

NBC2019A.E.:B:9.36. Energy Efficiency Checklist for residential and limited small commercial projects ZONE 7A

NBC Section 9.36 Energy Efficiency applies to a limited range of Part 9 occupancies. The **PRESCRIPTIVE PATH**, with or without **TRADE-OFF OPTIONS**, applies to (a) buildings of residential C occupancy, (b) buildings containing D, E or F3 occupancies whose combined total floor area does not exceed 300 m² (excluding parking garages serving C occupancies), and (c) any mix of occupancies described in (a) and (b) that results in a Part 9 building, i.e.: not exceeding 600 m² in building area or 3 storeys in building height.

The **PERFORMANCE PATH** may be applied ONLY to (a) houses with or without a secondary suite, and (b) purely residential buildings with common space floor area not exceeding 20% of the total floor area of the building. ANY building may be constructed per **NEBC**.

SELECT NBC9.36 compliance path and complete questions (1)–(4) accordingly. Further explanatory details are outlined in the attached *GUIDE*.

<input type="checkbox"/> PRESCRIPTIVE PATH Complete the four following tables (1) – (4) listing building characteristics for your project to demonstrate compliance with the solutions prescribed in 9.36.2.1-10., 9.36.3. and 9.36.4.	<input type="checkbox"/> PRESCRIPTIVE WITH TRADE-OFF PATH combines PRESCRIPTIVE PATH with TRADE-OFFs calculated per application of 9.36.2.11 to windows (facing same direction) AND/OR above-ground roof/wall/floor assemblies.	<input type="checkbox"/> PERFORMANCE PATH is proposed through submission of a pre-build Performance Report (“energy model”) per 9.36.5. and Summary including declaration of person responsible for report preparation. Intend to provide Blower Door Test Result? YES <input type="checkbox"/>
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(1) Check applicable proposed construction; MINIMUM prescriptive effective thermal resistance “ETR” for roofs/walls/floors Zone 7A

Is a heat recovery ventilator “HRV” proposed? → YES COMPLETE THIS COLUMN **-OR-** NO HRV COMPLETE THIS COLUMN

ABOVE-GROUND ASSEMBLIES	MINIMUM “ETR” (m ² K/W) (RSI)			MINIMUM “ETR” (m ² K/W) (RSI)				
Ceiling below attic	8.67	N/A <input type="checkbox"/>	equal or better <input type="checkbox"/>	less <input type="checkbox"/>	10.43	N/A <input type="checkbox"/>	equal or better <input type="checkbox"/>	less <input type="checkbox"/>
Cathedral ceiling -OR- flat roof	5.02	N/A <input type="checkbox"/>	equal or better <input type="checkbox"/>	less <input type="checkbox"/>	5.02	N/A <input type="checkbox"/>	equal or better <input type="checkbox"/>	less <input type="checkbox"/>
Wall, AND foundation exposure average > 600mm	2.97	N/A <input type="checkbox"/>	equal or better <input type="checkbox"/>	less <input type="checkbox"/>	3.08	N/A <input type="checkbox"/>	equal or better <input type="checkbox"/>	less <input type="checkbox"/>
Floor over unheated space	5.02	N/A <input type="checkbox"/>	equal or better <input type="checkbox"/>	less <input type="checkbox"/>	5.02	N/A <input type="checkbox"/>	equal or better <input type="checkbox"/>	less <input type="checkbox"/>
Tall wall	2.97	N/A <input type="checkbox"/>	equal or better <input type="checkbox"/>	less <input type="checkbox"/>	3.08	N/A <input type="checkbox"/>	equal or better <input type="checkbox"/>	less <input type="checkbox"/>
“ETR” reduction of 0.16 at protected area interface		N/A <input type="checkbox"/>	NO <input type="checkbox"/>	YES <input type="checkbox"/>		N/A <input type="checkbox"/>	NO <input type="checkbox"/>	YES <input type="checkbox"/>
BELOW-GRADE or GROUND CONTACT ASSEMBLIES								
Wall, AND foundation exposure average up to 600mm	2.98	N/A <input type="checkbox"/>	equal or better <input type="checkbox"/>	less <input type="checkbox"/>	3.46	N/A <input type="checkbox"/>	equal or better <input type="checkbox"/>	less <input type="checkbox"/>
Unheated floor – below frost line	0	N/A <input type="checkbox"/>	equal or better <input type="checkbox"/>		0	N/A <input type="checkbox"/>	equal or better <input type="checkbox"/>	
Unheated floor – above frost line	1.96	N/A <input type="checkbox"/>	equal or better <input type="checkbox"/>	less <input type="checkbox"/>	1.96	N/A <input type="checkbox"/>	equal or better <input type="checkbox"/>	less <input type="checkbox"/>
Heated floor	2.84	N/A <input type="checkbox"/>	equal or better <input type="checkbox"/>	less <input type="checkbox"/>	2.84	N/A <input type="checkbox"/>	equal or better <input type="checkbox"/>	less <input type="checkbox"/>
Slab-on-ground with integral footing	2.84	N/A <input type="checkbox"/>	equal or better <input type="checkbox"/>	less <input type="checkbox"/>	3.72	N/A <input type="checkbox"/>	equal or better <input type="checkbox"/>	less <input type="checkbox"/>
→ HRV conforms? CAN/CSA-C439, “Rating the Performance of Heat/Energy-Recovery Ventilators” sensible HR efficiency ≥60%@0°C & ≥55%@-25°C YES <input type="checkbox"/>								

If any proposed “ETR” value is less than the minimum value in the chosen column: attach **TRADE-OFF** calculations -OR- pre-build **PERFORMANCE** Report.

(2) Check applicable proposed construction; MAXIMUM prescriptive overall thermal transmittance “U-values” for windows/doors... Zone 7A

FENESTRATION & DOOR COMPONENTS	MAXIMUM “U” value (W/m ² K)				
Windows max U _{SI}	1.60	N/A <input type="checkbox"/>	equal or less <input type="checkbox"/>	exceeds <input type="checkbox"/>	9.36.2.7.A alternative: min ER=25
Exterior doors max U _{SI}	1.60	N/A <input type="checkbox"/>	equal or less <input type="checkbox"/>	exceeds <input type="checkbox"/>	9.36.2.7.A
Single exterior door exception max U _{SI}	2.60	N/A <input type="checkbox"/>	equal or less <input type="checkbox"/>	exceeds <input type="checkbox"/>	9.36.2.7.(5), NOTE on plans
Glass block; max area: 1.85 m ² max U _{SI}	2.90	N/A <input type="checkbox"/>	equal or less <input type="checkbox"/>	exceeds <input type="checkbox"/>	9.36.2.7.(4), NOTE on plans
Skylights max U _{SI}	2.70	N/A <input type="checkbox"/>	equal or less <input type="checkbox"/>	exceeds <input type="checkbox"/>	9.36.2.6.(4), include shaft ETR/detail
Attic/access hatches min nom RSI = 2.6	YES <input type="checkbox"/>	N/A <input type="checkbox"/>			9.36.2.7.(8), NOTE on plans
Garage overhead doors min nom RSI = 1.1	YES <input type="checkbox"/>	N/A <input type="checkbox"/>			9.36.2.7.(7), NOTE on plans

If any proposed window, door or skylight exceeds maximum values listed, attach **TRADE-OFF** calculations -OR- pre-build **PERFORMANCE** Report.

(3) LIST HVAC components/capacity/standard/ minimum performance; check if applicable, or complete this section. See *GUIDE* for options.

COMPONENT/EQUIPMENT	HEATING/COOLING CAPACITY	STANDARD	MIN PERFORMANCE	
Gas-fired forced air furnace	<65.9kW [222,000Btu/h]	CAN/CSA-P.2	≥AFUE 92%	YES <input type="checkbox"/>
Specify PERFORMANCE PATH equipment:				
Confirm intention: <u>Discharge</u> duct has motorized damper, or gravity/spring-operated backflow damper installed --AND--				YES <input type="checkbox"/>
<u>Intake</u> duct has “fail-open” motorized damper--EXCEPT where disallowed by other regulation or where system operates continuously [9.36.3.3.]				NO <input type="checkbox"/>

(4) LIST Service Water Heating components/input/standard/performance; check if applicable, or complete this section. See *GUIDE* for options.

COMPONENT	INPUT	STANDARD	PERFORMANCE REQ'T	
Gas-fired hot water tank	<22kW [75,000Btu/h]	CAN/CSA-P.3	EF ≥0 .67-.0005V	YES <input type="checkbox"/>
Specify PERFORMANCE PATH components:				
Confirm intention: Minimum 12mm thick pipe insulation to be installed for minimum first 2m of piping from inlet and outlet of water heater. All continuous-operating recirculating service water heating system piping shall be covered with minimum 12mm pipe insulation [9.36.4.4.]				YES <input type="checkbox"/>
				NO <input type="checkbox"/>