green building store

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3 June 2009

Andy Simmonds
57 Portfield Street
Hereford
HR1 2SE

Dear Mr Simmonds,

I enclose the results of our commissioning of your ventilation system.

In co-operation with the German engineer set the ventilation levels such that it is compliant both with Part F of building regulations and Passiv Haus guide lines.

Yours truly,

Andrew Farr

MEMBER

Green Building Store is a trading name of Environmental Construction Products Ltd • Registered office: Heath House Mill, Heath House Lane, Golcar, Huddersfield HD7 4JW • Directors: William Butcher, Christopher Herring, Stephen Slator • VAT registration number 640 7097 42 • Company registration: Cardiff 3359943 • Member of the Association for Environment Conscious Building • Paper: 100% recycled post-consumer waste, totally chlorine free • Inks: vegetable based

## Air Flow Calculation

## Project: Portfield Street

| **Building Volume Internal of Envelope** | Floor Area ($m^2$) | Ceiling Height | Floor Volume |
|---|---|---|---|
| Basement | 0 | 0 | 0 |
| Ground Floor | 53 | 2.4 | 127.2 |
| 1st Floor | 53 | 2.4 | 127.2 |
| 2nd Floor | 30 | 2.4 | 72 |
| 3rd Floor | 0 | 0 | 0 |
| 4th Floor | 0 | 0 | 0 |
| 5th Floor | 0 | 0 | 0 |
| **Total Floor Area ($m^2$)** | **136** | **Tot. Env.Vol. ($m^3$)** | **326.4** |

**Minimum ventilation level by floor area** **28 l/s**
**100 $m^3$/hr**

**Minimum ventilation level by bedrooms**
Number of bedrooms 3
**Min. vent. level by bedrms.** **21 l/s**
**76 $m^3$/hr**

**Minimum ventilation level by occupancy**
Number of dwelling occupants 5
**Min. vent. Level by occupancy** **25 l/s**
**90 $m^3$/hr**

**Whole building minimum low vent. rate** **28 l/s**
**100 $m^3$/hr**

Number of kitchens 1
Number of bathrooms & utility rooms 2
Numbers of toilets 0

**Whole building minimum high vent. rate** **29 l/s**
**104 $m^3$/hr**

**Project: Portfield Street**

# Air distribution balance by rooms

# Acutal measured figures

| All figures in m3/hr | Before correction | | Balanced | | Fan Speed 1 | | Fan Speed 2 | | Fan Speed 3 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Room type** | **Supply** | **Extract** | **Supply** | **Extract** | **Supply** | **Extract** | **Supply** | **Extract** | **Supply** | **Extract** | **Supply** | **Extract** |
| **Level: Ground** | | | | | | | | | | | | |
| Living room | 30 | | | | 18 | | 30 | | 60 | | | |
| Dinning room | 20 | | | | 11 | | 20 | | 50 | | | |
| WC / Utility room | | 25 | | | | 14 | | 25 | | 47 | | |
| Kitchen | | 50 | | | | 32 | | 50 | | 97 | | |
| Drying cupboard | | 15 | | | | 7 | | 14 | | 29 | | |
| **Level: First floor** | | | | | | | | | | | | |
| Bedroom 1 | 20 | | | | 11 | | 22 | | 40 | | | |
| Bedroom 2 | 20 | | | | 11 | | 18 | | 43 | | | |
| Bedroom 3 | 20 | | | | 11 | | 20 | | 40 | | | |
| Bathroom | | 40 | | | | 22 | | 40 | | 65 | | |
| Landing extract | | 20 | | | | 14 | | 20 | | 36 | | |
| **Level: Second floor** | | | | | | | | | | | | |
| Loft | 40 | | | | 22 | | 40 | | 65 | | | |
| **Totals:** | 150 | 150 | 0 | 0 | 84 | 89 | 150 | 149 | 298 | 274 | 0 | 0 |
| Percentage balance discrepancy | | | | | -5.62 | | 0.67 | | 8.76 | | | |

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| 4th Floor | 0 | 0 | 0 |
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| **Totals:** | 150 | 150 | 0 | 0 | 84 | 89 | 150 | 149 | 298 | 274 | 0 | 0 |
| Percentage balance discrepancy | | | | | -5.62 | | 0.67 | | 8.76 | | | |