

EuroFirefighter-2

Paul Grimwood – Kent Fire and Rescue Service

I wanted this final book in the series to record some of the brilliant academic papers I have read over the past decade, where there is critical information relative to firefighter safety. Putting academic speak into firefighter language is no easy task but it was important to transfer a level of understanding, where firefighters may gain some knowledge that they might not see in everyday guidance notes.

This book is for the firefighter and the fire commander but it may also appeal to fire engineers, architects, building control officers and students who wish to gain some insight into the difficulties and hazards firefighters commonly face, in relation to firefighting access, facilities and smoke control design configurations.

The 549 fires in London between 1984 and 1994, where three inner city fire stations took part in a trial to evaluate the practical viability of Rosander and Giselsson's Swedish water-fog tactics, are also discussed. The 5,401 fires that were researched across two UK fire services, comparing firefighting water deployments and their impact on building fire damaged are presented in great detail. The data represents the largest body of research ever undertaken in the UK when defining what is 'adequate' firefighting water. The use of water in both the gaseous and fuel phase is shown to extract heat from the fuel load in varying proportions. The ability to gas cool, flame cool or fuel base cool most effectively is dependent on the distribution of the fire load, the compartment dimensions, the nozzle operator's skill level and the droplet sizing in use.

- 1. Firefighting knowledge gaps**
- 2. The building – what the firefighter needs to know**
- 3. Practical fire dynamics and extreme fire behaviour**
- 4. The house fire**
- 5. The apartment fire**
- 6. The office fire**
- 7. The town centre shop fire**
- 8. The warehouse fire**
- 9. The car park fire**
- 10. The high-rise fire**
- 11. 3D water-fog firefighting techniques**
- 12. Adequate firefighting water – you need this!**
- 13. Prescriptive and performance based building designs**
- 14. Fire safety regulation**
- 15. Structural stability under fire attack**
- 16. Wind driven building fires**
- 17. Rules of engagement**
- 18. Tactical ventilation – survive the flow-path**
- 19. Smoke control – system categories and configurations**
- 20. Fire-ground command and control**