

Air Tightness Trade-off Metrics

Building Type	Airtightness Targets				
	ACH @50Pa	NLA @10 Pa		NLR @50 Pa	
		cm ² /m ²	in ² /100 ft ²	L/s/m ²	cfm50/ft ²
Detached	2.5	1.26	1.81	0.93	0.18
Attached	3.0	2.12	3.06	1.32	0.26



- ACH50Pa OR NLA OR NLR can be applied.
- If used as a trade-off, must be verified by a blower door test
- There are tables for ONE and TWO substitutions per dwelling
- These are equal to current ENERGY STAR[®] Level 1 Requirements

Air Tightness Trade-off Tables

Table 3.1.1.4.B (IP)
Permitted Substitutions for Airtight Dwelling Units⁽²⁾
 Forming Part of Sentence 3.1.1.4.(1)

Required Compliance	Permitted Substitution(s) Airtightness Complies with Table 3.1.1.4.A ⁽¹⁾
Maximum One Substitution per Dwelling Unit	
R22 + 7.5 ci	R19 + 5 ci
R22 + 10 ci	R19 + 7.5 ci
R24 + 10 ci	R22 + 7.5 ci
HRV with 81% SRE	HRV with 70% SRE
HRV with 75% SRE	HRV with 65% SRE
Furnace with 98%, 96% or 94% AFUE	Reduce furnace efficiency by 4% AFUE
Fenestration U-Value = 0.28, 0.25 or 0.21	Increase U-Value by 0.04 (downgrade one level)

Table 3.1.1.4.C (IP)
Permitted Substitutions for Airtight Dwelling Units⁽³⁾
 Forming Part of Sentences 3.1.1.4.(1) and (3)

Required Compliance	Permitted Substitutions Airtightness Complies with Table 3.1.1.4.A ⁽¹⁾
Maximum Two Substitutions per Dwelling Unit ⁽²⁾	
Above grade continuous wall insulation R7.5 ci and R10 ci	Above grade continuous wall insulation R5 ci and R7.5 ci respectively
R22 and R24 insulation between studs in above grade walls with continuous insulation	R19 and R22 insulation respectively between studs in above grade walls with continuous insulation
Basement wall R20 + 12 ci, R20 + 10 ci or R20 ci	Basement wall R15 ci or R12 + 5 ci
Slab located more than 24 inches below grade and entire under slab insulation is R10 or R5	R0 , if the slab is unheated R5 min, if heated
R60 ceiling insulation with or without 250 mm high heel	R50 ceiling insulation

Trade-off Example

Air Tightness Trade-off examples:



If you test at 2.5 ACH@50 or equiv.:

- Reduce furnace efficiency by 4% **OR**
- Increase window U-value by 0.2 **OR**
- Reduce basement insulation to R15 & ceiling to R50