

## PU Europe FIRE HANDBOOK

# THE ROLE OF INSURANCE STANDARDS

While the primary objective of national legislation is to reduce risk to life, insurers have a secondary objective, which is the protection of property. Consequently, there are a number of insurer-led fire standards which look at different aspects of fire performance. Three widely recognised examples are the UK-based Loss Prevention Certification Board (LPCB), the American FM Global (formally known as Factory Mutual), and the German Insurance Association (GDV).

### LPCB

LPC tests assess various levels of fire performance including reaction to fire, reaction and resistance to fire, and a separate grade for resistance to fire only. The LPC's LPS1181 involves large-scale insurer approved 'in-application' tests that combine assessments of reaction to fire and fire resistance. It is useful in assessing the performance of elements such as roofs and walls in the developing stages of a fire. However, as a system-based test, it cannot be used to assess the performance of generic products.

### FM GLOBAL

FM Global is a major insurance company with its own test procedures for building systems including insulated panel systems and constructions

incorporating insulation boards.

FM approval encompasses a range of tests specified in Approval Standards, FM Approvals Standards 4880/4881/4771 and 4450. FMRC 4880 assesses the fire performance of insulated panel systems for internal and external wall, roof and ceiling systems whilst FM approvals Standard 4881 looks specifically at the impact of fire and natural hazards on wall panel systems fire, FMRC 4471 and 4450 include the testing of specific characteristics such as wind uplift and foot traffic, in addition to fire characteristics. For example, a Class 1 insulated steel roof deck is one which meets the criteria of FM 4450 for internal fire, wind uplift, live load resistances, corrosion of metal parts and fatigue of plastic parts. The standard applies to all components assembled in the system below the roof cover, whilst the roof cover itself is tested in accordance with FM Approval Standard 4470.

### GDV AND VDS

The *Gesamtverband der Deutschen Versicherungswirtschaft* (GDV) has its headquarter in Berlin and is the umbrella body of private insurance companies in Germany. Its 469 member companies offer insurance coverage and for private households, industry and public facilities.

### **EFSAC IDENTIFIES ITS ROLE AS FOLLOWS [1]**

- Advising on and influencing the regulatory process of European legislation by developing close links with other relevant European organisations
- Promoting the use of common standards within Europe
- Developing the transparency of test methods and the principle of mutual recognition of testing, with the objective of one-stop testing and certification
- Working towards one single factory quality audit
- Working towards one single product quality audit
- Developing suitable codes of practice and advisory documents covering use, application, installation and maintenance of fire and security products and systems
- Publishing EFSAC-endorsed Technical Documents (ETDs) when no other European product standards and specifications exist
- Encouraging the harmonisation of complete CEN/CENELEC standards to minimise confusion over CE marking vs performance and quality accreditation
- Promoting consistency of competence between Notified Bodies

VdS, a GDV subsidiary, offers fire protection concepts for industry, planners and contractors. The organisation owns a technical laboratory for type and system tests. The services include certification and recognition schemes for products (fire extinction systems, smoke detectors) and specialised installers. At an international level, VdS closely co-operates with the certification and test laboratories in Europe and the US. The testing and certification of insulation products and insulated building elements is currently not included in the range of activities of VdS.

With strict standards and regulations for fire safety of buildings in place in Germany, the German insurance industry does not see a need to introduce additional tests and classifications yet. The requirements set for insurance purposes are mainly based on existing regulations and the insurance industry is actively taking part in the further development

<sup>1</sup> <http://www.efsac.org/> 'Activities' page

of standards (e. g. DIN 18234 “Fire safety of large scale flat roofs”), guidelines and regulations for the assessment of the fire safety of products and constructions.

Several guidelines (Richtlinien) have been published, providing complementary interpretation and recommendations, based on official tests results and classifications for products and constructions. Special recommendations are given in particular for the use of combustible insulation products (i.e. construction and type of joints for sandwich panels).

The following VdS publications are noteworthy with regards to the insulation of flat roofs:

- *VdS 2035 Stahltrapezprofildächer, Planungshinweise für den Brandschutz*
- *VdS 2216 Brandschutzmaßnahmen für Dächer, Merkblatt für die Planung und Ausführung*

### EUROPEAN BODIES

There are a number of European bodies which are concerned with insurance issues and fire performance: The European Fire and Security Advisory Council (EFSAC) comprises organisations from across Europe which represent the interests of manufacturers, suppliers, installers, end-users, authorities and insurers. Its members include:

- The CEA – the European insurance and reinsurance federation
- CFPA Europe – the Confederation of Fire Protection Associations Europe
- EUROFEU – the European Committee of the Manufacturers of Fire Protection and Safety Equipment and Fire Fighting Vehicles
- EFSG – European certification bodies



### FUTURE TRENDS

System-based tests are important, but they can become extremely expensive if they are to have sufficient scope to be meaningful. It is vital not to let product politics influence perceptions of the real risks. One way to resolve the existing range of differences in testing might be to seek 'deemed to satisfy' constructions for fire resistance. For example, provided a concrete deck offers a fire safety engineering solution, the insulation could be specified to fulfil its primary function i.e. thermal performance, without the need to 'over-specify' in other areas.