

Project Information

For: QUALITY FAMILY HOMES

Design Conditions

Location:

Gainesville, FL, US
Elevation: 123 ft
Latitude: 30°N

Outdoor:

Dry bulb (°F)
Daily range (°F)
Wet bulb (°F)
Wind speed (mph)

Heating

33
-
-
15.0

Cooling

92
18 (M)
76
7.5

Indoor:

Indoor temperature (°F)
Design TD (°F)
Relative humidity (%)
Moisture difference (gr/lb)

Heating

68
35
50
28.7

Cooling

75
17
50
43.5

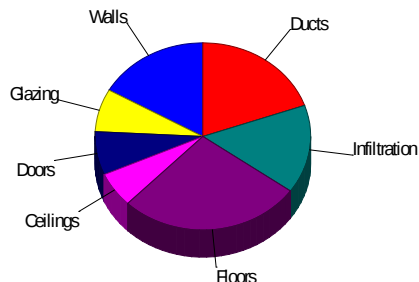
Infiltration:

Method
Construction quality
Fireplaces

Simplified
Average
0

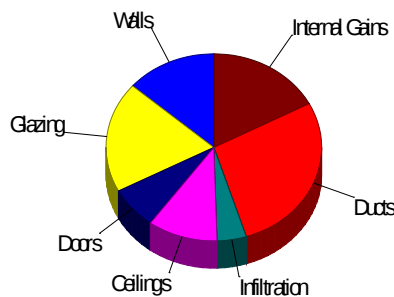
Heating

Component	Btuh/ft²	Btuh	% of load
Walls	3.2	2943	16.8
Glazing	10.4	1301	7.4
Doors	20.8	1312	7.5
Ceilings	0.9	1061	6.0
Floors	4.1	4805	27.4
Infiltration	2.4	2681	15.3
Ducts		3443	19.6
Piping		0	0
Humidification		0	0
Ventilation		0	0
Adjustments		0	0
Total		17546	100.0



Cooling

Component	Btuh/ft²	Btuh	% of load
Walls	2.3	2116	13.6
Glazing	23.9	2982	19.1
Doors	18.0	1132	7.3
Ceilings	1.4	1634	10.5
Floors	0	0	0
Infiltration	0.6	687	4.4
Ducts		4343	27.9
Ventilation		0	0
Internal gains		2690	17.3
Blower		0	0
Adjustments		0	0
Total		15585	100.0



Latent Cooling Load = 2487 Btuh

Overall U-value = 0.095 Btuh/ft²-°F, Window / Floor Area = 10.6 %

Data entries checked.



Review for Code Compliance
Universal Engineering Science

Lawrence Perrell
Examiner-License No.

PX2707

02/03/2025

Project Information

For: QUALITY FAMILY HOMES

Notes: DEANE RES 1148 SE COUNTY RD 252

Design Information

Weather: Gainesville, FL, US

Winter Design Conditions

Outside db 33 °F
Inside db 68 °F
Design TD 35 °F

Ventilation Method MJ8

Heating Summary

Structure 14103 Btuh
Ducts (R-6.0) 3443 Btuh
Central vent (0 cfm) 0 Btuh

Humidification 0 Btuh
Piping 0 Btuh
Equipment load 17546 Btuh

Infiltration

Method Simplified
Construction quality Average
Fireplaces 0

	Heating	Cooling
Area (ft ²)	1176	1176
Volume (ft ³)	9408	9408
Air changes/hour	0.45	0.23
Equiv. AVF (cfm)	71	36

Heating Equipment Summary

Make Amana
Trade AMANA
Model ASZN402410A
AHRI ref 213248853

Efficiency 7.5 HSPF2
Heating input
Heating output 22000 Btuh @ 47°F
Temperature rise 26 °F
Actual air flow 760 cfm
Air flow factor 0.043 cfm/Btuh
Static pressure 0 in H2O
Space thermostat
Capacity balance point = 29 °F

Backup:
Input = 14 kW, Output = 46201 Btuh, 100 AFUE

Summer Design Conditions

Outside db 92 °F
Inside db 75 °F
Design TD 17 °F
Daily range M
Relative humidity 50 %
Moisture difference 43 gr/lb

Sensible Cooling Equipment Load Sizing

Structure 11242 Btuh
Ducts (R-6.0) 4343 Btuh
Central vent (0 cfm) 0 Btuh

Blower 0 Btuh

Use manufacturer's data n
Rate/swing multiplier 0.97
Equipment sensible load 15180 Btuh

Latent Cooling Equipment Load Sizing

Structure 1661 Btuh
Ducts 825 Btuh
Central vent (0 cfm) 0 Btuh

Equipment latent load 2487 Btuh

Equipment Total Load (Sen+Lat) 17666 Btuh
Req. total capacity at 0.70 SHR 1.8 ton

Cooling Equipment Summary

Make Amana
Trade AMANA
Cond ASZN402410A
Coil AMST30BU1400A
AHRI ref 213248853
Efficiency 12.5 EER2, 15.2 SEER2
Sensible cooling 15960 Btuh
Latent cooling 6840 Btuh
Total cooling 22800 Btuh
Actual air flow 760 cfm
Air flow factor 0.049 cfm/Btuh
Static pressure 0 in H2O
Sensible heat ratio 0.86



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Signature

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Calculations approved by ACCA to meet all requirements of Manual J 8th Ed.

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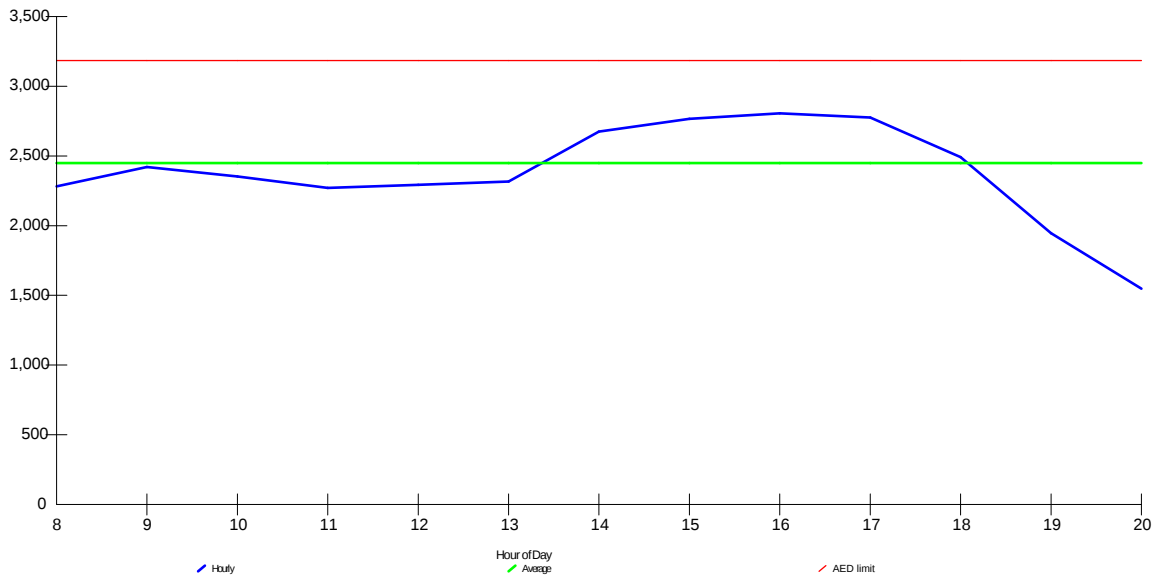
Cooling

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Infiltration:

Test for Adequate Exposure Diversity

Hourly Glazing Load



Maximum hourly glazing load exceeds average by 14.5%.

House has adequate exposure diversity (AED), based on AED limit of 30%.

AED excursion: 0 Btuh



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Laurel Parnell

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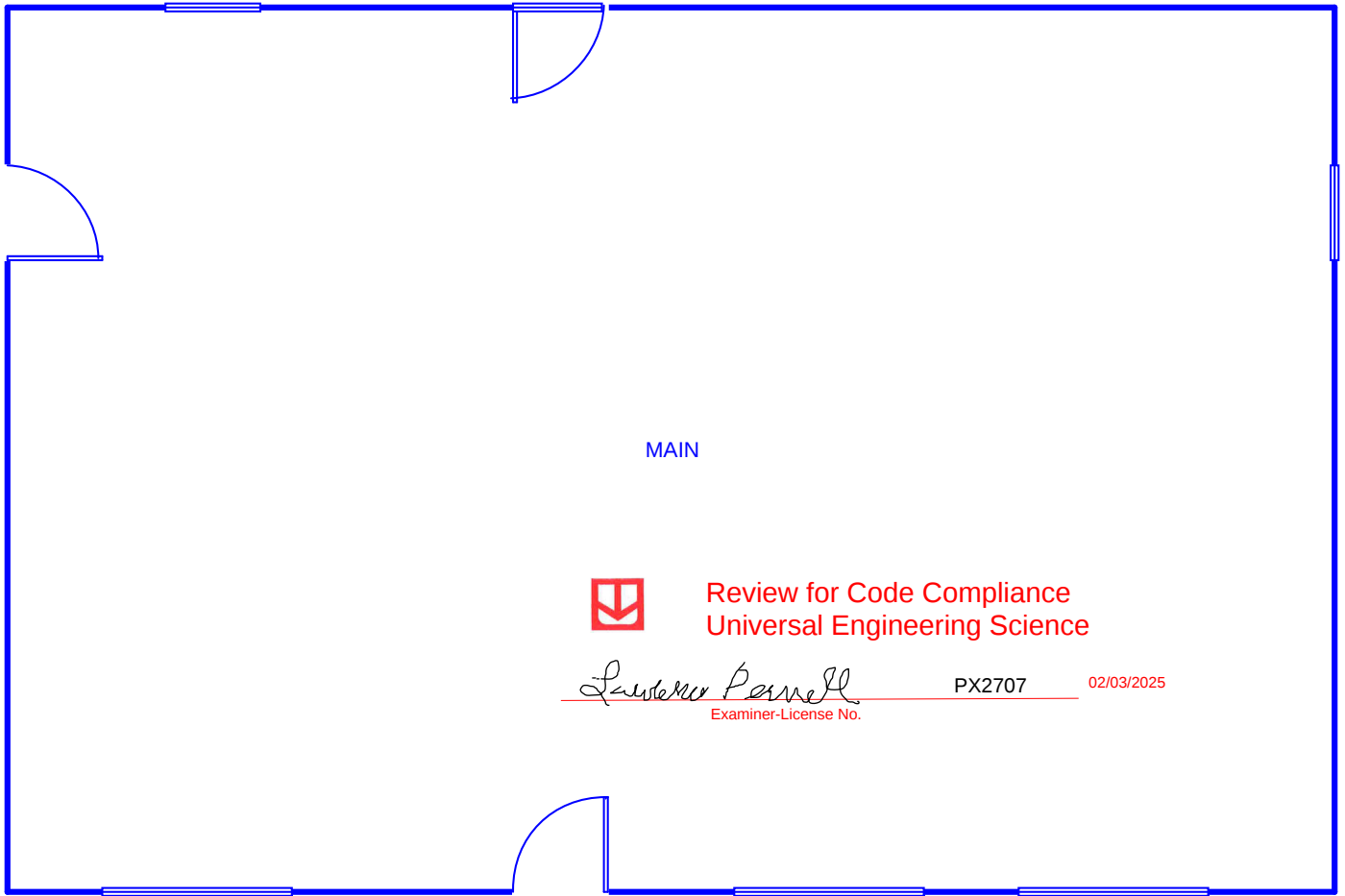
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		Room name Exposed wall Room height Room dimensions Room area	Entire House 140.0 ft ² 8.0 ft x 28.0 ft 1176.0 ft ²						MAIN 140.0 ft ² 8.0 ft x 28.0 ft 1176.0 ft ²					
	Ty	Construction number	U-value (Btuh/ft ² ·°F)	Or	HTM (Btuh/ft ²)		Area (ft ²) or perimeter (ft)		Load (Btuh)		Area (ft ²) or perimeter (ft)		Load (Btuh)	
					Heat	Cool	Gross	N/P/S	Heat	Cool	Gross	N/P/S	Heat	Cool
6	W	12C-0sw	0.091	ne	3.16	2.27	336	225	710	511	336	225	710	511
.	G	4A5-2ov	0.300	ne	10.41	24.08	90	0	937	2167	90	0	937	2167
.	D	11J0	0.600	ne	20.82	17.97	21	21	437	377	21	21	437	377
11	W	12C-0sw	0.091	se	3.16	2.27	224	203	641	461	224	203	641	461
	D	11J0	0.600	se	20.82	17.97	21	21	437	377	21	21	437	377
	W	12C-0sw	0.091	sw	3.16	2.27	336	289	913	656	336	289	913	656
	G	4A5-2ov	0.300	sw	10.41	22.08	9	2	94	199	9	2	94	199
	G	4A5-2ov	0.300	sw	10.41	23.54	17	2	177	400	17	2	177	400
	D	11J0	0.600	sw	20.82	17.97	21	21	437	377	21	21	437	377
	W	12C-0sw	0.091	nw	3.16	2.27	224	215	679	488	224	215	679	488
	G	4A5-2ov	0.300	nw	10.41	24.08	9	0	94	217	9	0	94	217
	C	16B-38ad	0.026	-	0.90	1.39	1176	1176	1061	1634	1176	1176	1061	1634
	F	22A-cpl	0.989	-	34.32	0.00	1176	140	4805	0	1176	140	4805	0
6	c) AED excursion									0				0
	Envelope loss/gain								11421	7865			11421	7865
12	a) Infiltration								2681	687			2681	687
	b) Room ventilation								0	0			0	0
13	Internal gains:	Occupants @ Appliances/other	230				3			690 2000	3			690 2000
	Subtotal (lines 6 to 13)								14103	11242			14103	11242
	Less external load								0	0			0	0
	Less transfer								0	0			0	0
	Redistribution								0	0			0	0
14	Subtotal								14103	11242			14103	11242
15	Duct loads						24%	39%	3443	4343	24%	39%	3443	4343
	Total room load								17546	15585			17546	15585
	Air required (cfm)								760	760			760	760



Level 1



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Job #:
Performed for:
QUALITY FAMILY HOMES

HI-TECH ENERGY FORMS LLC

Scale: 1 : 70
Page 1
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