

Project Sample Residence

Energy Code: 2015 IECC

Location: North Richland Hills, Texas

Construction Type: Single-family
Project Type: New Construction

Conditioned Floor Area: **5,555 ft2** Glazing Area **13%** 

Climate Zone: 3 (2407 HDD)

Permit Date: Permit Number:

Construction Site: 1234 Sample Sample, TX 12345 Owner/Agent: John Doe Sample Road Sample Hills, TX 12345

xxx.xxx.xxxx Sample@gmail.com Designer/Contractor: Unlimited Options, Inc. 11909 Central Ave NE Blaine, MN 55434 866.441.2143

info@unlimited-options.com

## Compliance: Passes using UA trade-off

Compliance: 10.9% Better Than Code Maximum UA: 1148 Your UA: 1023 Maximum SHGC: 0.25 Your SHGC: 0.19

The % Better or Worse Than Code Index reflects how close to compliance the house is based on code trade-off rules. It DOES NOT provide an estimate of energy use or cost relative to a minimum-code home.

## **Envelope Assemblies**

Assembly	Gross Area or Perimeter	Cavity R-Value	Cont. R-Value	U-Factor	UA
Ceiling 1: Flat Ceiling or Scissor Truss	3,895	30.0	0.0	0.035	136
Wall 1: Wood Frame, 16" o.c.	6,613	19.0	0.0	0.060	342
Window: A: Wood Frame, Double Pane with Low-E SHGC: 0.18	28			0.300	8
Window: B: Wood Frame, Double Pane with Low-E SHGC: 0.18	40			0.300	12
Window: C: Wood Frame, Double Pane with Low-E SHGC: 0.18	20			0.300	6
Window: D: Wood Frame, Double Pane with Low-E SHGC: 0.18	5			0.300	2
Window: E: Wood Frame, Double Pane with Low-E SHGC: 0.18	36			0.300	11
Window: F: Wood Frame, Double Pane with Low-E SHGC: 0.18	23			0.300	7
Window: G: Wood Frame, Double Pane with Low-E SHGC: 0.18	12			0.300	4
Window: H: Wood Frame, Double Pane with Low-E SHGC: 0.18	56			0.300	17
Window: J: Wood Frame, Double Pane with Low-E SHGC: 0.18	12			0.300	4
Window: K: Wood Frame, Double Pane with Low-E SHGC: 0.18	40			0.300	12

Project Title: Sample Residence Report date: 01/14/19

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Assembly	Gross Area Cavity or R-Value Perimeter	Cont. R-Value	U-Factor	UA
Window: L: Wood Frame, Double Pane with Low-E SHGC: 0.18	8		0.300	2
Window: M: Wood Frame, Double Pane with Low-E SHGC: 0.18	20		0.300	6
Window: P: Wood Frame, Double Pane with Low-E SHGC: 0.18	33		0.300	10
Window: Q: Wood Frame, Double Pane with Low-E SHGC: 0.18	8		0.300	2
Window: R: Wood Frame, Double Pane with Low-E SHGC: 0.18	37		0.300	11
Window: S: Wood Frame, Double Pane with Low-E SHGC: 0.18	30		0.300	9
Window: T: Metal Frame with Thermal Break, Double Pane with Low-E SHGC: 0.18	48		0.300	14
Window: U: Metal Frame with Thermal Break, Double Pane with Low-E SHGC: 0.18	48		0.300	14
Window: V: Metal Frame with Thermal Break, Double Pane with Low-E SHGC: 0.18	56		0.300	17
Window: W: Metal Frame with Thermal Break, Double Pane with Low-E SHGC: 0.18	38		0.300	11
Window: X: Metal Frame with Thermal Break, Double Pane with Low-E SHGC: 0.18	15		0.300	5
Window: Y: Metal Frame with Thermal Break, Double Pane with Low-E SHGC: 0.18	8		0.300	2
Window: Z: Metal Frame with Thermal Break, Double Pane with Low-E SHGC: 0.18	40		0.300	12
1-DOOR: Solid	24		0.310	7
Door: 1-SIDELIGHTS: Glass SHGC: 0.14	15		0.310	5
Door: 3: Glass SHGC: 0.21	48		0.300	14
Door: 4: Glass SHGC: 0.21	96		0.300	29
Door: 5: Glass SHGC: 0.21	48		0.300	14
Door: 11: Solid	24		0.200	5
Floor 1: Slab-On-Grade:Unheated Insulation depth: 5.0'	313	5.0	0.745	233
Floor 2: All-Wood Joist/Truss:Over Unconditioned Space	859 19.0	0.0	0.047	40
Compliance Statement: The proposed building design described here is consiculations submitted with the permit application. The proposed building has REScheck Version 4.6.5 and to comply with the mandatory requirements liste	been designed to meet the	e 2015 IEC	C requireme	
Name - Title Signature		Date		

## **REScheck Software Version 4.6.5 Inspection Checklist** Energy Code: 2015 IECC

Requirements: 0.0% were addressed directly in the REScheck software

Text in the "Comments/Assumptions" column is provided by the user in the REScheck Requirements screen. For each requirement, the user certifies that a code requirement will be met and how that is documented, or that an exception is being claimed. Where compliance is itemized in a separate table, a reference to that table is provided.

Section # & Req.ID	Pre-Inspection/Plan Review	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
103.1, 103.2 [PR1] <sup>1</sup>	Construction drawings and documentation demonstrate energy code compliance for the building envelope. Thermal envelope represented on construction documents.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
103.1, 103.2, 403.7 [PR3] <sup>1</sup>	Construction drawings and documentation demonstrate energy code compliance for lighting and mechanical systems. Systems serving multiple dwelling units must demonstrate compliance with the IECC Commercial Provisions.			□Complies □Does Not □Not Observable □Not Applicable	
302.1, 403.7 [PR2] <sup>2</sup>	Heating and cooling equipment is sized per ACCA Manual S based on loads calculated per ACCA Manual J or other methods approved by the code official.	Heating: Btu/hr Cooling: Btu/hr	Heating: Btu/hr Cooling: Btu/hr	□Complies □Does Not □Not Observable □Not Applicable	

**Additional Comments/Assumptions:** 

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Section # & Req.ID	Foundation Inspection	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
402.1.2 [FO1] <sup>1</sup>	Slab edge insulation R-value.	R Unheated Heated	R Unheated Heated	□Complies □Does Not □Not Observable □Not Applicable	See the Envelope Assemblies table for values.
402.1.2 [FO3] <sup>1</sup>	Slab edge insulation depth/length.	ft	ft	□Complies □Does Not □Not Observable □Not Applicable	See the Envelope Assemblies table for values.
303.2.1 [FO11] <sup>2</sup>	A protective covering is installed to protect exposed exterior insulation and extends a minimum of 6 in. below grade.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
403.9 [FO12] <sup>2</sup>	Snow- and ice-melting system controls installed.			□Complies □Does Not □Not Observable □Not Applicable	

1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)

Section # & Req.ID	Framing / Rough-In Inspection	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
402.1.1, 402.3.4 [FR1] <sup>1</sup>	Door U-factor.	U	U	□Complies □Does Not □Not Observable □Not Applicable	See the Envelope Assemblies table for values.
402.1.1, 402.3.1, 402.3.3, 402.5 [FR2] <sup>1</sup>	Glazing U-factor (area-weighted average).	U	U	□Complies □Does Not □Not Observable □Not Applicable	See the Envelope Assemblies table for values.
402.1.1, 402.3.2, 402.3.3, 402.5 [FR3] <sup>1</sup>	Glazing SHGC value (area- weighted average).	SHGC:	SHGC:	□Complies □Does Not □Not Observable □Not Applicable	See the Envelope Assemblies table for values.
303.1.3 [FR4] <sup>1</sup>	U-factors of fenestration products are determined in accordance with the NFRC test procedure or taken from the default table.			□Complies □Does Not □Not Observable □Not Applicable	
402.4.1.1 [FR23] <sup>1</sup>	Air barrier and thermal barrier installed per manufacturer's instructions.			□Complies □Does Not □Not Observable □Not Applicable	
402.4.3 [FR20] <sup>1</sup>	Fenestration that is not site built is listed and labeled as meeting AAMA /WDMA/CSA 101/I.S.2/A440 or has infiltration rates per NFRC 400 that do not exceed code limits.			□Complies □Does Not □Not Observable □Not Applicable	
402.4.5 [FR16] <sup>2</sup>	IC-rated recessed lighting fixtures sealed at housing/interior finish and labeled to indicate ≤2.0 cfm leakage at 75 Pa.			□Complies □Does Not □Not Observable □Not Applicable	
403.3.1 [FR12] <sup>1</sup>	Supply and return ducts in attics insulated >= R-8 where duct is >= 3 inches in diameter and >= R-6 where < 3 inches. Supply and return ducts in other portions of the building insulated >= R-6 for diameter >= 3 inches and R-4.2 for < 3 inches in diameter.			□Complies □Does Not □Not Observable □Not Applicable	
403.3.5 [FR15] <sup>3</sup>	Building cavities are not used as ducts or plenums.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
403.4 [FR17] <sup>2</sup>	HVAC piping conveying fluids above 105 °F or chilled fluids below 55 °F are insulated to ≥R-3.	R	R	□Complies □Does Not □Not Observable □Not Applicable	
403.4.1 [FR24] <sup>1</sup>	Protection of insulation on HVAC piping.			□Complies □Does Not □Not Observable □Not Applicable	

	1 High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)
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Section # & Req.ID	Framing / Rough-In Inspection	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
403.5.3 [FR18] <sup>2</sup>	Hot water pipes are insulated to ≥R-3.	R	R	□Complies □Does Not	
•			 	□Not Observable □Not Applicable	
403.6 [FR19] <sup>2</sup>	Automatic or gravity dampers are installed on all outdoor air			□Complies □Does Not	
	intakes and exhausts.			□Not Observable □Not Applicable	

Section # & Req.ID	Insulation Inspection	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
303.1 [IN13] <sup>2</sup>	All installed insulation is labeled or the installed R-values provided.			□Complies □Does Not	
•	provided.			□Not Observable □Not Applicable	1 
402.1.1, 402.2.6 [IN1] <sup>1</sup>	Floor insulation R-value.	R Wood Steel	R Wood     Steel	□Complies □Does Not □Not Observable □Not Applicable	See the Envelope Assemblies table for values.
303.2, 402.2.7 [IN2] <sup>1</sup>	Floor insulation installed per manufacturer's instructions and in substantial contact with the underside of the subfloor, or floor framing cavity insulation is in contact with the top side of sheathing, or continuous insulation is installed on the underside of floor framing and extends from the bottom to the top of all perimeter floor framing members.			□Complies □Does Not □Not Observable □Not Applicable	
402.1.1, 402.2.5, 402.2.6 [IN3] <sup>1</sup>	Wall insulation R-value. If this is a mass wall with at least ½ of the wall insulation on the wall exterior, the exterior insulation requirement applies (FR10).	R Wood Mass Steel	R Wood Mass Steel	□Complies □Does Not □Not Observable □Not Applicable	See the Envelope Assemblies table for values.
303.2 [IN4] <sup>1</sup>	Wall insulation is installed per manufacturer's instructions.			☐Complies ☐Does Not ☐Not Observable	
				□Not Applicable	i 1

1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)

Section # & Req.ID	Final Inspection Provisions	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
402.1.1, 402.2.1, 402.2.2, 402.2.6 [FI1] <sup>1</sup>	Ceiling insulation R-value.	R	R	□Complies □Does Not □Not Observable □Not Applicable	See the Envelope Assemblies table for values.
303.1.1.1, 303.2 [FI2] <sup>1</sup>	Ceiling insulation installed per manufacturer's instructions. Blown insulation marked every 300 ft <sup>2</sup> .			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
402.2.3 [FI22] <sup>2</sup>	Vented attics with air permeable insulation include baffle adjacent to soffit and eave vents that extends over insulation.			□Complies □Does Not □Not Observable □Not Applicable	
402.2.4 [FI3] <sup>1</sup>	Attic access hatch and door insulation ≥R-value of the adjacent assembly.	R	R	□Complies □Does Not □Not Observable □Not Applicable	
402.4.1.2 [FI17] <sup>1</sup>	Blower door test @ 50 Pa. <=5 ach in Climate Zones 1-2, and <=3 ach in Climate Zones 3-8.	ACH 50 =	ACH 50 =	□Complies □Does Not □Not Observable □Not Applicable	
403.3.4 [FI4] <sup>1</sup>	Duct tightness test result of <=4 cfm/100 ft2 across the system or <=3 cfm/100 ft2 without air handler @ 25 Pa. For rough-in tests, verification may need to occur during Framing Inspection.	cfm/100 ft <sup>2</sup>	cfm/100 ft <sup>2</sup>	□Complies □Does Not □Not Observable □Not Applicable	
403.3.3 [FI27] <sup>1</sup>	Ducts are pressure tested to determine air leakage with either: Rough-in test: Total leakage measured with a pressure differential of 0.1 inch w.g. across the system including the manufacturer's air handler enclosure if installed at time of test. Postconstruction test: Total leakage measured with a pressure differential of 0.1 inch w.g. across the entire system including the manufacturer's air handler enclosure.	cfm/100	cfm/100	□Complies □Does Not □Not Observable □Not Applicable	
403.3.2.1 [FI24] <sup>1</sup>	Air handler leakage designated by manufacturer at <=2% of design air flow.			□Complies □Does Not □Not Observable □Not Applicable	
403.1.1 [FI9] <sup>2</sup>	Programmable thermostats installed for control of primary heating and cooling systems and initially set by manufacturer to code specifications.			□Complies □Does Not □Not Observable □Not Applicable	
403.1.2 [FI10] <sup>2</sup>	Heat pump thermostat installed on heat pumps.			□Complies □Does Not □Not Observable □Not Applicable	
403.5.1 [FI11] <sup>2</sup>	Circulating service hot water systems have automatic or accessible manual controls.			□Complies □Does Not □Not Observable □Not Applicable	
	1 High Impact (Tier	1) 2 Medium	Impact (Tier 2)	3 Low Impact (Ti	er 3)

Section # & Req.ID	Final Inspection Provisions	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
	All mechanical ventilation system fans not part of tested and listed HVAC equipment meet efficacy and air flow limits.			□Complies □Does Not □Not Observable □Not Applicable	
	Hot water boilers supplying heat through one- or two-pipe heating systems have outdoor setback control to lower boiler water temperature based on outdoor temperature.			□Complies □Does Not □Not Observable □Not Applicable	
[FI28] <sup>2</sup>	Heated water circulation systems have a circulation pump. The system return pipe is a dedicated return pipe or a cold water supply pipe. Gravity and thermossyphon circulation systems are not present. Controls for circulating hot water system pumps start the pump with signal for hot water demand within the occupancy. Controls automatically turn off the pump when water is in circulation loop is at set-point temperature and no demand for hot water exists.			□Complies □Does Not □Not Observable □Not Applicable	
[FI29] <sup>2</sup>	Electric heat trace systems comply with IEEE 515.1 or UL 515. Controls automatically adjust the energy input to the heat tracing to maintain the desired water temperature in the piping.			□Complies □Does Not □Not Observable □Not Applicable	
[FI30] <sup>2</sup>	Water distribution systems that have recirculation pumps that pump water from a heated water supply pipe back to the heated water source through a cold water supply pipe have a demand recirculation water system. Pumps have controls that manage operation of the pump and limit the temperature of the water entering the cold water piping to 104°F.			□Complies □Does Not □Not Observable □Not Applicable	
403.5.4 [FI31] <sup>2</sup>	Drain water heat recovery units tested in accordance with CSA B55.1. Potable water-side pressure loss of drain water heat recovery units < 3 psi for individual units connected to one or two showers. Potable water-side pressure loss of drain water heat recovery units < 2 psi for individual units connected to three or more showers.			□Complies □Does Not □Not Observable □Not Applicable	
	75% of lamps in permanent fixtures or 75% of permanent fixtures have high efficacy lamps. Does not apply to low-voltage lighting.			□Complies □Does Not □Not Observable □Not Applicable	
404.1.1 [FI23] <sup>3</sup>	Fuel gas lighting systems have no continuous pilot light.			□Complies □Does Not □Not Observable □Not Applicable	
	1 High Impact (Tier	1) 2 Medium	Impact (Tier 2)	3 Low Impact (Ti	er 3)

Section # & Req.ID	Final Inspection Provisions	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
401.3 [FI7] <sup>2</sup>	Compliance certificate posted.			□Complies □Does Not	
				□Not Observable □Not Applicable	
303.3 [FI18] <sup>3</sup>	Manufacturer manuals for mechanical and water heating systems have been provided.			□Complies □Does Not	
				□Not Observable □Not Applicable	



Insulation Rating	R-Value	
Above-Grade Wall	19.00	
Below-Grade Wall	0.00	
Floor	19.00	
Ceiling / Roof	30.00	
Ductwork (unconditioned spaces):		
Glass & Door Rating	U-Factor	SHGC
Window	0.30	0.18

Door	0.30	0.21
Heating & Cooling Equipment	Efficiency	
Heating System:		
Cooling System:		
Water Heater:		

Date:

**Comments**