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## Zancor Homes-Energy Star V-12.1

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### Detached Houses

**Note:** The following specifications are based on NRCan Common Tech Spec-12.1 for enrollments after Nov 30, 2012

**Note:** All equipment and products shall comply with Canada's "Energy Efficiency Regulations"

**Note:** Any models over 20% window area ratio must comply via Performance Path (ERS-83)

**Note:** Though every attempt has been made to ensure accuracy we recommend the client review for accuracy.

<b>Heating/Cooling:</b>	Energy Star Qualified Natural Gas Condensing Furnace min. AFUE of 95% Thermostats to be Energy Star or equivalent A/C no longer required to be Energy Star (Electrical Credits Available for using Energy Star) Spark Ignition-Direct vent gas fireplace	
<b>Domestic Hot Water</b>	Stored Condensing DHW - 94% TE min-(two pipe)	(0.8 Option Credits)
<b>Drain Water Heat Recovery:</b> (See Ontario Credits below)	Listed with NRCan or CSA B55.1-12 Certified. 42% efficient and servicing one shower minimum Listed with NRCan or CSA B55.1-12 Certified. 42% efficient and servicing two showers minimum	(0.7 Option Credits) (1.3 Option Credits)
<b>Ducts:</b>	All ducts to be located within the heated boundary area. Refer to section 4.7.2.3 for duct sealing requirements. (Same as last version)	
<b>Windows</b> <b>Patio Doors</b> <b>Skylights</b>	All glass to be Energy Star labelled " <b>Zone C</b> " compliant minimum Window Area limit= 20%	
<b>Doors</b>	All Energy Star Zone B Qualified Insulated Slab (One door system per house can be exempt from this requirement) Cold cellar and garage man-doors to be insulated slab but don't have to be Energy Star Qualified	
<b>Heated Ceiling with Attic</b>	R-50 minimum-Blown Cellulose or Fibreglass (Raised heel or minimum 7/12 pitch trusses <b>recommended</b> to minimize heat loss at the top plate that contributes to ice damming.)	
<b>Heated Ceiling w/o attic</b>	Scissor Truss w/ R31 batts (or conventional framing (2x10) with nominal R31)	
<b>Main Walls-1</b> <b>Main Walls-2</b> <b>Attic Knee Walls</b> <b>High Walls</b> (open to above condition)	2x6 @ 16"oc + R-24 Batt + 7/16" OSB + Brick Veneer Synthetic Stucco-2x6 @ 16"oc + R-24 Batt +1.5" EPS+ DensGlass 2x6 @ 16"oc + R28 Batt 2x8+R28+7/16" OSB	
<b>Pony Walls</b> (Foundation knee walls)	2x6 @ 16"oc + R-24 Batt + 7/16" OSB + Brick Veneer	
<b>Joist Header-1</b>	R-24 Batt + 7/16" OSB + Brick Veneer	
<b>Basement Walls</b>	R20 Blanket Full Height <b>Note:</b> any foundation wall that is 2' above grade must be insulated to the same value as the main walls.	
<b>Slab 4'&gt; below grade</b> <b>Slab 4'&lt; below grade</b> <b>Slab with in floor heating</b>	No Insulation under slab required for slabs 4'> 2" XPS under slab insulation (full slab insulation required in areas that require frost protection) 2" XPS under slab insulation <i>Note: Insulated Slabs require an R5 thermal break between the slab edge and the foundation.</i>	
<b>Air Leakage</b>	2.5 ACH50 or NLA of 1.81 sq.in. or .18 cfm50/ 100sq.ft. of heated boundry area (Detached)	

**Mechanical  
Ventilation and  
Distribution**

Minimum Principle Fan Capacity as described in OBC 2006  
**Energy Star Qualified or HVI Certified - Conventional HRV- Simplified Installation**  
 minimum efficiency of 75% sensible recovery (SRE) @ 0C.

Minimum HRV Flowrates for testing of HRV's/ERV's		
1BR	16 L/S	34cfm
2BR	18 L/S	38cfm
3BR	22 L/S	47cfm
4BR	26 L/S	55cfm
5BR	30 L/S	64cfm
>5BR	Compy with 9.32.3.1(1)(a) in 2010 NBC	

**Mechanical  
Ventilation and  
Distribution (continued)**

\* **Note-** The principal fan (HRV) must be interconnected with a forced air distribution system such that switching on the HRV operates the forced air system.  
 \***Note-**Supply and exhaust flows must be balanced within 10% by a technician qualified by the manufacturer, or by HRAI and a label is required to be attached to the HRV indicating the installing company and the flow rates.

**Exhaust Fans**

Exhaust Fans no longer need to be Energy Star  
 (Note: Additional electrical credit available if using Energy Star Exhaust Fans.)

**Solid Fuel Burning  
Appliances**

None

**Exposed Floors**

Nominal R-31- 2 component foam

**Ontario BOP Options  
2.4 Credits Required**

Item	Regular
Stored Condensing DHW @ 90%TE min	0.7
HRV w/ 75% SRE @ Oc.	0.3
DWHR (42% minimum eff)-2 showers	1.3
Zone C Windows	0.1
<b>Total</b>	<b>2.4</b>

**Electricity and  
Appliance Credits**

**Notes:**

All Houses are required to achieve 400kWh

Item	Regular
100% Eligible Lighting	420
4 Energy Star Fans	20
	0
<b>Total</b>	<b>440</b>

Alternative Electrical Credit Compliance Pkgs:

Item	kWh
75% Eligible Lighting	295
4 Energy Star Bathroom Fans	20
HRV Fan Efficacy (.8 cfm/W)	30
Energy Star AC (14.5 SEER)	65
	0
<b>Total</b>	<b>410</b>

Item	kWh
75% Eligible Lighting	295
HRV Fan Efficacy (1 cfm/W)	140
	0
<b>Total</b>	<b>435</b>

**Notes:**

DrainWater Heat Recovery Models are listed at: <http://oee.nrcan.gc.ca/residential/personal/retrofit/13302>

One acceptable model is: Renewability-R3-42 (75 mm / 3 inch drain at 42.4% steady state)