

Date of Test: 19/08/2022 Test File: Stevens House Final1 (1)

Technician: Tim Ross

Project Number: 1925

Customer: Anne Stevens
 413 North Road
 North East Valley
 Dunedin, Otago 9010
 Phone:
 Fax:

Building Address: Stevens Passive House
 413 North Road
 North East Valley
 Dunedin, Otago

Test Results at 50 Pascals:	Depressurization	Pressurization	Average
q ₅₀ : m ³ /h (Airflow)	34 (+/- 3.1 %)	34 (+/- 5.0 %)	34
n ₅₀ : 1/h (Air Change Rate)	0.10	0.10	0.10
qF ₅₀ : m ³ /(h·m ² Floor Area)	0.27	0.27	0.27
qE ₅₀ : m ³ /(h·m ² Envelope Area)	0.10	0.10	0.10

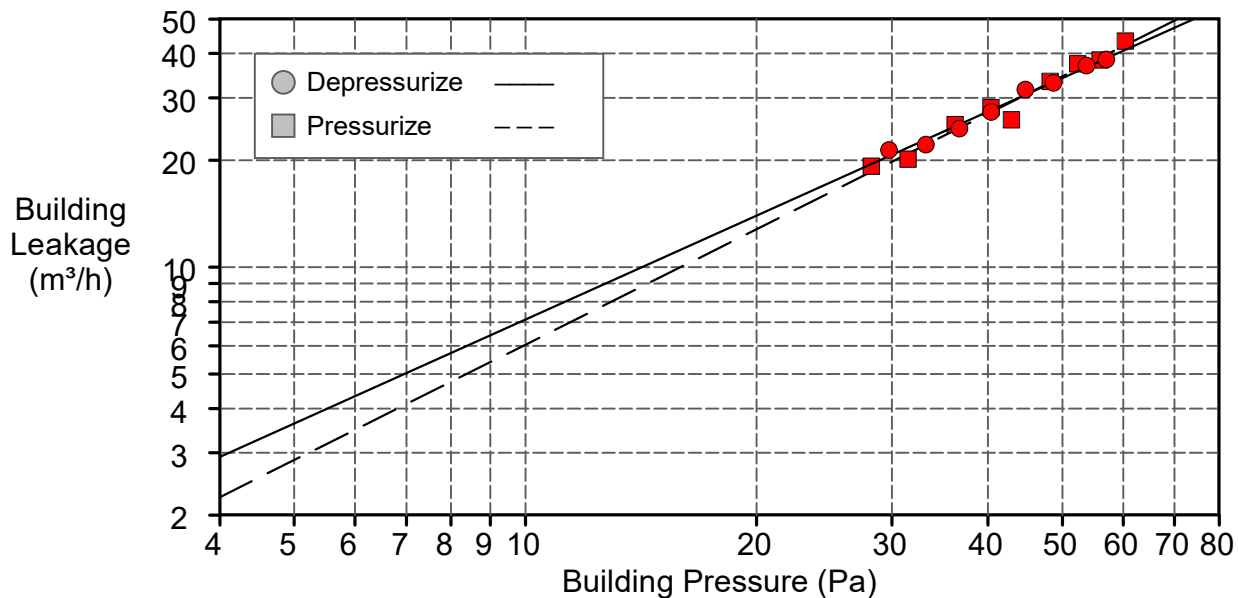
Leakage Areas:

ELA ₅₀ : m ²	0.0010 (+/- 5.0 %)	0.0010 (+/- 5.0 %)	0.0010
ELA _{F50} : m ² /m ²	0.0000081	0.0000082	0.0000081
ELA _{E50} : m ² /m ²	0.0000031	0.0000031	0.0000031

Building Leakage Curve:

Air Flow Coefficient (C _{env}) m ³ /(h·Pa ⁿ)	0.8 (+/- 42.4 %)	0.5 (+/- 64.5 %)
Air Leakage Coefficient (C _L) m ³ /(h·Pa ⁿ)	0.8 (+/- 42.4 %)	0.5 (+/- 64.5 %)
Exponent (n)	0.973 (+/- 0.113)	1.080 (+/- 0.171)
Coefficient of Determination (r ²)	0.98663	0.96947

Test Standard: ISO 9972
 Test Mode: Depressurization and Pressurization
 Type of Test Method: Method 1 - Test of Building in use
 Purpose of Test: Final Test PH n₅₀ ≤ 0.6 1/h



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Building Information

Internal Volume, V (m³) (according to ISO)	353.42
Net Floor Area, A_F (m²) (according to ISO)	128.40
Envelope Area, A_E (m²) (according to ISO)	340.02
Height (m)	2.42
Uncertainty of Dimensions (%)	
Year of Construction	2022
Type of Heating	Air Source Heat Pump
Type of Air Conditioning	Air Source Heat Pump
Type of Ventilation	Balanced MVHR - Comfoair Q350
Building Wind Exposure	Partly Exposed Building
Wind Class	Calm

Equipment Information

Type	Manufacturer	Model	Serial Number	Custom Calibration Date
Fan	Energy Conservatory	Model 4 (230V)	CE5259	-
Micromanometer	Energy Conservatory	DG1000	674	15/10/2019

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Depressurization Test 1:

Environmental Data

Indoor Temperature (°C)	Outdoor Temperature (°C)	Barometric Pressure (Pa)
18.2	10.1	101325.0

Pre-Test

Baseline Pressure Data

Post-Test

$\Delta p_{0,1-}$	$\Delta p_{0,1+}$	$\Delta p_{0,1}$	$\Delta p_{0,2-}$	$\Delta p_{0,2+}$	$\Delta p_{0,2}$
-0.8	0.0	-0.8	-4.8	0.0	-4.8

Data Points - Semi-Automated Test (TTE 5.0.8.4)

Nominal Building Pressure (Pa)	Baseline adjusted Building Pressure (Pa)	Fan Pressure (Pa)	Nominal Flow q_r (m³/h)	Adjusted Flow q_{env} (m³/h)	Adjusted Flow q_L (m³/h)	% Error	Fan Configuration
-0.8	n/a	n/a					
-59.8	-57.1	60.6	40	38	38	-0.7	Ring E
-56.5	-53.8	56.0	38	37	37	1.0	Ring E
-51.5	-48.7	45.1	34	33	33	-0.4	Ring E
-47.5	-44.8	41.4	33	32	32	3.3	Ring E
-43.2	-40.4	31.4	28	27	27	-1.1	Ring E
-39.5	-36.7	25.4	25	25	25	-2.7	Ring E
-36.0	-33.2	20.8	23	22	22	-3.2	Ring E
-32.5	-29.7	19.5	22	21	21	4.1	Ring E
-4.8	n/a	n/a					

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Pressurization Test 1:

Environmental Data

Indoor Temperature (°C)	Outdoor Temperature (°C)	Barometric Pressure (Pa)
18.2	10.2	101325.0

Pre-Test

Baseline Pressure Data

Post-Test

Δp _{0,1-}	Δp _{0,1+}	Δp _{0,1}	Δp _{0,2-}	Δp _{0,2+}	Δp _{0,2}
-0.0	0.1	-0.0	-0.7	0.0	-0.7

Data Points - Semi-Automated Test (TTE 5.0.8.4)

Nominal Building Pressure (Pa)	Baseline adjusted Building Pressure (Pa)	Fan Pressure (Pa)	Nominal Flow q _r (m ³ /h)	Adjusted Flow q _{env} (m ³ /h)	Adjusted Flow q _L (m ³ /h)	% Error	Fan Configuration
-0.0	n/a	n/a					
60.1	60.4	70.3	43	43	43	2.5	Ring E
55.7	56.0	55.4	38	38	38	-1.5	Ring E
52.0	52.4	52.9	37	37	37	3.3	Ring E
47.9	48.2	42.5	33	33	33	0.9	Ring E
42.6	43.0	26.4	26	26	26	-10.9	Ring E
40.0	40.4	30.7	28	28	28	3.0	Ring E
35.9	36.3	24.8	25	25	25	3.6	Ring E
31.1	31.5	16.1	20	20	20	-3.5	Ring E
27.9	28.2	14.7	19	19	19	3.7	Ring E
-0.7	n/a	n/a					

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Comments

Testing equipment set up in front door. All windows closed, ventilation system sealed

with
inflatable balls.

External tube located to right of door as viewed from inside
