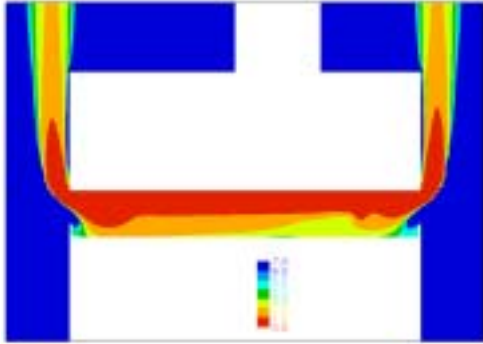




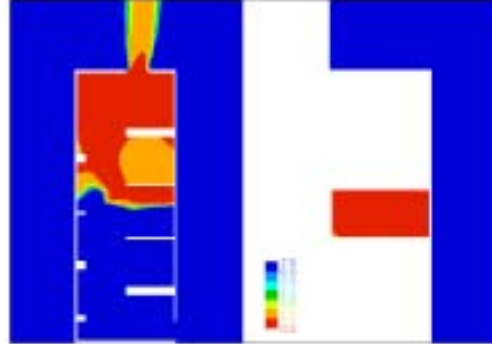
Smoke Ventilation of Common Access
Areas of Flats and Maisonettes (BD2410) -
Final Factual Report – Appendix Fii
(‘Corridor’ scenario ‘visibilities’ with 1 MW
fire and 0.5 m dwelling & stair door
openings)

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.

bre

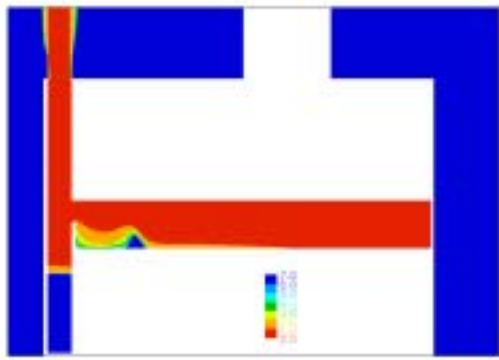


Lobby: L: 1.5m high-level wall vent
R: 1.5m high-level wall vent
Mean temp in occupied space = 53°C



Stair: Top and bottom vent

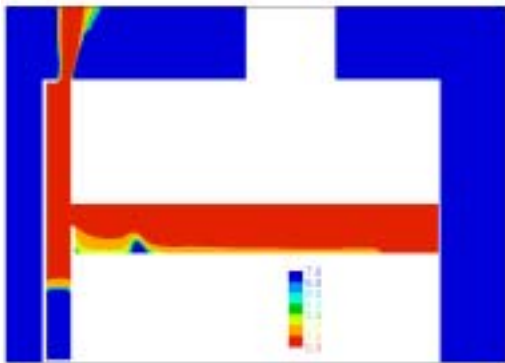




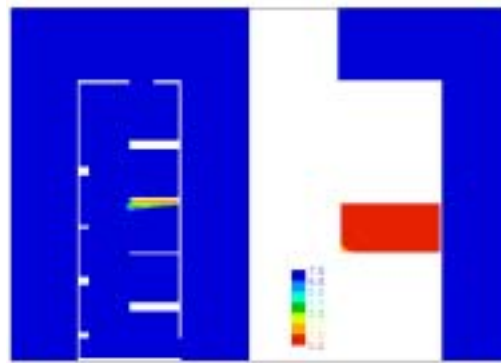
Lobby: L: Natural closed-base, **1.5m²** shaft
 (1 m² high-level vent to lobby)
 R: No vent
Mean temp in occupied space = 94°C

NO SMOKE IN STAIR

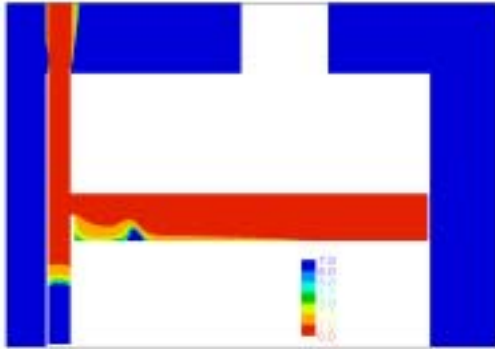
Stair: Top and bottom vent



Lobby: L: Natural closed-base, **1.5m²** shaft
 (1 m² high-level vent to lobby)
 50% reduction in area at top
 R: No vent
Mean temp in occupied space = 85°C



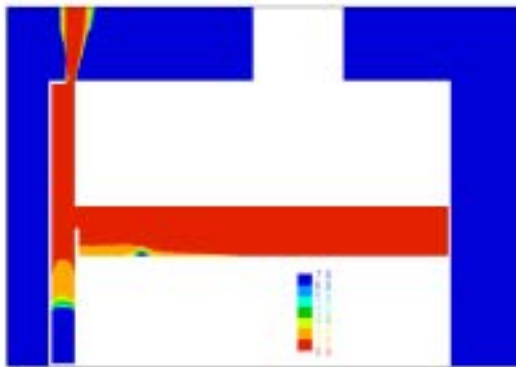
Stair: Top and bottom vent



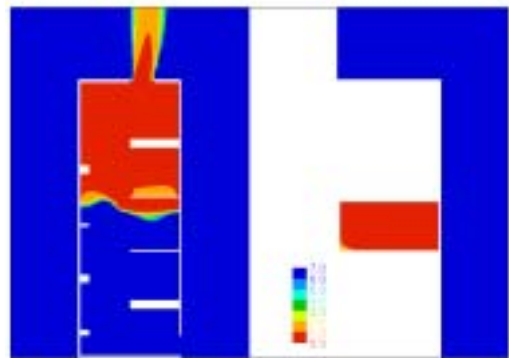
Lobby: L: Natural closed-base, 1.25m^2 shaft
 (1 m^2 high-level vent to lobby)
 R: No vent
Mean temp in occupied space = 91°C

NO SMOKE IN STAIR

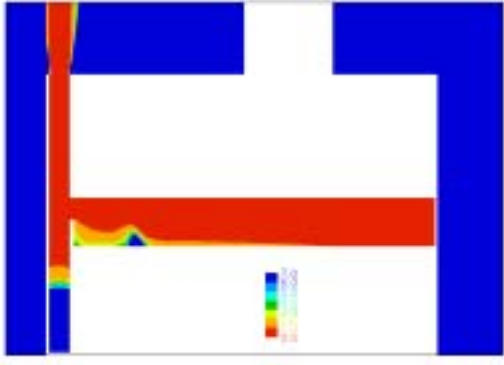
Stair: Top and bottom vent



Lobby: L: Natural closed-base, 1.25m^2 shaft
 (1 m^2 high-level vent to lobby)
 50% reduction in area at top)
 R: No vent
Mean temp in occupied space = 105°C



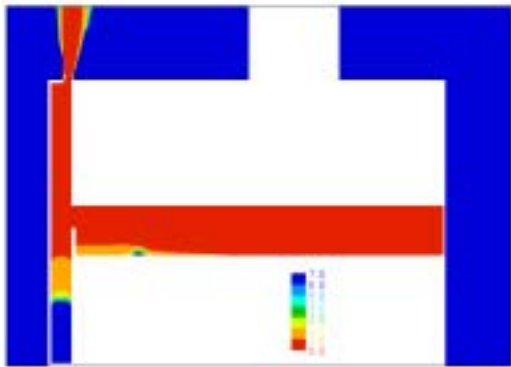
Stair: Top and bottom vent



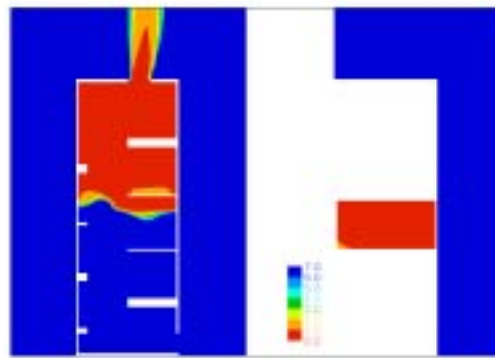
Lobby: L: Natural closed-base, **1m²** shaft
 (1 m² high-level vent to lobby)
 R: No vent
Mean temp in occupied space = 90°C

NO SMOKE IN STAIR

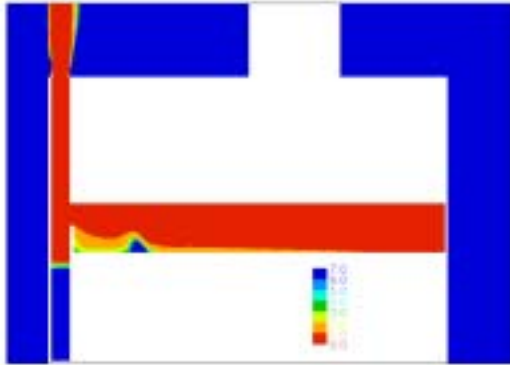
Stair: Top and bottom vent



Lobby: L: Natural closed-base, **1m²** shaft
 (1 m² high-level vent to lobby)
 50% reduction in area at top
 R: No vent
Mean temp in occupied space = 106°C



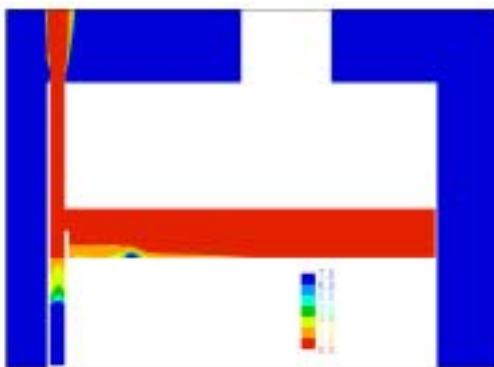
Stair: Top and bottom vent



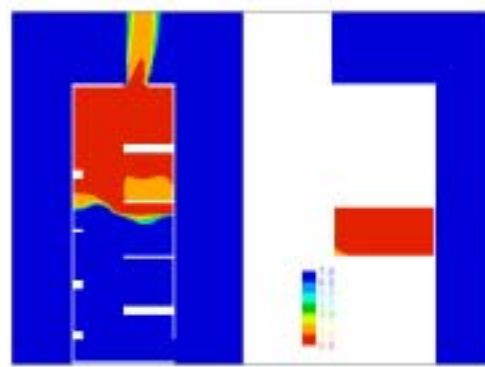
Lobby: L: Natural closed-base, **0.75m²** shaft
 (0.85 m² high-level vent to lobby)
 R: No vent
Mean temp in occupied space = 88°C

NO SMOKE IN STAIR

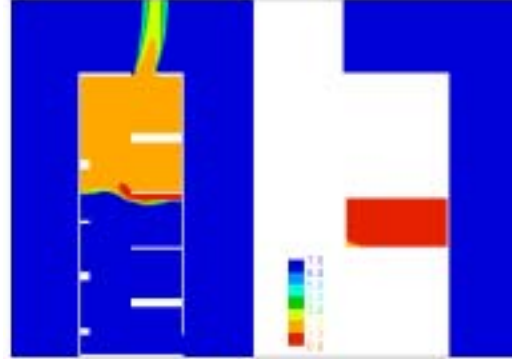
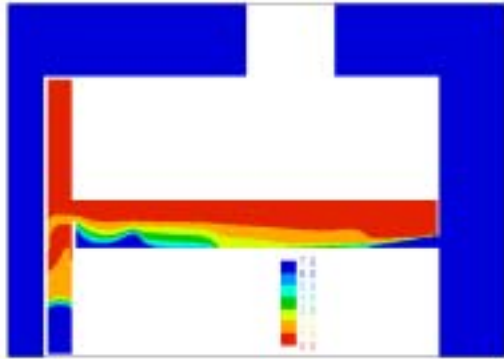
Stair: Top and bottom vent



Lobby: L: Natural closed-base, **0.5m²** shaft
 (0.7 m² high-level vent to lobby)
 50% reduction in area at top)
 R: No vent
Mean temp in occupied space = 101°C



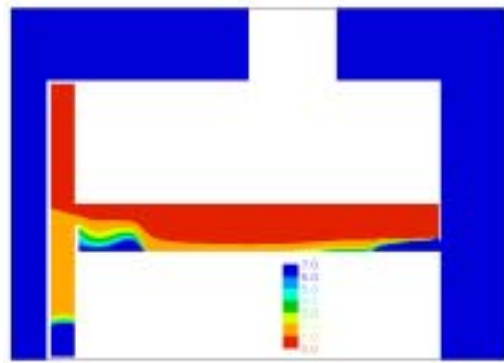
Stair: Top and bottom vent



Lobby: L: Mechanical closed-base, 1.5m^2 shaft
 (160 ach^{-1} ($2.6\text{ m}^3\text{s}^{-1}$) and
 1m^2 high-level vent to lobby)
 C: No vent
 R: 0.5m^2 low-level vent

Stair: Top and bottom vent

Mean temp in occupied space = 64°C
Closed door $\Delta P = 25\text{Pa}$; open door vel = 1.1 ms^{-1}

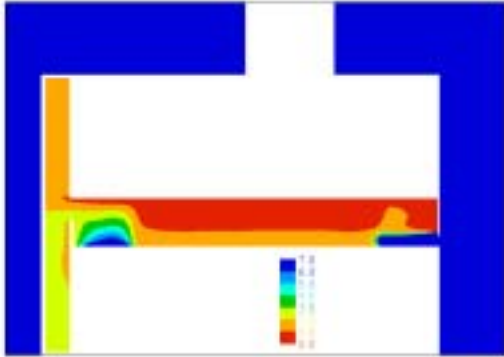


NO SMOKE IN STAIR

Lobby: L: Mechanical closed-base, 1.5m^2 shaft
 (320 ach^{-1} ($5.2\text{ m}^3\text{s}^{-1}$) and
 1m^2 high-level vent to lobby)
 C: No vent
 R: 0.5m^2 low-level vent

Stair: Top and bottom vent

Mean temp in occupied space = 91°C
Closed door $\Delta P = 102\text{Pa}$; open door vel = 2.2ms^{-1}



NO SMOKE IN STAIR

Lobby: L: Mechanical closed-base, **1.5m²** shaft
(**640 ach⁻¹** ($10.3 \text{ m}^3 \text{ s}^{-1}$) and
1m² high-level vent to lobby)

C: No vent

R: 0.5m² low-level vent

Mean temp in occupied space = 84°C

Closed door $\Delta P = 400 \text{ Pa}$; open door vel = 4.4 ms^{-1}

Stair: Top and bottom vent