

The Role of Third Party Approvals for the Fire Protection Market

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Director Fire Suppression



FG-SPRINKLERKONFERANSEN 2020
11TH March 2020



BRE – The Building Research Establishment



UK government agency established in 1921

Transferred to BRE Trust in 1997 and established as a charitable Foundation

Not for profit organisation

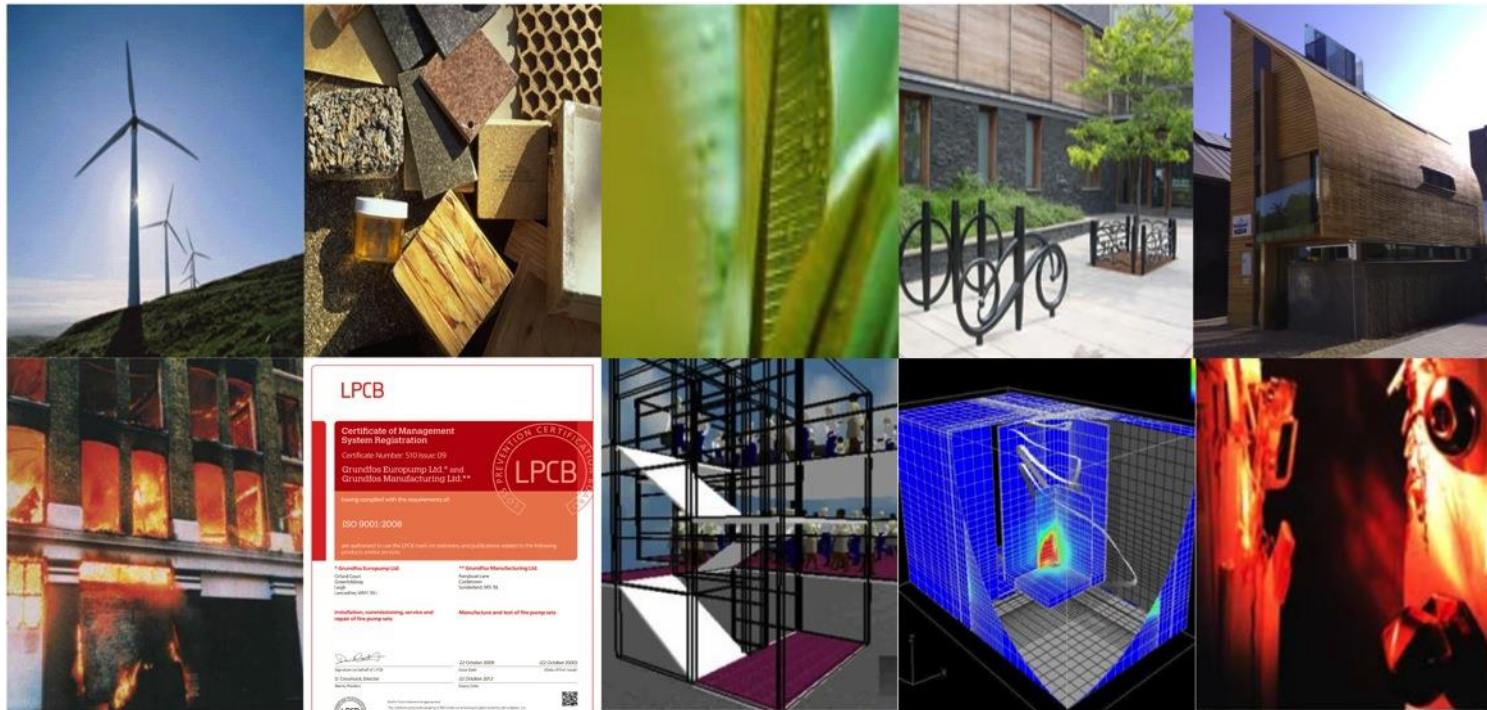
No shareholders, operating surplus re-invested in services/research etc

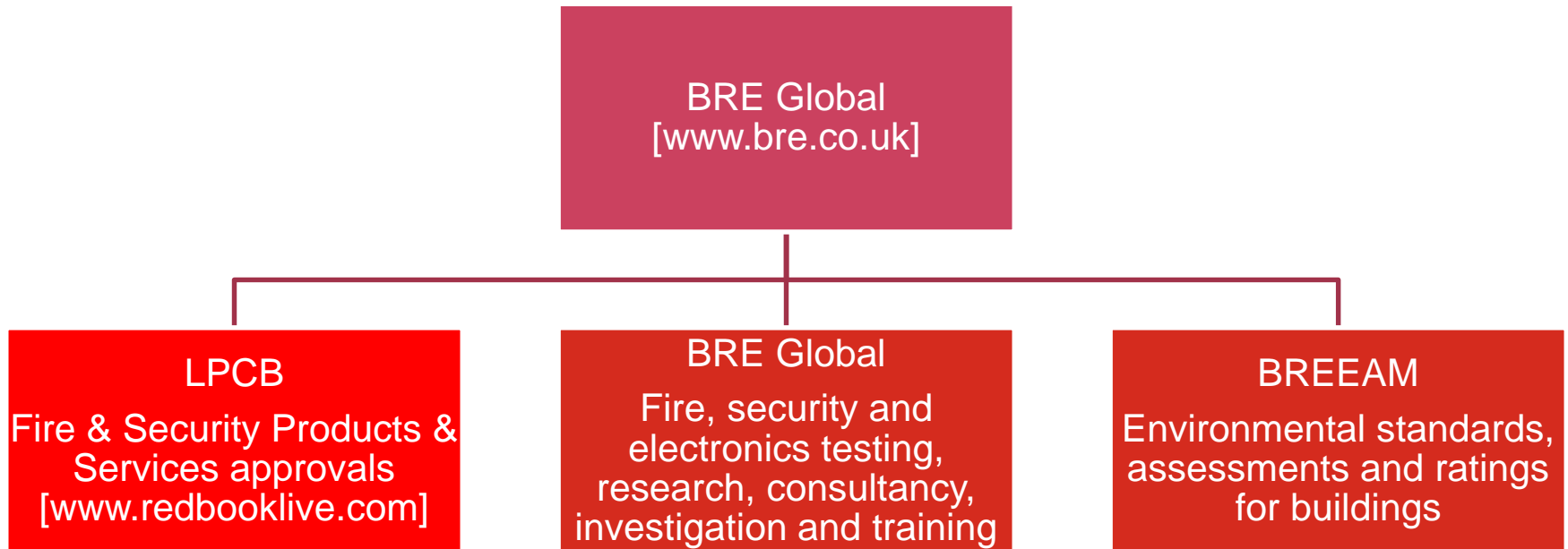
HQ Location Watford, just north of London

Offices in Dublin, China, India, UAE

600 staff

Research, consultancy, training, standards, testing, approvals in fire, security and sustainability products and installers





LPCB Approvals



Great Fire of London – September 1666

- 4 direct reported deaths
- 13,000 homes and 100,000 made homeless
- 80% of the city



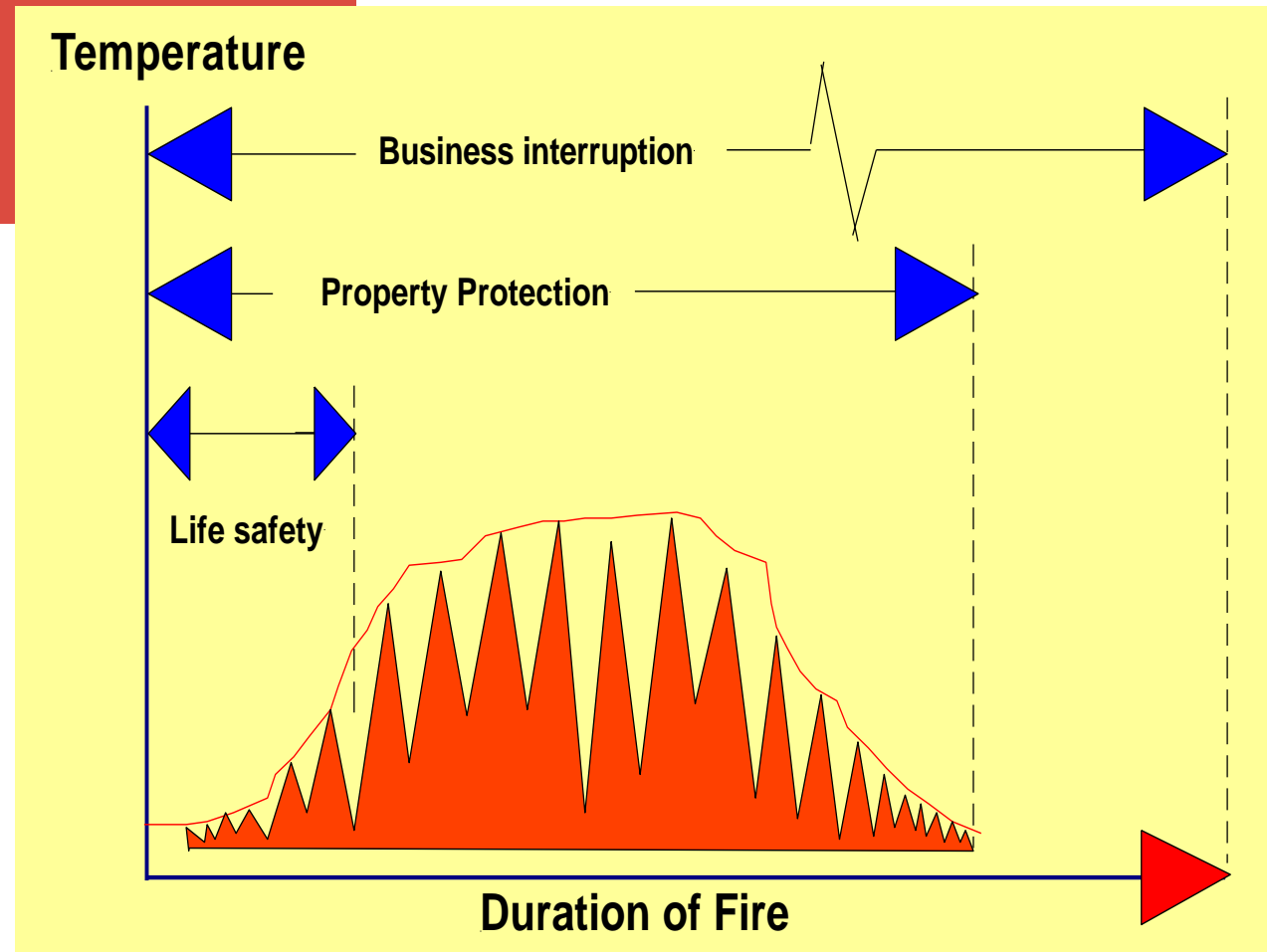
- Property Protection for Insurance
- Material Specifications
- Space separation between buildings
- Building Regulations for Life Safety
- Controls on hearths and cooking equipment



Which codes and standards?

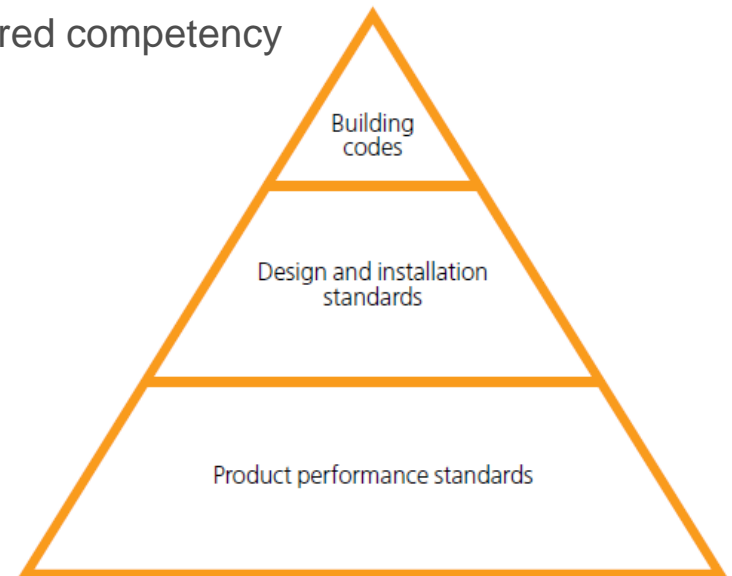
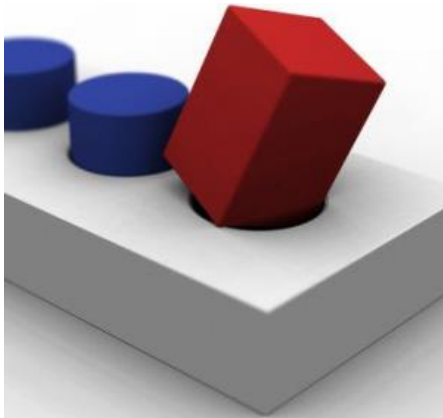
What is the risk being addressed?

- Life Safety
- Property Protection
- Business Interruption



Installation and Design Codes

- The design codes should be compatible with the Regulatory or Insurance Requirements
- Cite the testing and / or approval codes to be followed.
- Cite the relevant standards associated with the required competency levels for the system and product installers.



- Building regulations focus on life safety
- LPSs go beyond building regulation requirements
- Provide added protection in terms of property protection, business interruption and risk management
- Standards developed with Key Stakeholders including Insurers
- Used by architects, designers, specifiers, building owners, insurers etc to manage fire and security risks



What do we test and approve?

- Passive fire protection products and services
- Fire detection and alarm systems and services
- Sprinkler, spray and deluge systems and services
- Fire extinguishers and hose reels
- Fixed fire fighting systems and services
- Security products



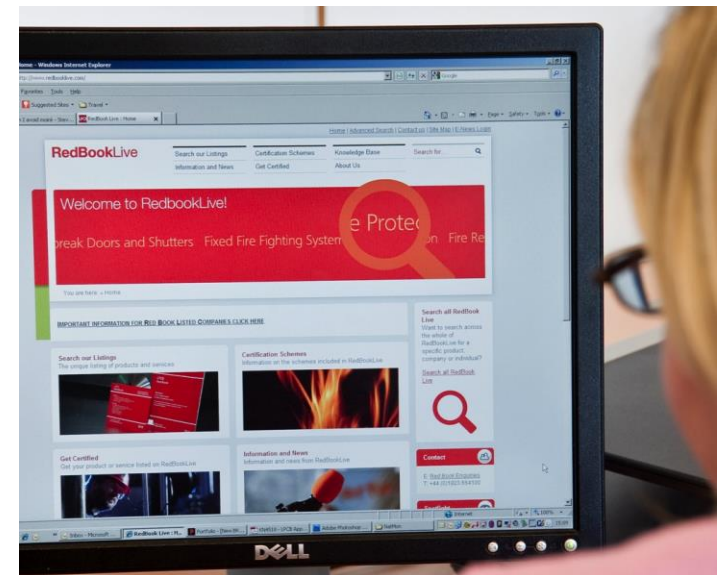
Red Book

All LPCB approved fire and security products and services are listed in our directory

“The Red Book”

Web-based live database

www.redbooklive.com



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Test Reports Supporting Codes and Standards

1

Test Reports

A test report is a statement of fact –

a snapshot in time

related solely to the product presented at the time of testing and reports only the information detailed in the Standard.



- Was the sample representative?
 - 'Golden' Sample
- Fully compliant with the standard?
- Independent?
 - Manufacturer tested?
 - UKAS or ILAC recognised (*International Laboratory Accreditation Cooperation*)
- Will future products be the same?
- What if Materials, designs or processes change?
- No surveillance audits



Risk to the end user or specifier

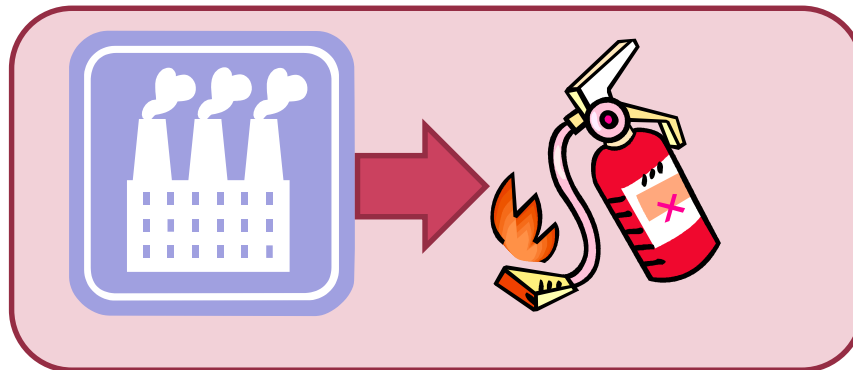
- Common claims:
 - “Complies with ...”
 - “Designed to ...”
 - “Tested to ...”
- These claims are **no guarantee** that products will :
 - continue to meet the standards or
 - that they fully compile with the standard.
- **Always request a copy and read the Test Report**

Certification

2

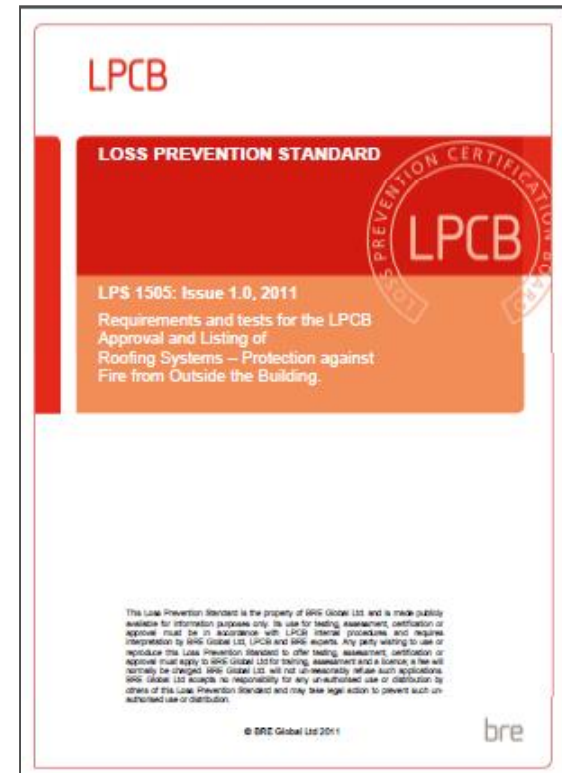
Different Models

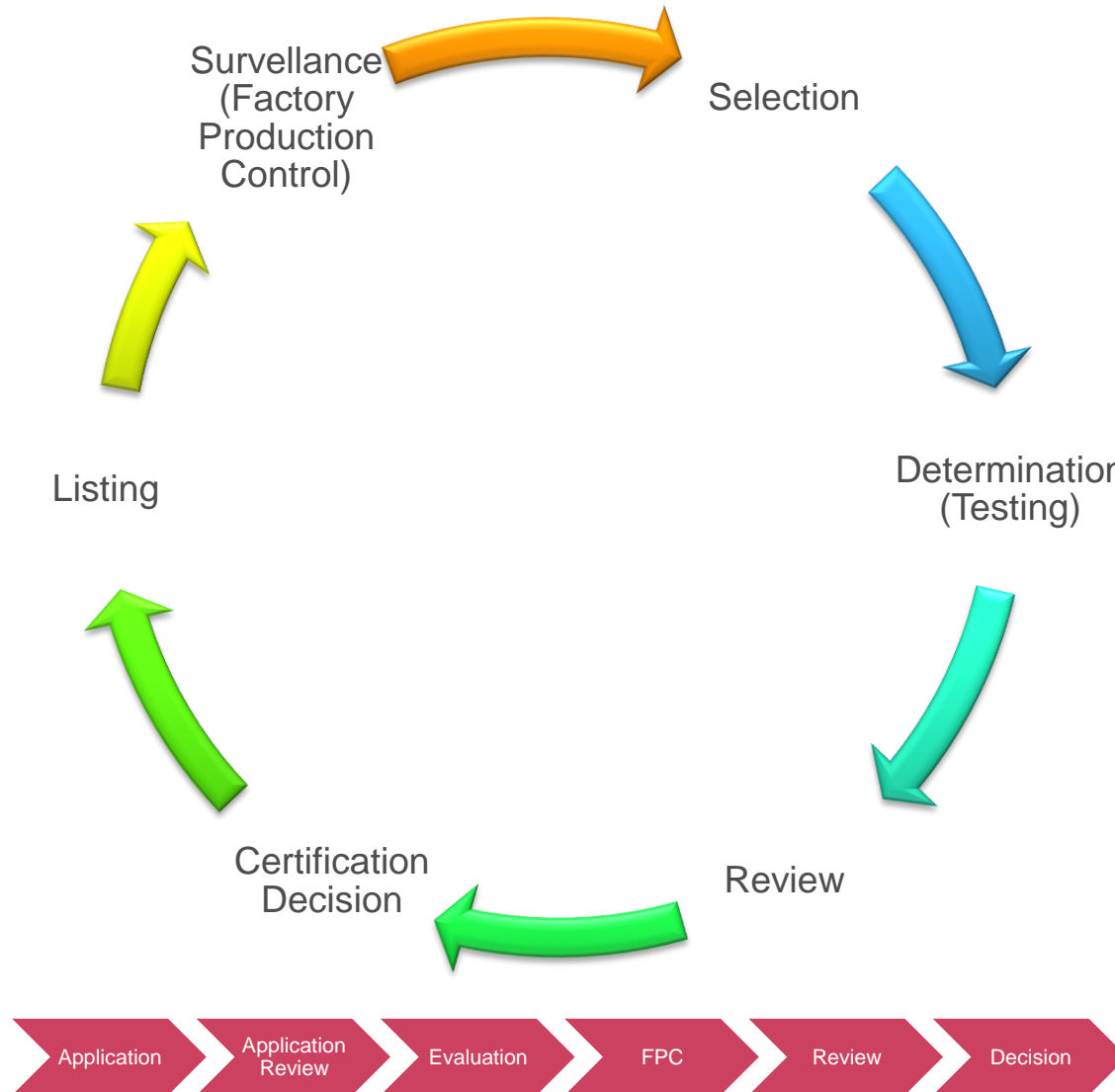
- **1st party** - 'self certification' - where a manufacturer or supplier provides their own statement of compliance with the requirements of a standard.
- **2nd party** - where a trade body or membership organisation issues certification
- **3rd party** – where an independent, impartial body, issues certification



Standards used for Certification

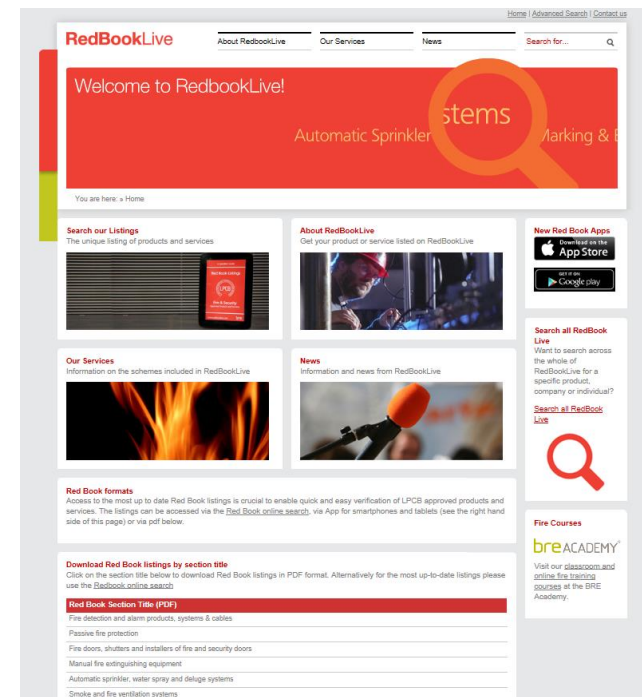
- Loss Prevention Standards (LPS)
 - developed in collaboration with industry, clients, insurers, regulators and stakeholders
 - Consensus documents
 - Based on National, European or International standards





Example of Listings - Red Book

- All approved products and services are listed.
 - For example LPCB products are listed on web-based live database; www.redbooklive.com
 - Updated daily
 - Suspensions/withdrawals
 - Counterfeit



Benefits of Certification

- Benefits apply to manufacturers, end users, insurers/underwriters, clients, specifiers, contractors, regulators:
 - For specifiers/end users/regulators etc:
 - Risk reduction
 - Avoidance of costly mistakes
 - Visibility of certified product
 - Time
 - Traceability of product
 - For manufacturers/installers:
 - Supports acceptance by Regulators
 - Added value of the product or service
 - Increased visibility of product
 - Reduced liability



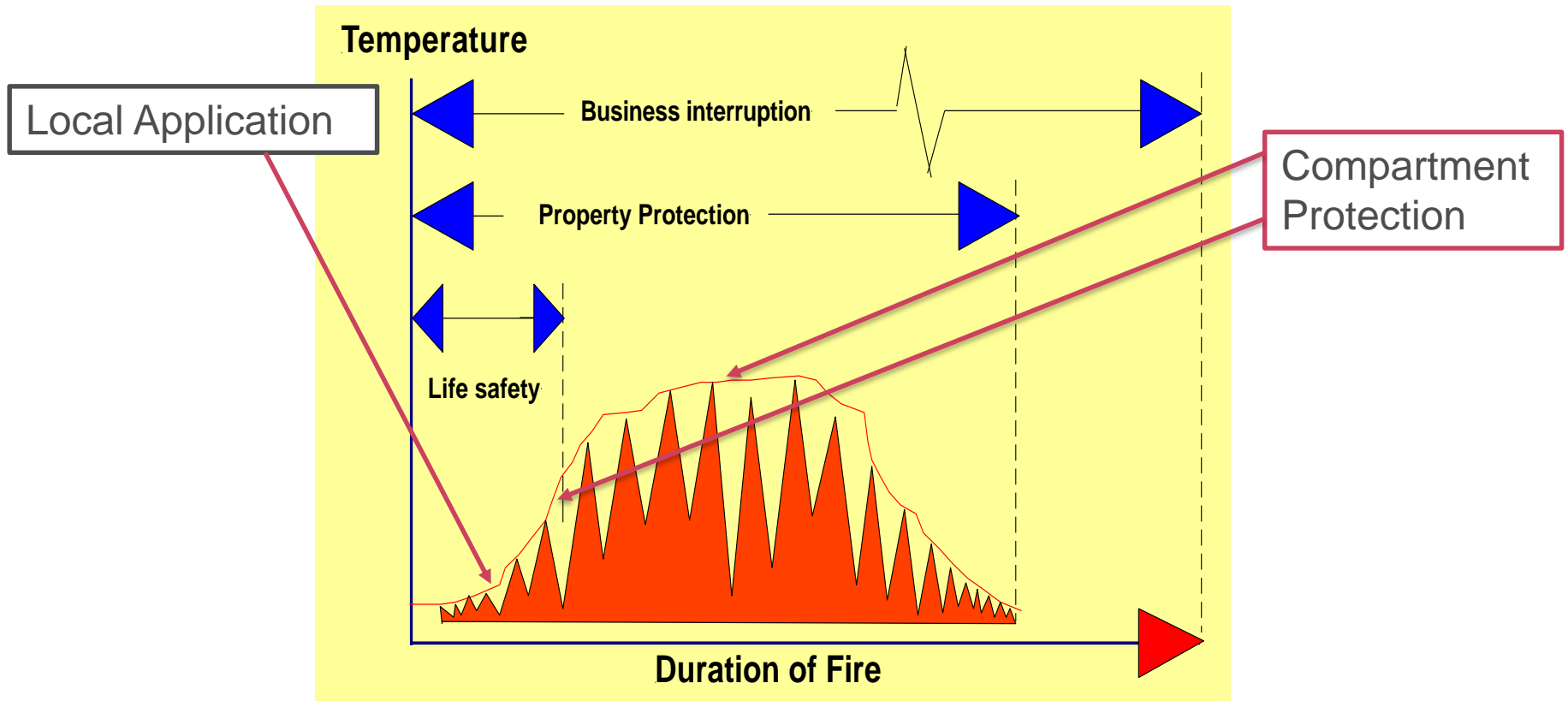
Which Scheme ?



3



Which codes and standards?



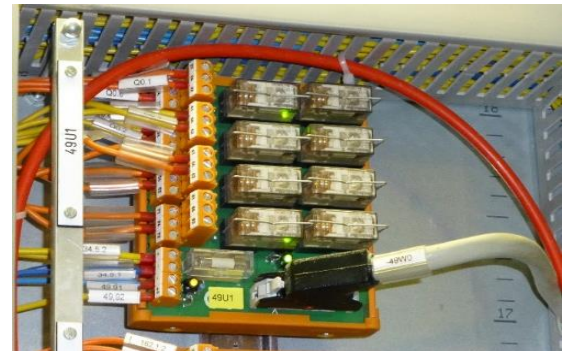


Principle of
systems design:

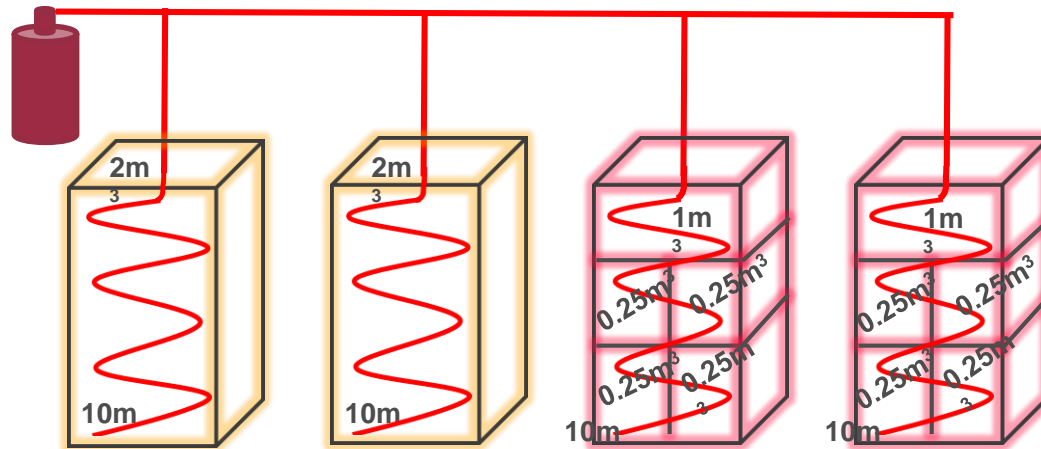
- Detection
- Annunciation
- Extinction



- Manual Intervention
 - Local Detection
 - Portable Extinguishers (EN3 Standard)
 - Hose Reels
- Automatic Intervention
 - Direct Low Pressure Systems (LPS 1666)



- Maximum single volume of 2m³
- Up to 4 detection tube runs connected to single container
- A maximum heat detection tube length of 10m from the container outlet to the end of any single detection tube run



- Protection of small unoccupied defined volume enclosures
- Single method for detection and delivery of the extinguishing agent to the activation point
- Using heat sensitive pneumatic detection tubing
- The system shall protect the define enclosure and prevent fire spread to adjoining cabinets or enclosures
- The system shall be capable of:
 - Connection to a fire alarm or other warning device
 - Isolating power supplies and auxiliary equipment such as fan units to the cabinet



Design Requirements – Mandatory

- The system shall protect the define enclosure and prevent fire spread to adjoining cabinets or enclosures
- The system shall be capable of:
 - Connection to a fire alarm or other warning device
 - Isolating power supplies and auxiliary equipment such as fan units to the cabinet



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LPS1223 Approval



Pre-Engineered systems typically installed in the canopies above the cooking areas to prevent a fire entering the duct.

LPS1223 – Requirements and testing procedures for the LPCB certification and Listing of Fixed Fire Extinguishing Systems for Catering Equipment

Download – www.redbooklive.com

LPCB[®]

Loss Prevention Standard

LPS 1223: Issue 2.3

Requirements and testing procedures for the LPCB certification and listing of fixed fire extinguishing systems for catering equipment

This document specifies the requirements and test procedures for LPCB Approval of fixed fire extinguishing systems designed for the protection of catering equipment, such as deep fat fryers, other cooking appliances and extract systems.

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Underwriters Laboratories:

- UL300 – *Fire Testing of Fire Extinguishing Systems for Protection of Commercial Cooking Equipment*



Fire Testing of Fire Extinguishing Systems for Protection of Commercial Cooking Equipment

- Based on Extinguishment of Fire Scenarios .
- Key areas:
 - Tests fire extinguishing for a range of cooking appliances
 - Splash Testing
 - Tests fire extinguishing in hood at duct at large/full scale
- Does not cover detection



Protect the extract system and cooking appliances



Automatic and manual actuation



Detection of fires in the cooking appliances and within the extract hood



Shut-down of the heat source on manual actuation or by detection system.



Discharge nozzles shall be protected against ingress of fat deposits.



Capable of connection to a fire-bell or other alarm.



System Manual



Installers – Management and Training



System Designer :

Design and supply in accordance with the manual

- Worse case scenario with Deep Fat Fryer (4 Scenarios)

Components Tested



TABLE 2: COMPONENT TEST PROGRAMME

TESTS COMPONENT	EXAMINATION	PRESSURE STRENGTH	LEAKAGE	CORROSION	OPERATION/ AGEING	THERMAL SHOCK
AGENT CONTAINER	6.1	6.2	6.3	6.4		
CONTAINER VALVE (WHERE APP.)	6.1	6.2	6.3		6.5.1	
GAS CARTRIDGE (WHERE APP.)	6.1	6.2	6.3			
PRESSURE REGULATOR (WHERE APP.)	6.1	6.2			6.5.1	
PIPEWORK & JOINTS	6.1					
DISCHARGE NOZZLES & CAPS	6.1				6.5.1	
ACTUATING MECHANISM	6.1				6.5.1	
FUSIBLE LINK DETECTORS	6.1				6.5.2	
GLASS BULB DETECTORS	6.1				6.5.2	6.6
ELECTRICALHE AT DETECTORS	6.1				6.5.2	
PUMPED SYSTEMS				6.4	6.5, 6.7, 6.8	

NB: Numbers in boxes refer to clauses in Section 6.



Work in committee TC191 WG6 TG4



Initial draft based around UL300 but significantly reworked



Went for Enquiry which closed 6th Feb 2020



**Significant number of comments currently being reviewed
(Coronavirus permitting)**



Publication date has not been confirmed

Pumps and Pumpsets



Work in committee TC191 WG5 TG1



Initially drafted as hEN
Rejected by CEN Consultant



Annex ZA reworked. Out for committee enquiry.



Expected to be rejected again.
Will be recast as Non-Harmonise

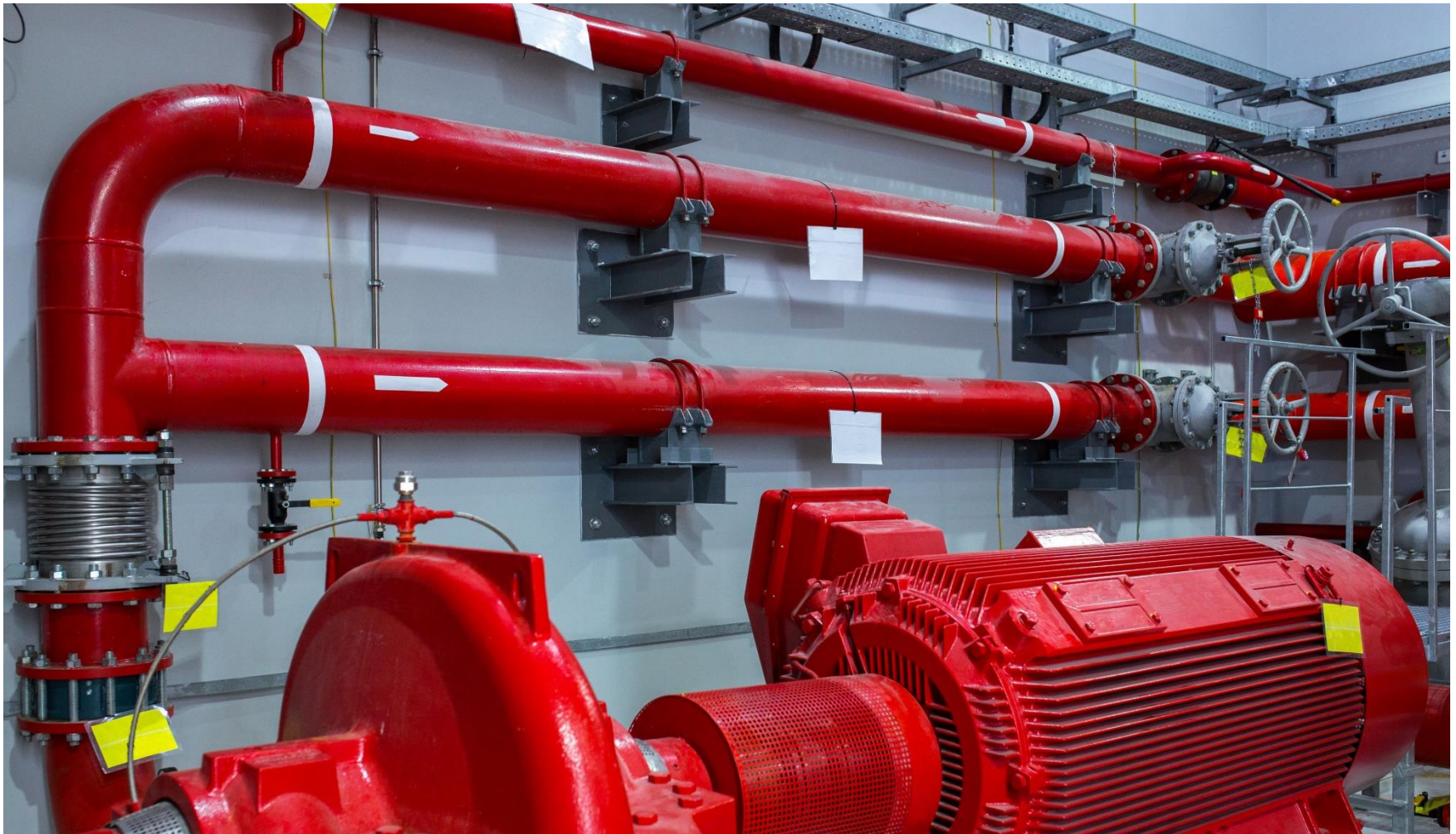


Publication date has not been



LPS 1131 – to be updated to reflect prEN12259-12







Work in committee TC191 WG5 Pumpset TG



Guidance document on design, assembly,
installation and commissioning of pump set



Enquiry response – 60 pages



Publication date has not been



LPS 1240 – to be published



Summary



Background to BRE / LPCB



Role of 3rd Party Approval & Codes and Standards



**Local Area Protection Options - LPS 1666 /
LPS1223/ UL300**



**European Standards – Kitchen Systems – Pumps &
Pumpsets**

Thank you

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