

Proposed Modification:

- Rationale: *Provide accurate ERV Credit for Climate Zone 1 and 2.*
- Fiscal Impact Statement
 - Impact to local entity relative to enforcement of code (553.73(9)(b),F.S.): *Does not require additional enforcement other than already existing.*
 - Impact to building and property owners relative to cost of compliance with code (553.73(9)(b),F.S.): *No additional cost to the owner because of this update or modification.*
 - Impact to industry relative to the cost of compliance with code (553.73(9)(b),F.S.): *No additional cost to the industry because of this update or modification.*
 - Impact to small business relative to the cost of compliance with code (553.73(9)(b),F.S.): *No additional cost to the small business because of this update or modification.*
- Requirements
 - Has a reasonable and substantial connection with the health, safety, and welfare of the general public (553.73(9)(a)2,F.S.): *The ERVs improve the indoor air relative humidity level and hence occupants thermal comfort.*
 - Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction (553.73(9)(a)3,F.S.): *Promotes installation of ERV devices due to higher ERV credits incentives.*
 - Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities (553.73(9)(a)4,F.S.): *This is an update of existing code, so discrimination of any kind is not applicable.*
 - Does not degrade the effectiveness of the code (553.73(9)(a)5,F.S.): *Because of higher ERV credit values, the modification actually strengthens application of the code.*
- Is the proposed code modification part of a prior code version? *Yes.*
 - 1. The provisions contained in the proposed amendment are addressed in the applicable international code? (553.73(7)(g),F.S.): *Not applicable.*
 - 2. The amendment demonstrates by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variation addressed by the foundation code and why the proposed amendment applies to the state. (553.73(7)(g),F.S.): *Not applicable.*
 - 3. The proposed amendment was submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process. (553.73(7)(g),F.S.): *Not to date.*
- *See below for proposed modification.*

Proposed modification: Section C407.5.2.4.2 Enthalpy Recovery Ventilation Systems (ERVs)

Delete:

~~The credit shall provide for a reduction of 6% of total HVAC annual energy use for buildings located in Climate Zone 1, and 4 percent of total HVAC annual energy use for buildings located in Climate Zone 2.~~

Addition:

The credit in Table C407.5.1 (6) shall provide for a reduction of the total HVAC annual energy use for the buildings with ERV device installed and located in Climate Zone 1, and Climate Zone 2 in Florida. The credit are provided by building type and for specific design cooling effectiveness values. If the design cooling effectiveness of the device installed is different from the tabulated values, then the ERV credit correction is to be applied to adjust the base ERV credit. The ERV credit correction values in this table are for every 1.0% proposed ERV cooling effectiveness change from that of the design cooling effectiveness values in this table. The adjusted ERV credit is calculated as follows:

$$ERV_{Adjusted} = ERV_{Base} + (\epsilon_{CoolingProposed} - \epsilon_{CoolingTable}) \cdot ERV_{Correction}$$

Where:

- ERV_{Base} = ERV credit from Table C407.5.1 (6).
- $ERV_{Correction}$ = ERV credit correction factor from Table C407.5.1 (6).
- $\epsilon_{CoolingTable}$ = design cooling effectiveness from Table C407.5.1 (6), %
- $\epsilon_{CoolingProposed}$ = design cooling effectiveness of the proposed building, %

TABLE C407.5.1 (6)
ERV Credit by building type and climate zone

Building Types	Floor Area Limits, ft ²	ERV Design Cooling Effectiveness, %	ERV Credit Climate Zone 1, %	ERV Credit Correction per 1.0% effectiveness, Climate zone 1	ERV Credit Climate Zone 2, %	ERV Credit Correction per 1.0% effectiveness, Climate zone 2
Hospital	-	67.0	7.24	0.14	6.83	0.11
Large Hotel	≥100,000	67.0	13.62	0.21	14.44	0.18
Small Hotel ^a	<100,000	69.0	7.50	0.21	6.39	0.24
Large Office	≥100,000	68.0	13.45	0.21	12.27	0.20
Medium Office	≥50,000	72.0	13.28	0.23	11.54	0.20
Small Office	<50,000	67.0	3.09	0.15	2.09	0.15
Standalone Retail	-	70.0	11.01	0.19	12.47	0.17
Primary School	-	68.0	14.88	0.26	11.54	0.18
Secondary School	-	68.0	19.78	0.32	13.81	0.41
Warehouse	-	65.0	6.19	0.15	7.40	0.15
Retail Strip Mall	-	65.0	8.11	0.19	10.76	0.17
Outpatient Health Care	-	65.0	7.75	0.14	5.62	0.11
Others ^b	-	-	6.0	-	4.0	-

- a. Small Hotel: the ERV credit apply only to the common area of the small hotel, not to the guest rooms. If the small hotel guest rooms are served by central dedicated outdoor air system and the total conditioned floor area of the hotel is greater than 500,000 ft², then apply the large hotel ERV credit to the whole small hotel building.
- b. Other Buildings: use existing ERV credit