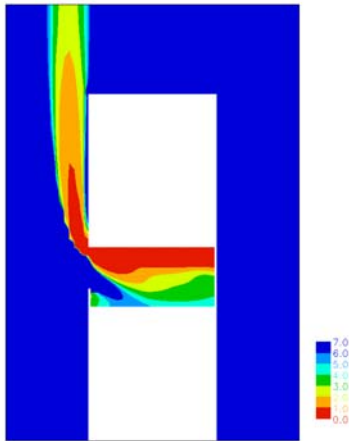




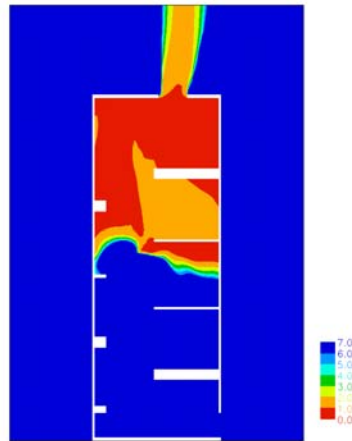
Smoke Ventilation of Common Access
Areas of Flats and Maisonettes (BD2410) -
Final Factual Report

Appendix Dii ('Lobby' scenario 'visibilities'
with 0.25 MW fire, 0.1 m dwelling door gap
and 0.78 m stair door opening)

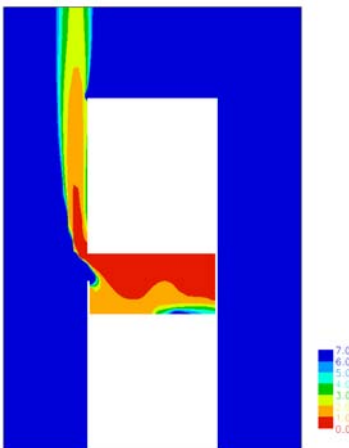
The authors of this report are employed by BRE. The work reported herein was carried out under a Contract placed by the ODPM. Any views expressed are not necessarily those of the ODPM.



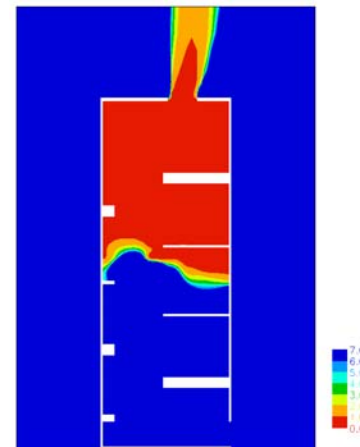
Lobby: L: 1.5m² high-level wall vent
 R: No vent
Mean temp in occupied space = 28°C



Stair: Top and bottom vent

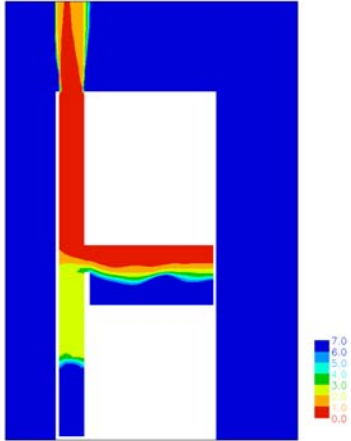


Lobby: L: 1m² high-level wall vent
 R: No vent
Mean temp in occupied space = 35°C



Stair: Top and bottom vent





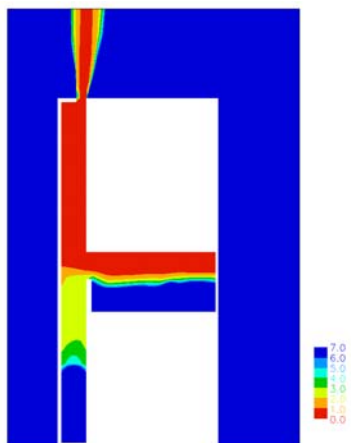
NO SMOKE IN STAIR

Lobby: L: Natural closed-base, **1m²** shaft
(1m² high-level vent to lobby)

R: No vent

Mean temp in occupied space = 24°C

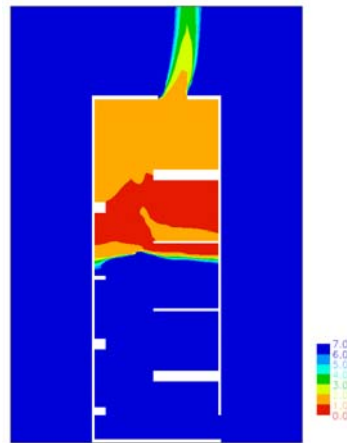
Stair: Top and bottom vent



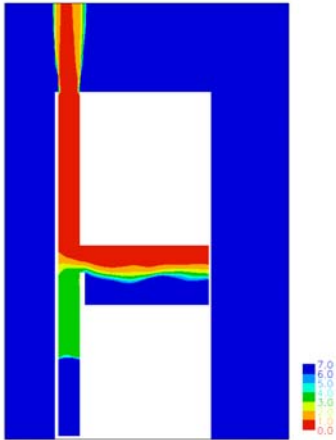
Lobby: L: Natural closed-base, **1m²** shaft
(1m² high-level vent to lobby and
50% reduction in area at top)

R: No vent

Mean temp in occupied space = 25°C



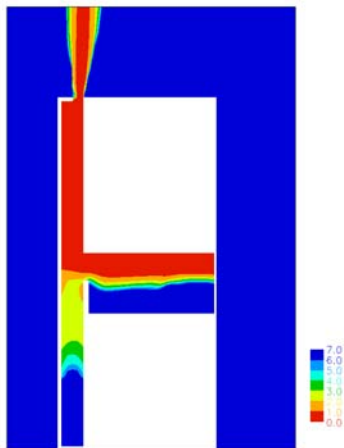
Stair: Top and bottom vent



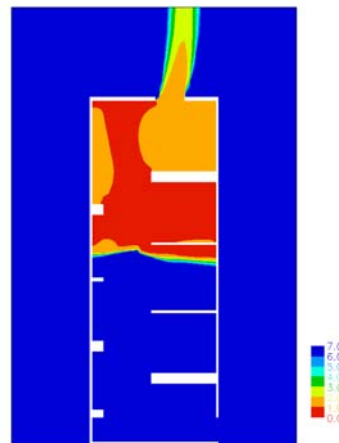
NO SMOKE IN STAIR

Lobby: L: Natural closed-base, **0.75m²** shaft
 (0.85m² high-level vent to lobby)
 R: No vent
Mean temp in occupied space = 24°C

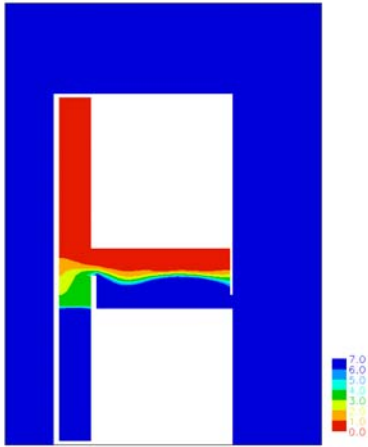
Stair: Top and bottom vent



Lobby: L: Natural closed-base, **0.75m²** shaft
 (0.85m² high-level vent to lobby and
 50% reduction in area at top)
 R: No vent
Mean temp in occupied space = 25°C

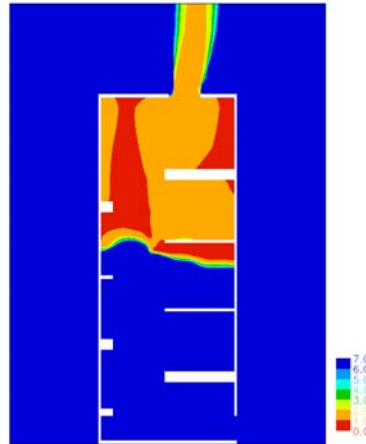


Stair: Top and bottom vent

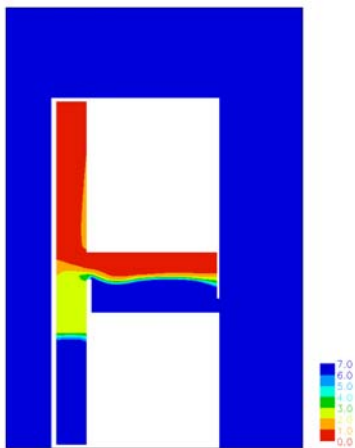


Lobby: L: Mechanical closed-base, **1.5m²** shaft
(**80 ach⁻¹** (0.6 m³s⁻¹) and
1m² high-level vent to lobby)
R: 0.5m² low-level vent

Mean temp in occupied space = 25°C
Closed door ΔP = 2 Pa; open door vel = 0.3ms⁻¹

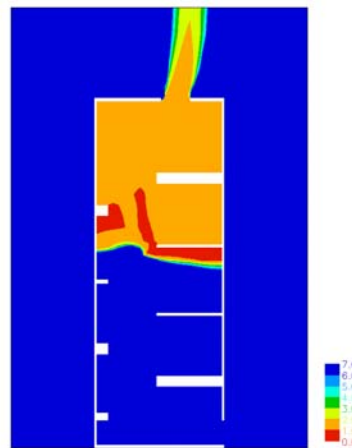


Stair: Top and bottom vent

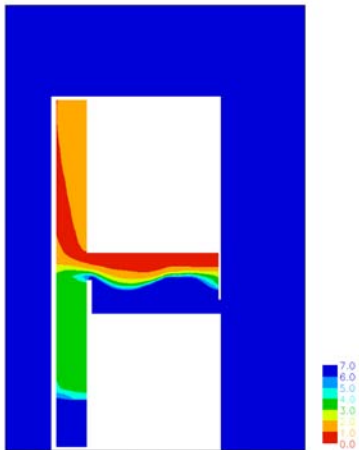


Lobby: L: Mechanical closed-base, **1.5m²** shaft
(**160 ach⁻¹** (1.2 m³s⁻¹) and
1m² high-level vent to lobby)
R: 0.5m² low-level vent

Mean temp in occupied space = 25°C
Closed door ΔP = 6 Pa; open door vel = 0.5 ms⁻¹



Stair: Top and bottom vent

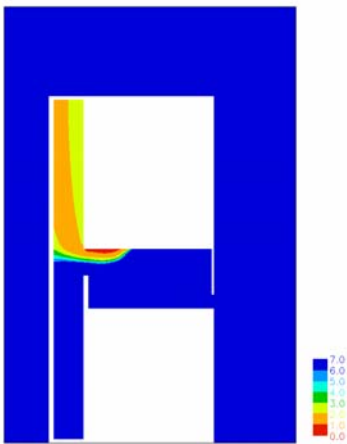


NO SMOKE IN STAIR

Lobby: L: Mechanical closed-base, **1.5m²** shaft
 (320 ach⁻¹ (2.4 m³s⁻¹) and
 1m² high-level vent to lobby)
 R: 0.5m² low-level vent

Stair: Top and bottom vent

Mean temp in occupied space = 24°C
 Closed door $\Delta P = 25 \text{ Pa}$; open door vel = 1.0 ms⁻¹

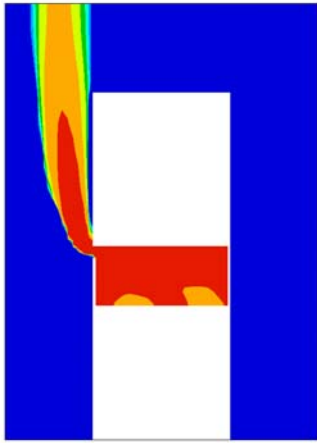


NO SMOKE IN STAIR

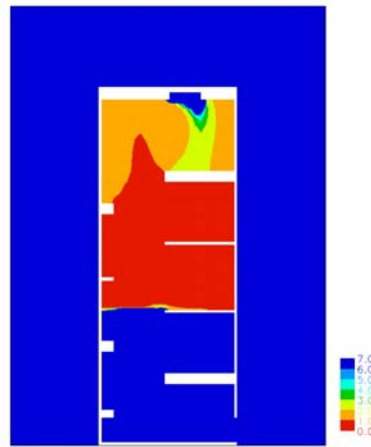
Lobby: L: Mechanical closed-base, **1.5m²** shaft
 (640 ach⁻¹ (4.9 m³s⁻¹) and
 1m² high-level vent to lobby)
 R: 0.5m² low-level vent

Stair: Top and bottom vent

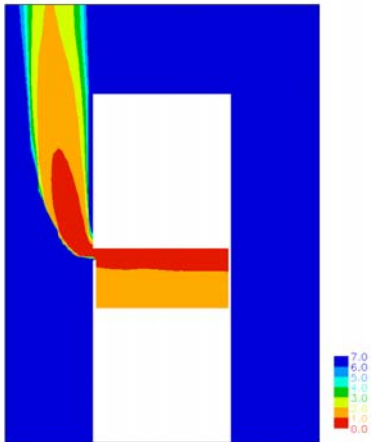
Mean temp in occupied space = 23°C
 Closed door $\Delta P = 92 \text{ Pa}$; open door vel = 2.1ms⁻¹



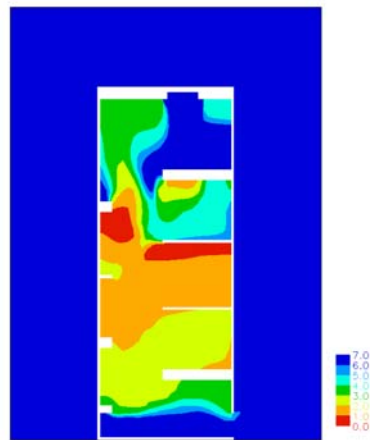
Lobby: L: 0.5m² high-level vent
 R: No vent
Mean temp in occupied space = 27°C
 Closed door $\Delta P = <1Pa$; open door vel = 0.1 ms⁻¹



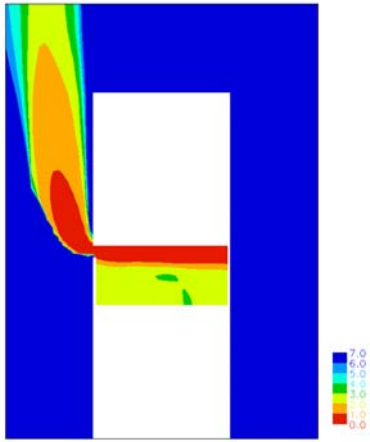
Stair: Mechanical supply at top
 (5 ach⁻¹ (0.2 m³s⁻¹)) and
 and bottom vent



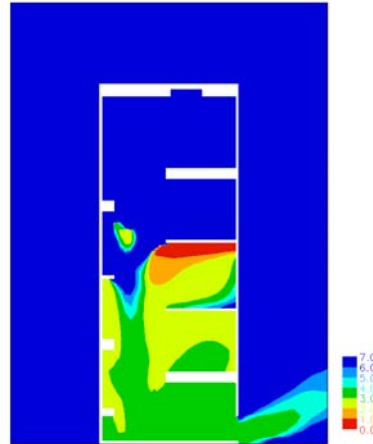
Lobby: L: 0.5m² high-level vent
 R: No vent
Mean temp in occupied space = 25°C
 Closed door $\Delta P = <1Pa$; open door vel = 0.1ms⁻¹



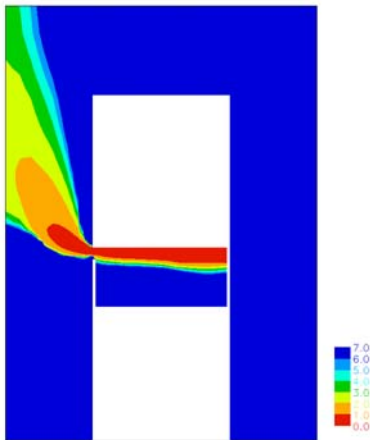
Stair: Mechanical supply at top
 (10 ach⁻¹ (0.4 m³s⁻¹)) and
 and bottom vent



Lobby: L: 0.5m² high-level vent
 R: No vent
Mean temp in occupied space = 24°C
 Closed door $\Delta P = 1.5 \text{ Pa}$; open door vel = 0.2ms⁻¹



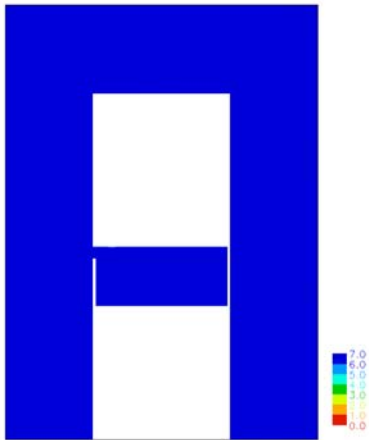
Stair: Mechanical supply at top
 (20 ach⁻¹ (0.8 m³s⁻¹)) and
 and bottom vent



Lobby: L: 0.5m² high-level vent
 R: No vent
Mean temp in occupied space = 21°C
 Closed door $\Delta P = 6 \text{ Pa}$; open door vel = 0.4 ms⁻¹

NO SMOKE IN STAIR

Stair: Mechanical supply at top
 (40 ach⁻¹ (1.6 m³s⁻¹)) and
 and bottom vent



NO SMOKE IN STAIR

Lobby: **L:** 0.5m² high-level vent

R: No vent

Mean temp in occupied space = 20°C

Closed door $\Delta P = 23 \text{ Pa}$; open door vel = 0.7 ms⁻¹

Stair: Mechanical supply at top
(**80 ach⁻¹** (3.2 m³s⁻¹)) and
and bottom vent