

Effective March 1, 2009

**FLORIDA ENERGY EFFICIENCY CODE FOR BUILDING CONSTRUCTION
SUBCHAPTER 13-4 – Commercial Building Compliance Methods**

**Form 400B-08
Building Prescriptive Envelope Method**

**All
Climate Zones**

Project Name:	Buildings that may comply by this form: shell buildings (preliminary), renovation, change of occupancy type permitted before 1979, limited or special use building, building system changeouts).
Address:	Building Classification:
City, Zip Code:	Building Permit No.:
Builder:	Permitting Office:
Owner:	Jurisdiction No.:

BUILDING ENVELOPE INFORMATION

ENVELOPE COMPONENT					
	U-factor	Absorptance			
Roof:					
Wall:					
Floor:					
Fenestration	Max. U-factor Fixed/operable	Max. SHGC All orientation			
Vertical glazing type, % of wall:					
Skylight type, % of roof:					

SYSTEMS INFORMATION

SYSTEM	Type (describe system)	Size (capacity)	Sizing calc.	Efficiency	Rating
Air-conditioning system					
Heating system					
Ventilation				CFM	
Ducts	Location:	Fan Power:		R-value	
Piping	Fluid design operating temp:	Size of pipe:	-----	Inches	
Hot water			-----	EF	
Electric power	Drawings	Y	N	Operations manual available upon completion:	Y N
Motors	Open or enclosed			Poles & speed	Horsepower:
Lighting	Space type:			Lighting power density	

PRESCRIPTIVE MEASURES

Components	Section	Requirements	Check
Operations Manual	13-102.1, 13-410, 13-413	Operations manual provided to owner.	
Windows & Doors	13-406.AB.1.1	Glazed swinging entrance & revolving doors: max. 1.0 cfm/ft ² ; all other products: 0.4 cfm/ft ² .	
Joints/Cracks	13-406.AB.1.2	To be caulked, gasketed, weatherstripped or otherwise sealed.	
Dropped Ceiling Cavity	13-406.AB.1.4	Vented: seal & insulated ceiling. Unvented seal & insulate roof & side walls.	
Reheat	13-407.B	Electric resistance reheat prohibited.	
HVAC Efficiency	13-407, 13-408	Minimum efficiencies: Cooling Tables 13-407.AB.3.2A-D; 13-407.AB.3.2G-J; Heating Tables 13-407.AB.3.2B, 13-407.AB.3.2D, 13-408.AB.3.2E-F.	
HVAC Controls	13-407.AB.2	Zone controls prevent reheat (exceptions); separate thermostatic control per zone; combined HAC control 5°F deadband (exceptions).	
Ventilation	13-409.AB.3	Motorized dampers reqd. except gravity dampers OK in: 1) exhaust systems and 2) systems with design outside air intake or exhaust capacity ≤300 cfm.	
HVAC Ducts	13-410.AB	Air ducts, fittings, mechanical equipment & plenum chambers shall be mechanically attached, sealed, insulated & installed per Sec. 13-410.AB. Fan power limitations.	
Balancing	13-410.AB.4	HVAC distribution system(s) tested & balanced. Report in construction documents.	
Piping Insulation	13-411.AB	In accordance with Table 13-411.AB.2.	
Water Heaters	13-412.AB	Performance requirements in accordance with Table 13-412.AB.3. Heat trap required.	
Swimming Pools	13-412.AB.2.6	Cover on heated pools; Time switch (exceptions); Readily accessible on/off switch.	
Hot Water Pipe Insulation	13-412.AB.4	Table 13-411.AB.2 for circulating systems, first 8' outlet pipe from storage tank, between inlet pipe and heat trap.	
Water Fixtures	13-412.AB.2.5.2	Shower heat water flow restricted to 2.5 gpm at 80 psi. Public lavatory fixture max. Flow 0.5 gpm; if self-closing valve 0.25 gallon circulating, 0.5 gallon noncirculating.	
Lighting Controls	13-415.AB	Automatic control required for interior lighting in buildings >5,000 s.f.; Space control; Exterior photo sensor; Tandem wiring where 1-3 linear fluorescent lamps >30W.	

If required by Florida law, I hereby certify that the system design is in compliance with the Florida Energy Code. Registration number _____
 ARCHITECT: _____
 ELECTRICAL SYSTEM DESIGNER: _____
 LIGHTING SYSTEM DESIGNER: _____
 MECHANICAL SYSTEM DESIGNER: _____
 PLUMBING SYSTEM DESIGNER: _____

I hereby certify that the plans and specifications covered by the calculation are in compliance with the Florida Energy Code. PREPARED BY: _____ DATE: _____ I hereby certify that this building is in compliance with the Florida Energy Code: OWNER AGENT: _____ DATE: _____	Review of plans and specifications covered by this calculation indicates compliance with the Florida Energy Code. Before construction is completed, this building will be inspected for compliance in accordance with Section 553.908, F.S. BUILDING OFFICIAL: _____ DATE: _____
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APPENDIX 13-D

BUILDING ENVELOPE REQUIREMENTS			
Building Element		Mandatory Requirements	
Roof: Absorptance		≤ 0.22	
U-factor		≤ 0.027	
Wall: Absorptance		≤ 0.3	
U-factor		≤ 0.089	
Raised Floor Insulation: U-factor		≤ 0.052	
Windows: U-factor		≤ 0.45	
Window Area		≤ 50% window to wall area ratio	
SHGC 0-40% WW Ratio		0.61 North	
		0.25 all others	
SHGC 40-50% WW Ratio		0.44 North	
		0.25 all others	
Overhang Projection Factor (PF)		0.5 (projection half the distance of window height)	
Skylights: SHGC		≤ 0.19	
Skylight U-factor		≤ 1.36	
Maximum percent of roof area		5 percent	
Opaque Door U-factor			
Swinging		≤ 0.70	
Non-swinging		≤ 1.45	
BUILDING SYSTEM REQUIREMENTS			
SHELL BUILDINGS:		Lighting and HVAC must be sufficiently efficient to meet Method A criteria for the entire space at time of build-out.	
OTHER BUILDING TYPES: Replacement systems*			
HVAC Equipment			
Air conditioner (0-65 KBtuh)	13.0 SEER	Gas furnace (0-225 KBtuh)	80% AFUE
Air conditioner (> 65-135 KBtuh)	10.3 EER	Gas furnace (>225 KBtuh)	80% E _s
Air conditioner (>135-240 KBtuh)	9.7 EER		
Air conditioner (> 240-760 KBtuh)	9.5 EER, 9.7 IPLV	Heat pump (0 – 65 KBtuh)	13.0 SEER/ 7.7 HSPF
Air conditioner (> 760 KBtuh)	9.2 EER, 9.4 IPLV	Heat pump (> 65 – 135 KBtuh)	9.9 EER/3.2 COP
		Heat pump (>135-240 KBtuh)	9.1 EER/3.1 COP
		Heat pump (> 240 KBtuh)	8.8 EER, 9.0 IPLV/3.1 COP
Service Hot Water		Lighting	
Gas storage ≤ 75,000 Btu/h, ≥ 20 gallons	0.67-0.0019V EF		LPD for space type on Table 13-415.B.1.
Gas storage > 75,000 Btu/h	80% E _s		
Gas instantaneous	80% E _s		
Electric storage ≤ 12 kW	0.97 – 0.0032xV EF		
Pipe insulation (d < 1.5", d ≥ 1.5")	0.5", 1.0"		

*Other types of replacement equipment shall meet the code minimum for that type of equipment in the applicable table of Section 13-407, 13-408 and 13-412.