

# Air Permeability Test Report



Build Test Solutions Ltd Unit A Building 8 The Old Depot, Bridge Street, Weedon Northampton NN7 4PS	<b>Room Only</b>	Air Permeability @ 4Pa <b>1.17</b> m <sup>3</sup> /h.m <sup>2</sup>
Report Date <b>17 April 2025</b>	Unique Reference <b>3C07458E-3973-4483-88D8-6B1C94162816</b>	

<b>Test Date</b>	28 Jan 2021 - 01:17	<b>Test Method</b>	Low Pressure Pulse
<b>Test Reference</b>	New Build Showhome		
<b>Lifecycle / Purpose</b>	Existing Dwelling – Regulation Compliance		
<b>Airtightness Standard</b>	CIBSE TM23 (LPP)		

<b>Building Info</b>	House / Detached / 3 Bedrooms / Band L (2012-2022)		
<b>Openings Preparation</b>	Closed	<b>Envelope Area</b>	248.5 m <sup>2</sup>
<b>Ventilation Preparation</b>	Closed	<b>Volume</b>	256.9 m <sup>3</sup>
<b>Geometry Source</b>	Measured On Site		

Result						
		Measured @ 4Pa		Extrapolated @ 50Pa		
Air Leakage Rate	Q <sub>4</sub>	290	m <sup>3</sup> /h	Q <sub>50</sub>	1,506	m <sup>3</sup> /h
Air Permeability	AP <sub>4</sub>	1.17	m <sup>3</sup> /h.m <sup>2</sup>	AP <sub>50</sub>	6.06	m <sup>3</sup> /h.m <sup>2</sup>
Air Changes per Hour	N <sub>4</sub>	1.13	1/h	N <sub>50</sub>	5.86	1/h
Equivalent Leakage Area		0.04	m <sup>2</sup>		0.04	m <sup>2</sup>
Calculation Uncertainty		1.26	±%		3.32	±%

<b>Test Status</b>	Valid				
<b>Equipment</b>	Pulse V1	<b>Number of ARs</b>	1	<b>Initial Pressure</b>	9.8 bar
<b>Pulse Duration</b>	1.5 secs	<b>Number of Steps</b>	3	<b>Steps Used</b>	1, 2, 3

Calculation Details		Test Conditions	
Achieved Pressure Range	1.2 - 5.5 Pa	Barometric Pressure	1,013.3 mbar
Coefficient of Determination (R <sup>2</sup> ) *	0.9927	Internal Temperature	22.1 °C
Air Flow Exponent (n) *	0.77 ±0.01	External Temperature *	-
Air Flow Coefficient (C <sub>ENV</sub> )	99.521	Wind Speed *	-
Air Leakage Coefficient (C <sub>L</sub> )	98.980	Weather *	-
* For a test to be valid, coefficient of determination must be at least 0.96 and air flow exponent must be between 0.5 and 1.		* Weather observations provided for reference only and based on closest weather station and nearest hourly record.	

## Deviations from the Airtightness Standard or Procedure

None

## Additional Preparations Undertaken

None

## Test Notes

None

## Tags

None

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<b>Building Name</b>	Main Dwelling		
<b>Building Type</b>	House	<b>Number of Bedrooms</b>	3 Bedrooms
<b>Attachment</b>	Detached	<b>Age Band</b>	L (2012-2022)
<b>Main Wall Construction</b>	Cavity	<b>Floor Area</b>	95.0 m <sup>2</sup>
<b>Main Floor Type</b>	Solid		
<b>Main Heating Type</b>	Heat Pump		
<b>Main Ventilation Type</b>	Mechanical Ventilation with Heat Recovery (MVHR)		
<b>Site Notes</b>	None		

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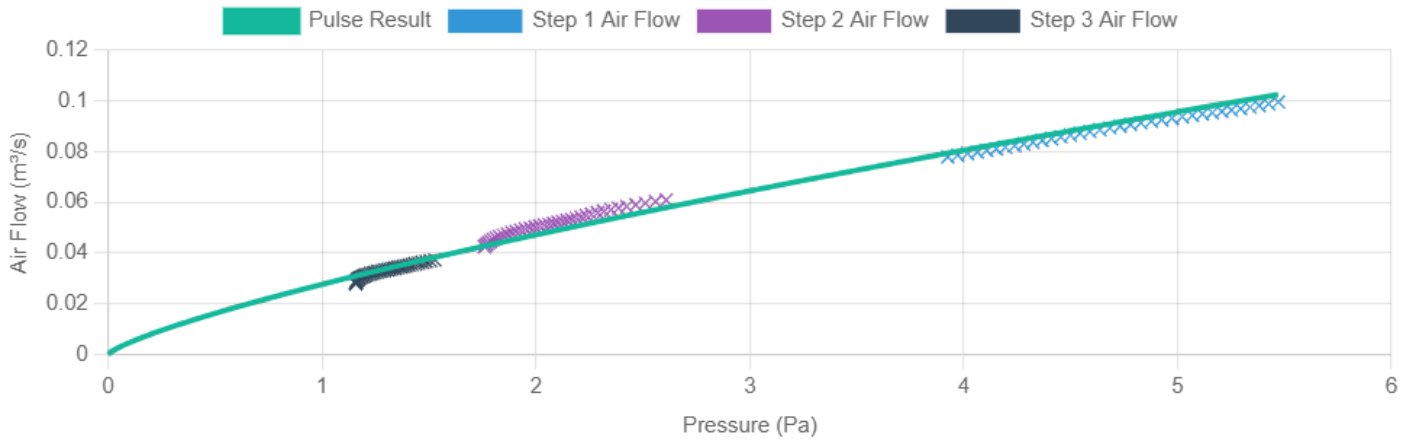
<b>Room Name</b>	-		
<b>Room Type</b>	-	<b>Age Band</b>	L (2012-2022)
<b>Wall Construction</b>	Same as main building	<b>Floor Area</b>	95.0 m <sup>2</sup>
<b>Floor Type</b>	Same as main building	<b>Envelope Area</b>	248.5 m <sup>2</sup>
<b>Heating Type</b>	Same as main building	<b>Volume</b>	256.9 m <sup>3</sup>
<b>Ventilation Type</b>	Same as main building		
<b>Ventilation Devices</b>	-		

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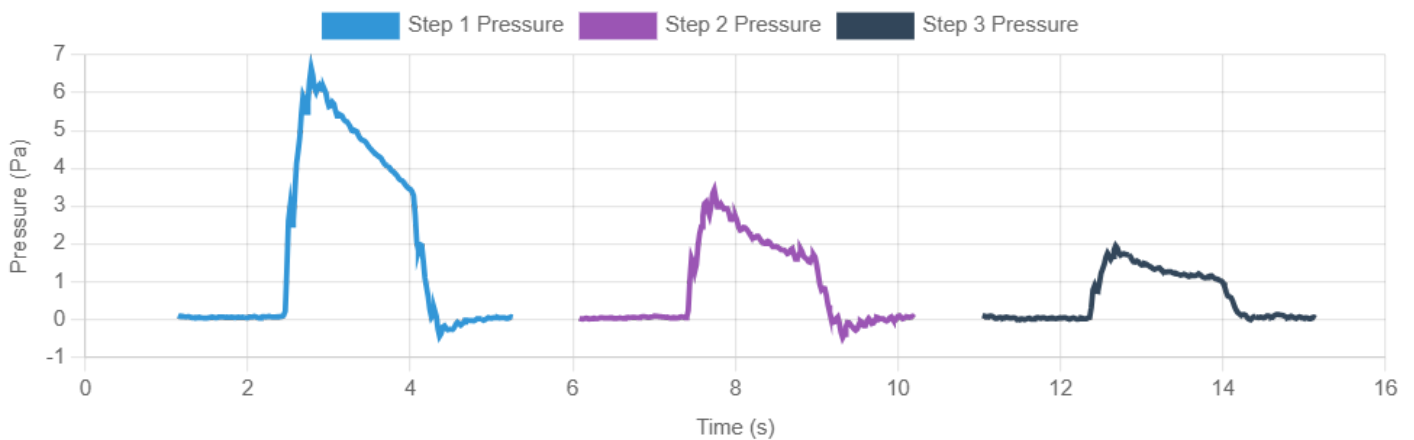
## Equipment List

Name	Model	Serial No.	Software Version	Initial Pressure
Controller	PUL-V1-CON	-	1.2.4.0	-
Air Receiver 1	PUL-V1-AR (39.2L)	-	-	9.8 bar

## Air Flow Chart



## Air Pressure Chart



## Test Performed By

<b>Name</b>	BTS Demo Account	<b>Registration No.</b>	-
<b>Job Title</b>	-		
<b>Company</b>	<b>YOUR COMPANY NAME LTD</b> 1 Demo Street, Demo Town, DE3 1MO 01234 567890 info@your-company.com www.your-company.com		

All times are displayed in: GMT Standard Time (UTC)

Pulse calculator version: 4.2.3

4-50 Pa conversion formula:  $AP_{50} = 5.2540 \times AP_4^{0.9241}$

This airtightness test was performed using Pulse air pressure measurement equipment from Build Test Solutions Ltd. All queries should be directed at the company that performed the test using their contact details displayed above.



For all other enquiries regarding Pulse, please visit [www.buildtestsolutions.com](http://www.buildtestsolutions.com).