

Dear Team ERHA-TEC,

There are several important aspects worth considering in association with the tactical approaches made at the Berlin fire, as follows –

These are all points I have researched, introduced and written on in the past.

Take the fire first – Safe tactical objectives are based upon the tactical action plan drawn up in 1991 (Fog Attack) <http://www.firetactics.com/TACTICAL-OBJECTIVES.htm> and I advise that the fire should be attacked before interior searches, or both are undertaken at the same time; rarely after interior rescue operations have begun. The only time that a search & rescue action should precede fire attack is when the fire remains confined; or where firefighters are able to confine it behind a closed door. If they were able to close the apartment door this may have confined the fire sufficiently to allow upper floor searches to precede attack in relative safety - <http://www.firetactics.com/IFE1998.htm>

Stairshaft Fires – Are known for such explosions in the fire gases and very intense fires. I have personally been involved in three such fires in my time as a London firefighter. On two occasions firefighters received burns but were not trapped above the fire in areas where they could not escape quickly. One firefighter had to jump through the fire down to a stair landing. Another fire led to several occupants of an illegal sex cinema losing their lives as a staircase ‘backdraft’ burned for several minutes with great intensity. The Watts street (FDNY) fire is perhaps the most famous documented case of such a fire - http://www.firetactics.com/watts_fj.pdf

On March 28, 1994 at 7:36pm, the New York City Fire Department received a telephone report of heavy smoke and sparks coming from a chimney at 62 Watts St., Manhattan. The initial response was 3 engines, 2 ladders, and a battalion chief. On arrival they saw the smoke from the chimney but no other signs of fire. The engine companies were assigned to ventilate the roof above the stairs by opening the scuttle and skylight, and two three-person hose teams advanced lines through the main entrance to the first- and second-floor apartment doors. The first-floor hose team forced the apartment door and reported:

- * a momentary rush of air into the apartment, followed by*
- * a warm (but not hot) exhaust, followed by*
- * a large flame issuing from the upper part of the door and extending up the stairway.*

The first-floor team was able to duck down under the flame and retreat down the stairs, but the three men at the second-floor level were engulfed by the flame which now filled the stairway. An amateur video was being taken from across the street and became an important source of information when later reviewed by the fire department. This showed the flame filling the stairway and venting out the open scuttle and skylight, extending well above the roof of the building. Further, the video showed that the flame persisted at least 6½ minutes.

Again, firefighters should ensure the fire is controlled or confined; or the stairshaft above is free of occupants or firefighters.

PPV in Stairshafts – There have been several documented experiences of PPV airflows (here in UK) creating a NEGATIVE pressure in stairshafts that actually PULLS fire into the stairs - <http://www.firetactics.com/PPV-STAIRSHAFTS.htm>

Exterior Effects – Exterior effects such as fire streams or wind can both cause escalations of intense fire into the corridors beyond the room of origin.

Burning Characteristics in Corridor – When a room fire reaches the flashover stage there may not be enough ventilation (air) to support complete combustion within the room. This is when you see large flames emitting from a window as the fire gases ignite outside the room. Sometimes this process is reversed as the corridor adjacent to the room provides the air. Here the intense fire spreads into the corridor and possibly the stairshaft in this case - **What is 'corridor flashover'?** - Where fire gases are transporting into the corridor serving a room or compartment involved in fire they may ignite. If the room itself has reached 'flashover' (total sustained involvement and flaming) then the air required to sustain flaming in the room may be provided to a greater proportion via the corridor. The flaming may extend out from the room into the corridor at ceiling level and the gases may ignite. Much will depend on whether the gases are 'fuel-lean' or 'fuel-rich'. If the gases are 'lean' the flaming will occur close to the ceiling and bring the surfaces into the ignition equation. If the gases are rich then flaming will occur at the lower boundary of the gas layer where air entrainment is taking place. Such an 'event' in the corridor leads to a restriction of air entering the room, resulting in 'fuel-rich' burning in the room, which in turn leads to an increase in the quantity of smoke produced. Corridor 'flashover's' are likely to be very intense, travelling with great speed.

Flashover 'Pathways' – *‘However, a phenomena that has received little, if any, attention is that of creating 'pathways' where venting actions occur below and above the fire area, sometimes leading to devastating effects! A routine approach to a structural fire would be to open the street entry door, normally below the fire, followed by a tactical venting action above the fire. Incidents come to mind where occasionally this process is reversed where the entry is made at high level before the venting action occurs at low level, creating a 'pathway'. It is the final action of creating a 'pathway' for air to enter from below the fire and smoke and energy rich gases from an under-ventilated fire to exit at high level that sometimes leads to an 'event' of rapid fire progress’.* - <http://www.firetactics.com/careers.htm>

Best regards

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