

# BUILDING LEAKAGE TEST

BSRIA Airtightness  
Old Bracknell Lane West  
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Date of Test: 13th October 2008 Technician: P Sharpe  
Test File: Airtightness Test - R&E Grayson - Dore - Plot 1

Customer: R&E Grayson & Sons Building Address: Plot 1 Type N/A  
Four Acres Dore Road Development  
Hope Road 170 Dore Road  
Hope Valley, Derbyshire S33 0AL Dore, Sheffield S17 3HA  
Phone: 01433 651991  
Fax: 01433 651991

### Test Results at 50 Pascals:

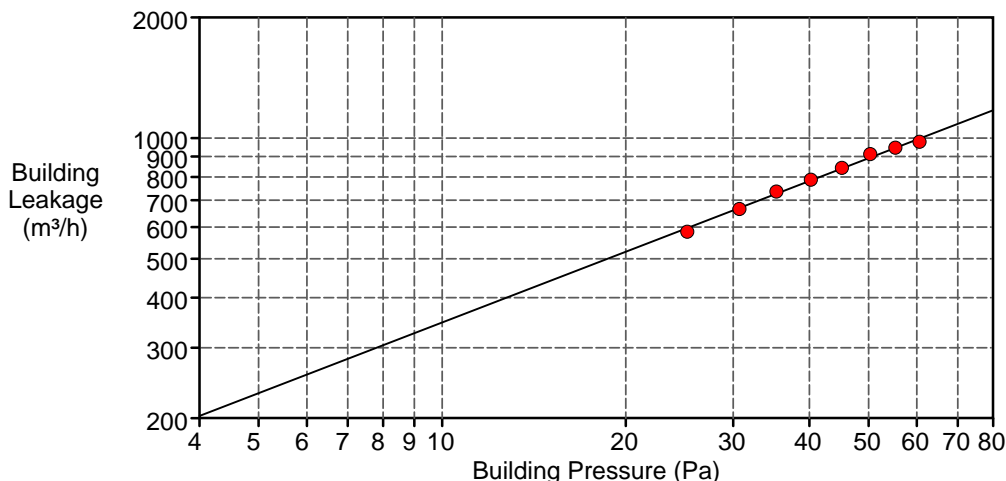
V50: Airflow (m<sup>3</sup>/h) 891 ( +/- 0.6 %)  
n50: Air Changes per Hour (1/h)  
w50: m<sup>3</sup>/(h\*m<sup>2</sup> Floor Area) 18.46  
q50: m<sup>3</sup>/(h\*m<sup>2</sup> Surface Area) 1.77

Leakage Areas: 387.1 cm<sup>2</sup> ( +/- 3.2 %) Canadian EqLA @ 10 Pa or 0.77 cm<sup>2</sup>/m<sup>2</sup> Surface Area  
218.2 cm<sup>2</sup> ( +/- 5.2 %) LBL ELA @ 4 Pa or 0.43 cm<sup>2</sup>/m<sup>2</sup> Surface Area

Building Leakage Curve: Air Flow Coefficient (Cenv) = 90.0 ( +/- 8.1 %)  
Air Leakage Coefficient (CL) = 89.9 ( +/- 8.1 %)  
Exponent (n) = 0.586 ( +/- 0.021 )  
Correlation Coefficient = 0.99609

Test Standard: EN 13829 Test Mode: Depressurization  
Type of Test Method: B Regulation complied with: ADL1A  
Equipment: Model 3 Minneapolis Blower Door, S/N BDS5

Inside Temperature:	17 °C	Volume:	
Outside Temperature:	14 °C	Surface Area:	503 m <sup>2</sup>
Barometric Pressure:	98915 Pa	Floor Area:	
Wind Class:	1 Light Air	Uncertainty of	
Building Wind Exposure:	Partly Exposed Building	Building Dimensions:	%
Type of Heating:	Gas	Year of Construction:	2008
Type of Air Conditioning:	None		
Type of Ventilation:	Natural Ventilation		



## BUILDING LEAKAGE TEST Page 2

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### Comments

DID THE DWELLING ACHIEVE THE REQUIRED LEVEL OF AIRTIGHTNESS SPECIFIED IN THE SAP CALCULATIONS: YES

Test performed in accordance with TS1. Envelope area calculated by BSRIA  
Fan-off pressures measured over 30 second period as per ATTMA TS1  
Fan coefficients used are calculated from BSRIA calibration 45937

DESIGN AIR PERMEABILITY = 7.00m<sup>3</sup>(hr.m<sup>2</sup>)

#### Dwelling Preparation:

Trickle ventilators closed  
Water traps filled  
Internal doors opened  
Windows closed  
Bathroom/ensuite extract sealed (taped)  
Kitchen extract sealed (taped)

#### Property Information:

Bedrooms: 4  
Bathrooms: 1  
Cloaks: 1  
Ensuites: 2  
Storeys: 2.0  
Type: Detached House  
Significant Penetrations: 25  
Construction: SIP  
Cold Floor: No  
Personnel Door: No

#### Environmental Conditions:

Pre Barometric Pressure: 98920 Pa  
Post Barometric Pressure: 98910 Pa  
Pre Internal Temperature: 16.5°C  
Post Internal Temperature: 17.1°C  
Pre External Temperature: 14.3°C  
Post External Temperature: 14.1°C  
Pre Wind Speed: 1 m/s  
Post Wind Speed: 1 m/s

### BUILDING LEAKAGE TEST Page 3

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#### Data Points: Depressurization - Data Entered Manually

Nominal Building Pressure (Pa)	Fan Pressure (Pa)	Nominal Flow (m <sup>3</sup> /h)	Temperature Adjusted Flow (m <sup>3</sup> /h)	% Error	Fan Configuration
0.2	n/a				
-25.1	36.8	586	584	-2.1	Ring B
-30.6	47.7	669	666	-0.6	Ring B
-35.2	58.1	739	736	1.2	Ring B
-40.1	66.4	791	787	0.4	Ring B
-45.1	76.0	846	843	0.3	Ring B
-50.2	88.9	916	913	2.0	Ring B
-55.2	95.5	950	946	0.1	Ring B
-60.5	102.2	983	979	-1.9	Ring B
0.1	n/a				
Test 0 Baseline (Pa):		p01- = 0.0	p01+ = 0.2	p02- = 0.0	p02+ = 0.1