Camberwell flats blaze kills six

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Leading fire engineers this week blamed the failure of fire containment measures in a 1960s south London tower block for the spread of a fire which killed six people last Friday.

The fire broke out in the fourteen storey Lakanal House in Camberwell last Friday evening.

The London Fire Brigade said the fire started on the ninth floor and spread rapidly to the 11th floor. Falling debris is thought to have spread the fire further down the building.

"There was an erratic nature to the fire spread – it went down as well as up," said Mott MacDonald buildings and infrastructure director Leon Higgins.

"The compartmentalisation hasn’t worked. Normally a fire would be contained by constructing each apartment in a firesafe material to form a firesafe box," he said, adding that the failure was not necessarily a design flaw.

"The compartmentalisation hasn’t worked. But it doesn’t mean there’s a design fault."  
Leon Higgins, Mott MacDonald
To comply with Building Regulations, each flat should have been designed to contain a fire for at least one hour. But the fire spread quickly and erratically through the building, indicating a problem with fire containment.

Voids in the building

"If you look at the façade, there was burn out [in one place] at the fourth floor, and then two floors above, it jumps across [to the next flat]," said Buro Happold associate director Andy Nicholson.

"Normally [fire damage] would go straight up the façade. I can only think there might be holes in the compartmentalisation.

"For it to have spread between compartments is strange and it strikes me there are voids in the building. You need to look at the materials and whether they have performed or the maintenance.”

A London Borough of Southwark spokesman said that the building had been in good condition and had undergone a £35M refurbishment programme two years ago. This included new kitchens, bathrooms, internal and external doors and the replacement of timber windows with UPVC windows.

However, the refurbishment work could have disturbed the integrity of the fire walls between apartments, said Halcrow fire safety engineering director Fathi Tarada.

"It’s been recently refurbished and in my experience it’s difficult to get the fire compartmentalisation right when refurbishing,” said Tarada.

"All those penetrations need to be sealed well so as to restore the level of fire protection. It’s often left to the last minute or ignored. It’s about knowing how to seal a penetration and getting it checked. It costs a little more, but it’s worthwhile.”

Tenant behaviour and building maintenance

The London Fire Brigade confirmed hard wired fire alarms were functioning but the building did not have a sprinkler system.

The building has a single central staircase, which is acceptable under current building regulations providing that the stairs are no more than 7.5m from each flat and fire doors are provided within the lobby.

Engineers said tenant behaviour and building maintenance could have contributed to the fast spread of fire.

"Fire doors are often propped open as they’re considered a nuisance,” said Tarada. “Fire doors have intumescent seals – in case of fire they expand and stop smoke. If not maintained, the strips fall off. It’s also not uncommon for door closers to be removed. The staircase is also meant to be sterile with no combustibles stored there.”

"The flats are not deathtraps and it is not a problem with design,” stressed Nicholson. “I would look for councils to go down and look at the situation. If there are holes [in compartmentalisation] or poor maintenance, it should be picked up.”

How the flat fire spread

1. **Fire breaks out** on the ninth floor of the 14 storey block of flats
2. **Blaze spreads** to upper floors of recently refurbished flats
3. **Falling debris** spread the blaze down to floors below original fire