

Fire - Building Regulations / Insurance Construction Rules

Building Regulations

Building Regulations (England and Wales) are concerned with preventing the loss of life of the occupants of a building (including fire- fighters). The prime area of concern of the Regulations is to ensure safe and adequate means of escape from the building.

In recent years there have been a number of very large fires, some of which have had a tragic result for fire-fighters. A few of these incidents have also led to litigation against Fire Brigades and property owners over the pollution caused to the surrounding area.

One of the reasons for the increase in this has been the proliferation of combustible composite insulation panels. These are acceptable to Building Control Inspectors - both local authority and independent - because they are not proscribed by the present Building Regulations.

The Insurance Construction Rules

These Rules have governed Fire Insurance business - classification and premium rating - for decades. Originally under the auspices of the Fire Offices Committee (FOC), these rules are now under the banner of the Association of British Insurers (ABI) and the Loss Prevention Council (LPC).

These rules are more stringent than the Building Regulations. Their primary aim is property protection ensuring that all elements of construction including roofs should not significantly contribute to the growth and spread of a fire, either internally or externally.

Whereas the Building Regulations are seen very much as a minimum standard in terms of the requirements of the construction elements and internal fire protection of a building, the LPC Design Guide for the Protection of Buildings covers a broad spectrum of building design issues.

Passive fire protection measures are established together with, where appropriate, active fire protection measures having the overall intention of increasing the survivability of the building and minimising any loss by fire.

The Fire Brigades (and Home Office Fire Service Inspectors) are becoming more and more concerned at this dichotomy between the Building Regulations (with its emphasis on escape) and the broader need to minimise fire wastage and all the peripheral environmental issues.

This emphasis on escape has, to a large extent, moved the spotlight away from the need to design structures that incorporate both active and passive fire protection / fire resistance measures.



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Insurers Attitude to Buildings

Building Regulations are a minimum standard for fire protection. Whilst architects or design and build consultants and their planners may use them to receive approval from the Building Control Officer this standard is unlikely to receive the same degree of approbation from the future building's insurers.

Insurers also base their opinion of a fire risk on the occupation of a building as well as its construction.

The occupation obviously governs the fire- loading and perhaps more importantly the inception hazard.

The more hazardous the risk or occupant the greater the fire risk e.g. a woodworker, would be a deemed as a high risk hence a higher premium.

Insurers look for positive passive and active fire protection measures as noted below.

Passive Fire Protection

- Non combustible construction or use of LPCB approved building products - walls, roof, floors, linings, insulation materials
- Any insulation panels to be non combustible or LPCB approved. This has been a major problem in large Food Processing risks where there is extensive use of expanded polystyrene foam panels because of their insulating properties. Fire-fighters will not enter these premises if the existence of these panels is suspected. The fire then often results in the total loss of the building.
- Fire barriers in voids, ducts, cavities and roof spaces
- Fire resisting ducts for cables / services
- Fire resistant cabling
- Fire dampers in air distribution ducts particularly where passing through compartment walls / floors
- Large capacity buildings compartmented into smaller areas using Firebreak Walls with any penetrations appropriately protected

Active Fire Protection

- Appropriate fire extinguishers.
- Automatic Fire Detection to P1 Standard of BS 5839 Part 1 2002 with monitored remote signalling to an approved Alarm Receiving Centre. Installed and maintained by an LPCB installer accredited to LPS 1014.
- LPCB approved fire doors/shutters in compartment walls operated via an Automatic Smoke Alarm and / or a fusible link.
- Automatic Sprinkler Installation to LPC rules - BS 5306 Part 2 1990 / BS EN 12845
- Smoke ventilation



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Sprinklers

Many people do not realise the benefits to be gained from the installation of an LPC approved sprinkler system:

- The insurance discounts can be up to 50% of the fire premium.
- Approximately 97% of all fires (in sprinkler controlled buildings) are controlled by less than 3 sprinkler heads activating. This greatly reduces the subsequent water damage bill following a fire.
- The possibility of the National Rivers Authority suing, for fire ground run-off water contamination, is greatly reduced.

Key Action Steps

- Be aware that Building Regulations 2000 are a minimum standard of fire resistance purely designed to facilitate evacuation of the building. Insurers are often more concerned with the protection of property / business and have higher standards.
- Note that high fire risk occupants attract high premiums and active fire protection measures may be specified at a greater cost than if they had been a part of the original design.
- Note that substantial savings may be available off insurance fire premiums for buildings of fire-resisting construction and for active fire protection i.e., Automatic Sprinklers and Fire/Smoke alarms.
- Consult your insurance company before undertaking any major new building / extension work, for advice

Reference Documents

The LPC Design Guide for the Protection of Buildings 2000.

BS 5306 Part 2 "LPC Rules for Automatic Sprinkler Installations". (LPC Rules for Automatic Sprinkler Installations incorporating BS EN 12845)

Building Regulations (England and Wales) 2000.

BS 5839 Part 1 2002 "Fire Detection and Alarm Systems in Buildings".

LPCB Approved Fire and Security Products and Services.



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