 4. Cooling system provides a means to relieve excess outdoor air during economizer operation.
- 5. Hot gas bypass prohibited unless system has multiple steps of unloading or continuous capacity modulation
- 6. Hot gas bypass limited to 50% of total cooling capacity

Requirements Specific To: RTU-3 :

- 1. Equipment minimum efficiency: Single Package Unit: 13.00 SEER
- 2. Newly purchased equipment meets the efficiency requirements
- 3. Integrated economizer is required for this location and system.
- 4. Cooling system provides a means to relieve excess outdoor air during economizer operation.

Generic Requirements: Must be met by all systems to which the requirement is applicable:

- 1. Plant equipment and system capacity no greater than needed to meet loads
Exception(s):
 - Standby equipment automatically off when primary system is operating
 - Multiple units controlled to sequence operation as a function of load
- 2. Minimum one temperature control device per system
- 3. Minimum one humidity control device per installed humidification/dehumidification system
- 4. Load calculations per ASHRAE/ACCA Standard 183.
- 5. Automatic Controls: Setback to 55°F (heat) and 85°F (cool); 7-day clock, 2-hour occupant override, 10-hour backup
Exception(s):
 - Continuously operating zones
- 6. Outside-air source for ventilation; system capable of reducing OSA to required minimum
- 7. R-5 supply and return air duct insulation in unconditioned spaces
R-8 supply and return air duct insulation outside the building
R-8 insulation between ducts and the building exterior when ducts are part of a building assembly
Exception(s):
 - Ducts located within equipment
 - Ducts with interior and exterior temperature difference not exceeding 15°F.
- 8. Mechanical fasteners and sealants used to connect ducts and air distribution equipment
- 9. Ducts sealed - longitudinal seams on rigid ducts; transverse seams on all ducts; UL 181A or 181B tapes and mastics
- 10. Hot water pipe insulation: 1.5 in. for pipes <=1.5 in. and 2 in. for pipes >1.5 in.
Chilled water/refrigerant/brine pipe insulation: 1.5 in. for pipes <=1.5 in. and 1.5 in. for pipes >1.5 in.
Steam pipe insulation: 1.5 in. for pipes <=1.5 in. and 3 in. for pipes >1.5 in.
Exception(s):
 - Piping within HVAC equipment.
 - Fluid temperatures between 55 and 105°F.
 - Fluid not heated or cooled with renewable energy.
 - Piping within room fan-coil (with AHRI440 rating) and unit ventilators (with AHRI840 rating).
 - Runouts <4 ft in length.
- 11. Operation and maintenance manual provided to building owner
- 12. Thermostatic controls have 5°F deadband
Exception(s):
 - Thermostats requiring manual changeover between heating and cooling
 - Special occupancy or special applications where wide temperature ranges are not acceptable and are approved by the authority having jurisdiction.
- 13. Balancing devices provided in accordance with IMC 603.17
- 14. Demand control ventilation (DCV) present for high design occupancy areas (>40 person/1000 ft² in spaces >500 ft²) and served by systems with any one of 1) an air-side economizer, 2) automatic modulating control of the outdoor air damper, or 3) a design outdoor airflow greater than 3000 cfm.
Exception(s):
 - Systems with heat recovery.
 - Multiple-zone systems without DDC of individual zones communicating with a central control panel.
 - Systems with a design outdoor airflow less than 1200 cfm.
 - Spaces where the supply airflow rate minus any makeup or outgoing transfer air requirement is less than 1200 cfm.
- 15. Motorized, automatic shutoff dampers required on exhaust and outdoor air supply openings
Exception(s):
 - Gravity dampers acceptable in buildings <3 stories
- 16. Automatic controls for freeze protection systems present
- 17. Exhaust air heat recovery included for systems 5,000 cfm or greater with more than 70% outside air fraction or specifically exempted

Exception(s):

- Hazardous exhaust systems, commercial kitchen and clothes dryer exhaust systems that the International Mechanical Code prohibits the use of energy recovery systems.
- Systems serving spaces that are heated and not cooled to less than 60°F.
- Where more than 60 percent of the outdoor heating energy is provided from site-recovered or site solar energy.
- Heating systems in climates with less than 3600 HDD.
- Cooling systems in climates with a 1 percent cooling design wet-bulb temperature less than 64°F.
- Systems requiring dehumidification that employ energy recovery in series with the cooling coil.
- Laboratory fume hood exhaust systems that have either a variable air volume system capable of reducing exhaust and makeup air volume to 50 percent or less of design values or, a separate make up air supply meeting the following makeup air requirements:
 - a) at least 75 percent of exhaust flow rate, b) heated to no more than 2°F below room setpoint temperature, c) cooled to no lower than 3°F above room setpoint temperature, d) no humidification added, e) no simultaneous heating and cooling.

Section 5: Compliance Statement

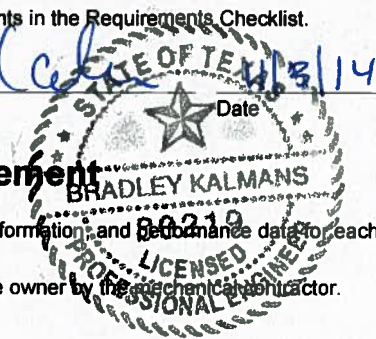
Compliance Statement: The proposed mechanical design represented in this document is consistent with the building plans, specifications and other calculations submitted with this permit application. The proposed mechanical systems have been designed to meet the 2009 IECC requirements in COMcheck Version 3.9.4 and to comply with the mandatory requirements in the Requirements Checklist.

BRADLEY KALMANS

Name - Title

Bradley Kalmans

Signature



Date

11/3/14

Section 6: Post Construction Compliance Statement

- HVAC record drawings of the actual installation, system capacities, calibration information, and performance data for each equipment provided to the owner.
- HVAC O&M documents for all mechanical equipment and system provided to the owner by the mechanical contractor.
- Written HVAC balancing and operations report provided to the owner.

The above post construction requirements have been completed.

Principal Mechanical Designer-Name

Signature

Date