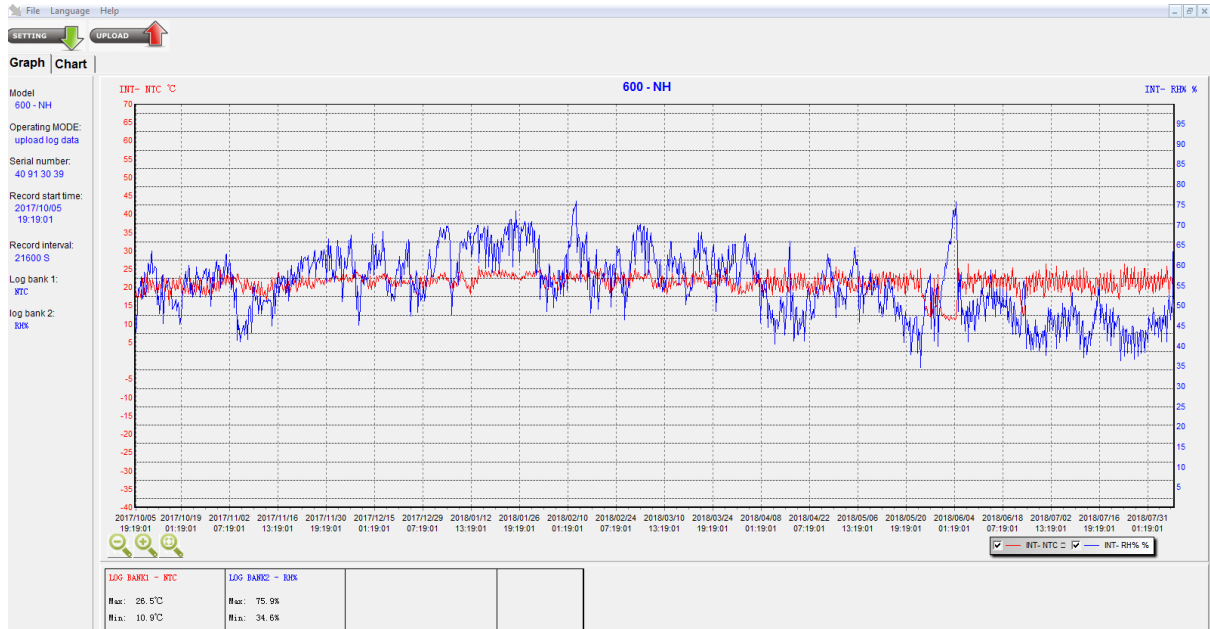


Test Results on temperature variance and humidity for case study

Blue in Humidity. Red is temperature.

+



Blower door testing was completed in conjunction with the rest of the testing

Temperature Data taken from Jun 2016 – Nov 2017

Temperatures were taken of the outside and of the inside of the building in the morning and at night. Average loss was 3.6 degrees and average temperature was 22 degrees.

Temperature Data									
Evening Temp Data				Morning Temp Data			Heat Loss		
Year/Month	Ave. Night Temp Inside	Ave. Night Temp Outside	Ave. Night Temp Diff.	Year/Month	Ave. Morning Temp Inside	Ave. Morning Temp Outside	Ave. Morning Temp Diff.	Year/Month	Ave Overnight Heat Loss
2016	22.3	10.4	11.6	2016	18.3	8.8	9.4	2016	3.8
Jun	21.7	9.2	12.4	Jun	16.8	7.8	9.0	Jun	5.0
Jul	21.6	7.0	14.5	Jul	16.3	5.4	10.9	Jul	5.1
Aug	23.1	6.6	16.5	Aug	18.5	4.6	13.4	Aug	5.2
Sep	22.8	9.9	11.2	Sep	18.8	8.8	9.1	Sep	2.9
Oct	21.5	11.4	10.1	Oct	18.3	9.7	8.6	Oct	3.2
Nov	22.4	12.8	9.6	Nov	19.3	11.3	8.0	Nov	3.1
Dec	22.7	15.6	7.2	Dec	20.2	13.7	6.5	Dec	2.5
2017	22.1	11.5	10.2	2017	18.6	9.6	8.8	2017	3.4
Jan	22.9	15.8	7.1	Jan	20.6	14.3	6.4	Jan	2.1
Feb	23.0	16.6	6.4	Feb	21.0	14.6	6.4	Feb	2.2
Mar	22.6	14.4	8.2	Mar	19.8	12.7	7.1	Mar	2.8
Apr	22.3	12.1	10.2	Apr	18.9	10.2	8.7	Apr	3.5
May	22.6	9.1	13.5	May	17.7	7.2	10.5	May	4.9
Jun	22.1	7.4	14.7	Jun	18.1	6.1	12.0	Jun	4.0
Jul	21.8	8.5	13.3	Jul	17.6	4.8	12.8	Jul	4.2
Aug	21.0	8.1	12.9	Aug	17.2	6.4	10.8	Aug	3.9
Sep	20.9	10.2	9.6	Sep	17.7	8.7	8.1	Sep	2.9
Oct	21.2	11.7	8.3	Oct	17.4	9.8	6.6	Oct	3.2
Nov	21.9	13.4	7.5	Nov	18.8	11.4	6.5	Nov	3.6
Grand Total	22.1	11.1	10.8	Grand Total	18.5	9.3	9.0	Grand Total	3.6

Comments and result from a blower door test

I guess the number you really need to be think about are the Leakage areas. The Canadian EqLA is between 201.4 and 267.6 square centimetres. What that means is that over the whole house you have effective hole of 15cm x 15cm. Assuming that the log burner flue is 150mm and it has a gap of 5-10mm around it you could drop the effective hole size to 13.5cm x 13.5cm. Contrast this to the first test that had an effective hole size of 24cm x 24cm and I think you have done remarkably well (about a 40% decrease)! Remember that the outside surface area of the house is 405 sqm and you have an effective gap of only 0.15sqm.

On average the ACH@50 is 1.75- again this is a great number.

Gary Robertson

EECA energy Assessor

Results of Multi Point Depressurisation Test

BUILDING LEAKAGE TEST

Date of Test: 16/11/2017	Technician: GR
Test File: Depressurisation adj	
Customer:	Building Address: South New Brighton Christchurch, 8062
Phone:	
Fax:	

Test Results at 50 Pascals:

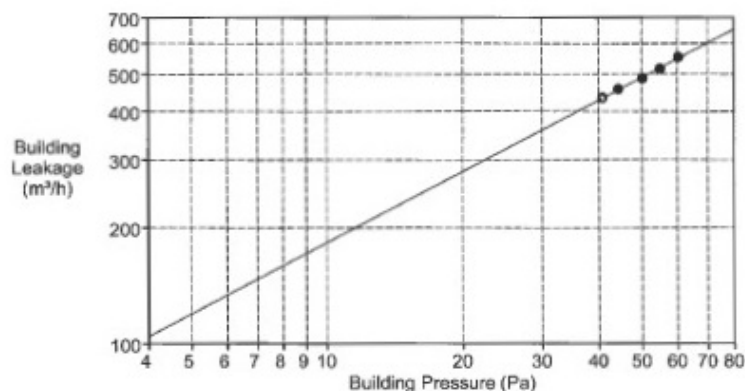
V50: Airflow (m ³ /h)	490 (+/- 0.4 %)
n50: Air Changes per Hour (1/h)	1.57
w50: m ³ /(h*m ² Floor Area)	3.53
q50: m ³ /(h*m ² Surface Area)	1.21

Leakage Areas: 204.4 cm² (+/- 4.3 %) Canadian EqLA @ 10 Pa or 0.50 cm²/m² Surface Area
112.5 cm² (+/- 6.8 %) LBL ELA @ 4 Pa or 0.28 cm²/m² Surface Area

Building Leakage Curve: Air Flow Coefficient (C_{env}) = 44.8 (+/- 10.5 %)
Air Leakage Coefficient (CL) = 44.8 (+/- 10.5 %)
Exponent (n) = 0.612 (+/- 0.027)
Correlation Coefficient = 0.99717

Test Standard:	EN 13829	Test Mode:	Depressurization
Type of Test Method:	A	Regulation complied with:	
Equipment:	Model 3 (230V) Minneapolis Blower Door		

Inside Temperature:	20 °C	Volume:	312 m ³
Outside Temperature:	20 °C	Surface Area:	405 m ²
Barometric Pressure:	101325 Pa	Floor Area:	139 m ²
Wind Class:	0 Calm	Uncertainty of	
Building Wind Exposure:	Partly Exposed Building	Building Dimensions:	3 %
Type of Heating:	ULEB/ HP	Year of Construction:	2016
Type of Air Conditioning:			
Type of Ventilation:	None		



BUILDING LEAKAGE TEST Page 2

Date of Test: 16/11/2017 Test File: -- Depressurisation adj

Comments

Data Points: Depressurization - Data Entered Manually

Nominal Building Pressure (Pa)	Fan Pressure (Pa)	Nominal Flow (m³/h)	Temperature Adjusted Flow (m³/h)	% Error	Fan Configuration
0.0	n/a				
-60.2	29.9	553	553	0.7	Ring B
-54.9	25.9	515	515	-0.7	Ring B
-50.1	163.6	487	487	-0.7	Ring C
-44.3	144.7	457	457	0.4	Ring C
-40.8	131.0	434	434	0.3	Ring C
0.0	n/a				

Test 0 Baseline (Pa): p01- = 0.0 p01+ = 0.0 p02- = 0.0 p02+ = 0.0