

# Library update

## Researching fire engineering

Enquiries received in the Library on fire engineering can be categorised broadly into six headings.

Here is a selection of what the Library has on these subjects and the most frequently requested items. Those marked with an \* are also available in the E-library at [www.istructe.org/resources-centre/library/e-library](http://www.istructe.org/resources-centre/library/e-library).

### Fire properties and performance of materials

- BRE (2013) *Fire performance of external thermal insulation for walls of multistorey buildings* (3rd ed.) (BR 135)
- BRE (2004) *Structural fire engineering design: Materials behaviour* (BRE Digest 487-1: Concrete; 2: Steel; 3: Masonry; 4: Timber)
- BRE (2004) *Structural fire engineering design: Fire and thermal response* (BRE Digest 488)

### Fire-resistant design

- Lennon T. et al. (2017) *Installing fire protection to structural steelwork* (BRE Good Building Guide GG85)
- \*Buchanan A.H. and Abu A.K. (2017) *Structural design for fire safety* (2nd ed.), Wiley
- \*Franssen J. and Vila Real P. (2015) *Fire design of steel structures. Eurocode 1: actions on structures part 1-2 - actions on structures exposed to fire. Eurocode 3: design of steel structures part 1-2 - structural fire design* (2nd ed.), ECCS / Ernst & Sohn (ECCS Eurocode Design Manuals)
- Concrete Centre (2015) 'Concrete Design Guide. No. 6: Fire design of concrete columns and walls to Eurocode 2', *The Structural Engineer*, 93 (6), pp. 46–51
- \*Purkiss J.A. and Li L. (2014) *Fire safety engineering design of structures* (3rd ed.), CRC Press
- Association for Specialist Fire Protection (2014) *Fire protection for structural steel in buildings* (Volumes 1 and 2) (5th ed.), ASFP
- Structural Timber Association (2013) 'Timber Engineering Notebook series. No. 7: Fire safety in timber buildings', *The Structural Engineer*, 91 (9), pp. 37–43
- Wang Y. et al. (2013) *Performance-based fire engineering of structures*, CRC Press

- Razzdolsky L. (2012) *Structural fire loads: theory and principles*, McGraw-Hill
- Lennon T. (2011) *Structural fire engineering*, ICE Publishing
- Lennon T. et al. (2007) *Designers' guide to EN 1991-1-2, 1992-1-2, 1993-1-2 and 1994-1-2: handbook for the fire design of steel, composite and concrete structures to the Eurocodes*, Thomas Telford
- Institution of Structural Engineers (2003) *Introduction to the fire safety engineering of structures*, IStructE Ltd

### Fire management

- BRE (2016) *External fire spread. Supplementary guidance to BR 187 incorporating probabilistic and time-based approaches* (BRE Information Paper IP3/16)
- Hurley M.J. and Rosenbaum E.R. (2015) *Performance-based fire safety design*, CRC Press
- BRE (2014) *Fire risk in high-rise and super high-rise buildings: prevention and mitigation* (BRE Digest 533)
- BRE (2014) *External fire spread: building separation and boundary distances* (2nd ed.) (BR 187)
- Stollard P. et al. (2014) *Fire from first principles: a design guide to international building fire safety* (4th ed.), Routledge
- *The Building Regulations 2010. Approved Document B (Fire safety) - Volume 1: Dwellings* (2006 edition incorporating 2010 and 2013 amendments)
- *The Building Regulations 2010. Approved Document B (Fire safety) - Volume 2: Buildings other than dwellings* (2006 edition incorporating 2010 and 2013 amendments)
- Craighead G. (2009) *High-rise security and fire life safety* (3rd ed.), Butterworth-Heinemann
- Institution of Structural Engineers (2007) *Guide to the advanced fire safety engineering of structures*, IStructE Ltd
- BRE (2004) *Structural fire engineering design: Introduction* (BRE Digest 484)
- BRE (2004) *Structural fire engineering design: Aspects of life safety* (BRE Digest 490)
- BRE (2004) *Structural fire engineering design: Fire development* (BRE Digest 485)

### Fire damage assessment and repair

- Institution of Structural Engineers (2010) *Appraisal of existing structures* (3rd ed.), IStructE Ltd
- Concrete Society (2008) *Assessment, design and repair of fire-damaged concrete structures* (Technical Report 68)
- Kirby B.R. et al. (1986) *The reinstatement of fire damaged steel and iron framed structures*, British Steel Corporation Swinden Laboratories

### Standards

All the fire parts of the Eurocodes:

- BS 8414-1/2:2015+A1:2017 *Fire performance of external cladding systems*
- BS 9999:2017 *Fire safety in the design, management and use of buildings. Code of practice*
- BS 9991:2015 *Fire safety in the design, management and use of residential buildings. Code of practice*

### Case studies

- US Department of Commerce and NIST (2005) *Federal building and fire safety investigation of the World Trade Center disaster: final report on the collapse of the World Trade Center Towers*, US Government Printing Office (NIST NCSTAR 1)
- INTEMAC (2005) *Fire in the Windsor building, Madrid: survey of the fire resistance and residual bearing capacity of the structure after the fire*, INTEMAC (Notas de Informacion Technica, NIT2-05)
- Dobb-Fuller D. et al. (1998) 'Windsor Castle: fire behaviour and restoration aspects of historic ironwork', *The Structural Engineer*, 76 (19), pp. 367–372
- Dixon R. and Taylor P. (1993) 'Hampton Court: restoration of the fire-damaged structure', *The Structural Engineer*, 71 (18), pp. 321–325
- BRE (1974) *Report on the spread of fire at Summerland in Douglas on the Isle of Man, 2 August 1973* (BRE Current Paper 74/74)

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