Fire safety of furniture and furnishings in the contract and non-domestic sectors

A Guide to the UK requirements

Photo courtesy of The Interiors Group

This Guide was compiled by the Furniture Industry Research Association (FIRA) in collaboration with the Executive of the British Furniture Confederation. Thanks are also extended to all other organisations and individuals who contributed to the Guide.

Front cover photographs courtesy of Pledge Office Furniture, Camira Fabrics, Plumtree Mee, KI Furniture and Knightsbridge Furniture.

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Foreword

I am delighted to provide the foreword for this Guide to the flammability requirements for furniture and furnishings for the non-domestic sector. As a sister publication to the British Furniture Confederation's (BFC) 'Fire safety of furniture and furnishings in the home – A Guide to the UK Regulations' I am sure this document will prove to be invaluable to industry.

The contract sector, whether it be hotels, offices, schools, hospitals or care homes, is key to the UK economy, and ensuring that adequate fire prevention procedures are in place is an essential safety requirement.

Where fire safety for domestic furniture is defined by legislation, the requirements for the contract sector are, at first sight, more complex. The Regulatory Reform (Fire Safety) Order requires that there are fire risk assessments in place for all buildings used for non-domestic activities. However, it is not always clear how these relate to furniture.

This guide clearly shows how furniture should be considered in a risk assessment, and how this impacts on different types of usage, together with the obligations of manufacturers, suppliers, specifiers and end-users.

I support the BFC in their ongoing commitment to the fire safety of furniture in the UK, and warmly welcome this Guide.

Madeleine Moon
Chair of the All Party Parliamentary Furniture Industry Group, 2006-2010

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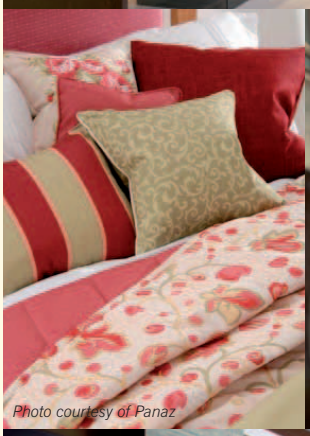
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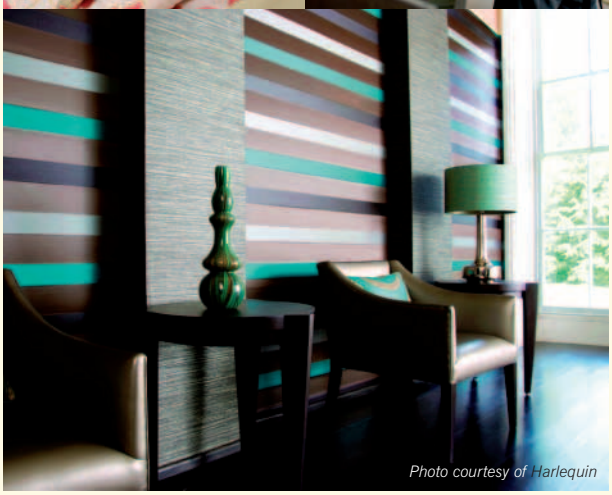
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Photo courtesy of Plumtree Mee

Photo courtesy of Burgess Furniture

Photo courtesy of Penson

Introduction

In the UK, the fire safety requirements for domestic upholstered furniture are well established. The Furniture and Furnishings (Fire) (Safety) Regulations 1988, amended 1989 and 1993 (FFFSR) control the fire safety of all domestic upholstered furniture supplied in the UK. These Regulations clearly specify the level of ignition resistance required for all upholstery components and the mandatory labelling requirements for the final product. In addition, the FFFSR identify compulsory record keeping obligations for domestic upholstered furniture offered for sale in the UK. Thus the industry has a defined route through which it is able to demonstrate fire safety compliance.

The fire safety of upholstered furniture supplied into the non-domestic market is more complex. It is heavily influenced by the end use of the premises in which the furniture is intended to be used.

The manner in which the fire safety of a premises and its contents are controlled changed in 2005 due to the introduction of the Regulatory Reform (Fire Safety) Order 2005 (RRFSO).

The main responsibility for implementation and compliance with the Order rests with a designated Responsible Person who takes full corporate liability. The Responsible Person is someone who owns the premises or business, or who has control over the premises, business or activity. Generally an employer will have principal responsibility but others may also have an interest, such as in a multi-tenanted building governed by landlord / tenant arrangements. Where there is more than one Responsible Person in any type of premises, reasonable steps must be taken to co-operate and work with each other.

This responsibility is not specific to furniture but arises because the Responsible Person is accountable for the fire safety of the premises and its contents. The contents of the premises, of which furniture is a component, are important contributory factors to overall fire safety. Hence the level of ignition resistance of furniture must be considered. Thus, although non-domestic furniture is not subject to fire safety controls through direct legislation, its fire safety behaviour is regulated, indirectly, by RRFSO.

The main responsibility for implementation and compliance with the order rests with a designated Responsible Person who takes full corporate liability. The Responsible Person is someone who owns the premises or business, or who has control over the premises, business or activity.

This Guide intends to:

- **Clarify the regulations and Standards**
- **Provide basic information on risk assessments**
- **Explain the fire safety requirements for furniture and furnishings**
- **Outline testing requirements**
- **Provide clarification on end use requirements.**

This Guide has been formulated using the independent expertise of FIRA who has been testing and advising on flammability issues for more than thirty years.

Requirements for upholstered product used in a domestic environment (private dwelling) are not covered. Such uses, including upholstery, mattresses, divans and bed-bases are covered by the FFFSR. A guide to these Regulations is available on the FIRA web site (www.fira.co.uk).

2.0

Definitions

For the purposes of this Guide, the following definitions are used:-

Enforcement Authority
Fire Service, Local Fire Officer.

FFFSR
The Furniture and Furnishings (Fire) (Safety) Regulations 1988 amended 1989 & 1993.

Furnishings
Curtains, scatter curtains, throws and textile wall coverings etc.
Note: this Guide concentrates on requirements for furniture, mattresses and curtains only.

FR
Fire or flame retardant.

Mattresses
Bed products including mattresses, mattress pads, upholstered divans and bed bases.

Non-domestic furniture
Furniture destined for use in non-domestic and contract applications such as offices, hotels, residential care homes etc. and hence falls within the scope of the RRFSO.

Responsible Person
Someone who owns the premises, property or business, or someone who has control over the premises and / or business / activity.

Risk
The combination of hazard and probability.

RRFSO
The Regulatory Reform Fire Safety Order 2005.

UKAS
United Kingdom Accreditation Service, The National Body in the UK authorised to accredit test laboratories to the International Standard for quality (BS EN ISO / EC 17025: 2005).

Upholstered furniture
Furniture that has a filling material inside a cover.

Upholstery composite
The combination of upholstery cover and filling materials (made up of layers such as fabric / interliner / filling).

Upholstery cover

- ***Visible*** – the exterior cover of a piece of furniture that is not hidden during normal use.
- ***Non-visible*** – part of the exterior cover of a piece of furniture that is hidden during normal use but which can be revealed by removing a loose cushion or by turning the item over (e.g. the dust cover under a chair or sofa).

Upholstery filling
Any material that is used in, and on, furniture or furnishings to pad, fill or bulk out the cover.

Upholstery interliner
An extra layer of fire retardant material between the exterior cover and filling.

Photo courtesy of Pledge Office Furniture with Camira Fabrics

The Regulatory Reform Fire Safety Order 2005

3.1 Introduction

The RRFSO came into effect in the UK in 2005 and changed previous fire safety philosophy. The two main pieces of fire legislation for businesses that previously operated in the UK were The Fire Precautions Act 1971 and The Fire Precautions (Workplace) Regulations 1997 (amended 1999). Under the Fire Precautions (Workplace) Regulations 1997 (amended 1999) a fire risk assessment was required for any premises with five or more employees, including those with a Fire Certificate issued by the local Fire Authority under the Fire Precautions Act 1971.

It was recognised, however, that there were serious shortcomings in this approach. Government sources suggested over half the certified premises under the Fire Precautions Act 1971 had not undertaken a fire risk assessment and / or were unaware that one was required.

Essentially it appeared that:

- Managers were relying on current fire certificates for the building's fire safety procedures and supplying them for insurance purposes. In addition, the duty to conduct a risk assessment for the premises was not recognised when a fire certificate was issued
- The relatively quiet introduction of the Fire Precautions (Workplace) Regulations 1997 probably resulted in a general lack of knowledge of the requirement for a risk assessment.

However, the introduction of the RRFSO in 2005 was widely publicised and the need for a fire safety risk assessment became a legal requirement for virtually all non-domestic properties.

3.2 The Regulations

Developed over many years, the RRFSO focuses on fire prevention and protection measures. Its prime emphasis centres on risk assessment, with the most important duty of the Responsible Person being to undertake a suitable, and sufficient, fire risk assessment.

The introduction of the RRFSO heralded significant changes in relation to fire safety, including:

- The repealing of over 70 pieces of fire safety legislation, most notable of these were The Fire Precautions Act and The Fire Precautions (Workplace) Regulations
- Fire Certificates were abolished and ceased to carry any legal status
- The need to appoint a Responsible Person, who is required to conduct a Fire Risk Assessment, taking steps, as necessary, to reduce or remove fire risk(s).

Incorporating previous legislation under one act clarifies what is required of the occupants of individual buildings and how this falls within the Government's overall fire strategy.

The goals of the RRFSO are achieved through mandatory fire safety risk assessments of premises and effective fire safety management strategies, with the onus being placed on a Responsible Person.

The key changes in the requirements of the RRFSO are centred on a transition from a prescriptive fire safety regime to a more dynamic, proactive approach, which is also integral to the Government's vision on fire safety and management.

The goals of the RRFSO are achieved through mandatory fire safety risk assessments of premises and effective fire safety management strategies, with the onus being placed on a Responsible Person.

The Regulatory Reform Fire Safety Order 2005

3.3 Requirements of the RRFSO

The RRFSO requires that all premises must have:

- **A Responsible Person** - this is either the employer, occupier or owner of the building who must carry out a fire risk assessment, provide adequate 'general fire precautions', consider the safety of all relevant persons, record both the significant findings and the control measures taken and provide adequate training for staff
- **A Competent Person** - this person must have "Sufficient training and experience or knowledge and other qualities to properly assist in undertaking the prevention and protection measures." This person will assist the Responsible Person to fulfil his / her duties (the Responsible Person may also be the Competent Person). If there are not any suitable candidates for the role of Competent Person, then third party assistance is advised
- **A fire safety risk assessment.**

Under the RRFSO, Local Fire Authorities are no longer responsible for providing Fire Certification of premises. Instead, they will solely inspect premises with respect to their fire risk assessments, ensuring that they:

- Have been conducted and / or approved by the Responsible Person
- Are comprehensive and accurate
- Are up to date.

The requirements of the RRFSO are enforced by the relevant Enforcement Authorities (e.g. Fire Authorities, Health and Safety Executive (HSE), Local Authorities etc). If it is highlighted by the relevant authority that an owner / occupier of a building has failed to comply with the Regulations, then the authority must enforce the provisions of the RRFSO, as far as is reasonably practicable, and serve an enforcement notice. Failure to heed the enforced provisions may lead to closure of the business and premises or prosecution, and then ultimately fines and / or a custodial sentence, for the Responsible Person.

The ultimate aim of the RRFSO is to allow adaptable, risk-based, fire safety management so that measures can be put in place to suit the building, its occupiers and users. By focusing on reducing risk, it follows that the occurrence of fire will be diminished, allowing a more efficient fire service. It is intended that this approach will improve business continuity and community safety by allowing the fire service to continue focusing on fire prevention, rather than fire intervention.

3.4 How does this affect furniture and furnishings?

The RRFSO does not specify precise ignition resistance requirements for furniture and furnishings. It does, however, require that a fire safety risk assessment takes account of:

- Materials and constructions used
- Provision of escape routes
- Fire detection
- Fire fighting systems etc
- The building contents.

Furniture forms part of the building contents and its fire safety is controlled through the risk assessment process.

An assessment of the particular level of resistance to ignition of furniture and furnishings forms part of this risk assessment, both in terms of fire prevention and in assessing escape if a fire occurs. Therefore, after consideration of the type of building and its designation, the Responsible Person will identify and specify appropriate ignition resistance levels for furniture, mattresses, curtains and other interior furnishings. Information on the required level of ignition resistance shall be passed to the specifier or purchaser to ensure furniture within the building meets these fire safety needs.

Information on risk assessments

A key role of the Responsible Person is to ensure that an assessment of the fire risks within a property has been carried out.

4.1 Fire safety risk assessment

There are 5 steps to a risk assessment:

- Step 1 Identify potential fire hazards
- Step 2 People at risk
- Step 3 Evaluate and act
- Step 4 Record, plan and train
- Step 5 Review.

4.1.1 Step 1 *Identify potential fire hazards*

For fire to occur there must be a source of ignition, fuel and oxygen. The fire risk increases if all three are present and in close proximity.

Generally a fire hazard is deemed to occur when fuel and ignition sources are present (as oxygen is normally present in the form of air). Occasionally oxygen can be found in chemical form (oxidising agents) or as a gas in cylinders, or piped systems.

Potential sources of ignition could include, but are not limited to:

- **Naked flames:** smoker's materials, matches, pilot lights, gas / oil heaters, gas welding, cookers etc
- **Hot surfaces:** heaters, engines, boilers, machinery, lighting (e.g. halogen lamps), electrical equipment etc
- **Hot work:** welding, grinding, flame cutting etc
- **Friction:** drive belts, worn bearings etc
- **Sparks:** static electricity, metal impact, grinding, electrical contacts / switches etc
- **Arson:** for example, deliberate ignition.

Potential sources of fuel (i.e. items that will burn) include:

- **Solids:** textiles, wood, paper, card, plastics, rubber, polyurethane foam, furniture, fixtures, fittings, packaging, waste materials etc
- **Liquids:** solvents (petrol, white spirit, methylated spirit, paraffin, thinners etc), paints, varnishes, adhesives etc
- **Gases:** Liquid petroleum gas, acetylene, etc.

The risk assessment should list potential sources of ignition and fuels present on the premises.

4.1.2 Step 2 *People at risk*

In a fire, the greatest danger is the expansion of heat and smoke through the premises. The main risk to people is incapacitation from smoke and products of combustion.

If the premises do not have adequate means of escape, or if a fire can grow to an appreciable size before it is noticed, then people may become trapped or overcome by heat and smoke before they can evacuate.

An assessment of the risk to people includes:

- The potential rate of development and spread of any fire, associated heat and smoke (some fuels burn much faster and produce more toxic products than others)
- The number of people in the area including employees, contractors, visitors and members of the public (some may need more assistance than others)
- Warning arrangements if a fire occurs
- Will any outbreak be noticeable or will some form of fire detection and alarm system be required?
- How will people make their escape (can they vacate the premises quickly, easily and safely)?

Information on risk assessments

4.1.3
Step 3 *Evaluate and act*

When all hazards and people at risk have been identified the effect of any particular hazard must be evaluated. Control measures already in place shall be assessed and a decision made as to whether any further control measures are needed to reduce any risk to an acceptable level.

Further control measures may be required such as:

- Action to reduce the possibility of ignition
- Minimisation of the potential fuel load in the premises
- Assistance to facilitate people to escape from the effects of a fire, should it occur.

These control measures may fall into different categories such as:

- Fire safety management systems
- Means of escape
- Staff training
- Fire detection and / or warning systems
- Means of fighting fire.

Different control measures can be applied to reduce the risk to an acceptable level. For example, if the risk is the possibility of a fast growing fire, potential control measures could include one, or a combination of the following:

- Change the process to use a slower burning fuel
- Remove or reduce possible ignition sources
- Relocate the hazard to an area affecting the minimum number of people, i.e. outside the premises
- Provide an additional exit to speed occupant evacuation
- Provide a fire detection and alarm system
- Train staff to reduce the risk of a fire outbreak through good housekeeping and safe working practices
- Provide appropriate fire fighting equipment or fixed installations (e.g. automatic sprinkler systems).

The above list is not exhaustive and applies to one risk scenario only but it demonstrates that there are many different solutions dependant on a building's environment and use.

4.1.4
Step 4 *Record, plan and train*

Should areas of inadequacy be identified by the risk assessment, an action plan is required to show how the problem is being addressed. Inclusion of timescales for achieving the required level of control, and who is responsible for ensuring implementation, also need to be specified.

A clear plan must be in place to demonstrate how people in the building will be kept safe in case of fire. If the premises are shared the plan must be co-ordinated between all parties.

In case of fire, all staff must know what to do, and be trained for their allocated roles.

4.1.5
Step 5 *Review*

Any changes to the environment, content and function of a property are likely to influence the original risk assessment, which may not address any potential new hazards or risks.

As a consequence, a fire risk assessment must be continuously monitored, audited and revised. It is not necessary to amend the assessment for every trivial change, but the impact of any significant change must be considered.

Existing and new control measures shall then be maintained to ensure the assessment's continued effectiveness.

4.2 Fire safety considerations for furniture

Furniture and furnishings can be clearly identified as fire hazards. Consequently, how easily the furniture will ignite, and how to reduce any impact if it does, needs to be considered as part of the fire safety risk assessment.

For the Responsible Person to be able to define the necessary fire safety requirements for furniture and furnishings, it is necessary to have an appreciation of the risks posed by upholstered items, including key properties, their measurement and means of control.

There are many different properties to be considered in the field of fire technology. As a general rule, fire properties can be divided into two main groups:

- Those relating to the initiation of the fire
- Those relating to the subsequent fire development.

The first of these, is concerned with the question 'Will the furniture catch fire or not?' This property is known as the ignitability of the item, which is loosely defined as the ease with which the furniture can be ignited.

Ignitability can be measured by the size of an ignition source or the length of time it has been applied to cause the item to ignite. In this context 'to ignite' means that the item ignites and continues to burn on removal of the ignition source.

Controlling the ignitability of furniture is a key principle of fire safety. If the ignition source responsible for the majority of fires in any one environment can be identified, and the furniture item made to resist it, then the likelihood of further accidental incidences with that level of ignition source are reduced. Thus, controlling the ignition resistance of the furniture to the most common ignition source(s) likely to be present in a specific environment is equivalent to fire prevention. Concerns regarding the risk from heat, smoke and gas production are irrelevant because a fire is avoided.

There are three main types of ignition source – smouldering, flaming and radiant heat. These ignition sources should not be confused, and should be regarded as separate and different phenomena (it does not follow that if an item is resistant to one type of ignition source it will automatically resist a different type). The development of various test procedures over many years means that the ignitability of furniture, furnishings and mattresses can be fairly easily and realistically measured.

The remaining fire property, subsequent fire development, comes into play as the second priority since it occurs after initial fire prevention measures, built in through ignitability control, have failed and a fire occurs. Post ignition properties relate to factors such as:

- Rate of fire development
- Rate of heat and smoke release
- Amount of heat, smoke, and gas production
- The nature of the gasses produced.

The main method used to attempt to reduce the rapid development of these properties in furniture supplied in the UK is through the use of combustion modified urethane foam.

Fire safety controls applied to UK furniture and furnishings in the non-domestic and contract sector centre on ignitability to prevent a fire in the first place and on the use of combustion modified foam to reduce the rate of fire development should a fire occur.

The RRFSO places the onus firmly on the Responsible Person to conduct a fire safety risk assessment for the building and its contents. This will allow the Responsible Person to inform the specifier, and purchaser of the level of ignition resistance required for the furniture.

However, most manufacturers / suppliers will wish to produce standard ranges of furniture for sale, rather than bespoke items for each building. How can an informed decision be made as to what is required for the furniture supplied and the end use environments to which it may be destined?

The use of Standards for the fire safety of upholstered furniture, such as BS 7176 and BS 7177, is intended to assist all parties in ensuring the fire safety of upholstered furniture for different end use applications, by using clearly defined ignition sources according to the level of hazard determined by the fire safety risk assessment.

5.0

The Standards

There are a number of Standards which can be used to assess the ignition resistance of upholstered furniture, mattresses and furnishings. There are two types of Standards:

- Those that specify performance requirements
- Those that detail the test procedures required to meet performance levels set by the specification.

Table 1 Standards that typically apply to seating, mattresses and curtains for the UK non-domestic sector

Specification	Test Procedures
Upholstered furniture	
BS 7176: 2007 Specification for resistance to ignition of upholstered furniture for non-domestic seating by testing composites	BS EN 1021-1: 2006 Furniture. Assessment of the ignitability of upholstered furniture. Ignition source smouldering cigarette
	BS EN 1021-2: 2006 Furniture. Assessment of the ignitability of upholstered furniture. Ignition source match flame equivalent
	BS 5852: 2006 Methods of test for assessment of the ignitability of upholstered seating by smouldering and flaming ignition sources
Mattresses	
BS 7177: 2008 Specification for resistance to ignition of mattresses, mattress pads, divans and bed bases	BS EN 597-1: 1995 Furniture. Assessment of the ignitability of mattresses and upholstered bed bases. Ignition source: smouldering cigarette
	BS EN 597-2: 1995 Furniture. Assessment of the ignitability of mattresses and upholstered bed bases. Ignition source: match flame equivalent
	BS 6807: 2006 Methods of test for assessment of ignitability of mattresses, upholstered divans and upholstered bed bases with flaming types of primary and secondary sources of ignition
Furnishings - Curtains and drapes	
BS 5867: Part 2: 2008 Fabrics for curtains, drapes and window blinds. Flammability requirements. Specification	BS EN ISO 6941: 2003 Textile fabrics. Burning behaviour. Measurement of flame spread properties of vertically oriented specimens
	BS EN ISO 15025: 2002 Protective clothing. Protection against heat and flame. Method of test for limited flame spread
	BS EN ISO 10528: 1995 Textiles. Commercial laundering procedure for textile fabrics prior to flammability testing

5.1 BS 7176: 2007 Specification for resistance to ignition of upholstered furniture for non-domestic seating by testing composites

BS 7176 was updated and republished in 2007. The intention of this Standard is to assist all those involved in the furniture seating supply chain to specify required fire safety levels for upholstered seating located in a multiple assortment of non-domestic end use environments.

In broad principle, the Standard sets requirements for the ignitability of upholstered seating for different end-use applications, but in some respects it is not as simple and straight forward as may be expected.

Compliance with the Standard involves three key elements:

- Meeting technical requirements for ignition resistance
- Frequency of testing
- Product labelling.

5.1.1 Hazard classification and typical examples of hazard end uses

In order to establish the required ignition resistance for an item of furniture, it is necessary to have a thorough knowledge of the end use environment so that a suitable assessment can be made.

BS 7176 provides guidance on the philosophy behind the choice of hazard areas and indicates factors that should be considered when determining a hazard area classification.

Among these factors it is obviously necessary to consider the RRFSO.

One key factor relates to the ease with which the premises could be evacuated in the case of an emergency. Whether or not people are asleep on the premises should, for example, be an important consideration as should the level of occupancy. The mobility of the occupants is important. Babies, young children, old and infirm, invalided and sick people are all likely to need rescuing rather than escaping of their own accord.

The presence, or absence, of automatic fire detection and alarm systems, and especially of automatic fire fighting systems, are also significant considerations in assessing hazard. So too are any special hazards such as those generated by cooking, heating, live flame effects, smoke effects, low light levels, strobe lighting, loud music, drinking, gambling and use after dark.

A further issue is the familiarity of the occupants with the building and, in the case of public buildings particularly, whether or not the premises are under the control of staff trained in evacuation procedures. The number of trained staff compared to numbers of users is also a consideration.

Finally, the nature of the environment is important, whether or not it is a high-rise location, or below ground, and whether or not it has windows.

Photo courtesy of Wesley-Barrell

Table 2 BS 7176 Typical examples of premises in each hazard category

Low Hazard	Medium Hazard	High Hazard	Very High Hazard
Colleges	Casinos	Offshore installations	Locked psychiatric accommodation
Day centres	Hospitals	Sleeping accommodation in certain hospital wards and in certain hostels	Prison cells
Exhibitions	Hostels		
Museums	Hotel bedrooms		
Offices	Places of entertainment		
Schools	Public buildings		
Universities	Public halls		
	Public houses and bars		
	Restaurants		
	Services messes		

Table 2 provides typical examples of hazard categories for different premises. It is important to remember that the fire safety risk assessment may identify that a product should be assigned to either a lower or higher level. Consultation with the specifier, purchaser or Responsible Person for the premises is required to ensure furniture which meets the correct hazard category is supplied. **Further details of the requirements for BS 7176 are contained in Appendix 1, Section A1.**

5.2 BS 7177: 2008 Specification for resistance to ignition of mattresses, mattress pads, divans and bed bases

BS 7177 is a parallel Standard to BS 7176 in that it generally mirrors its requirements. However, there are some important differences.

BS 7177 was updated and republished in 2008. The intention of this standard is to assist all those involved in the bedding supply chain to specify required fire safety levels for mattresses, mattress pads, divans and bed-bases located in different end-use environments.

Compliance with the Standard involves three key elements:

- Meeting technical requirements for ignition resistance
- Frequency of testing
- Product labelling.

5.2.1 Hazard classification and typical examples of hazard end use

As with seating, a thorough knowledge of the end-use environment is required so that an appropriate ignition resistance can be specified.

BS 7177 provides guidance on the philosophy behind the choice of hazard areas and indicates factors that should be considered when determining a hazard area classification.

Among these factors it is obviously necessary to consider the RRFSO, together with other factors such as those detailed in Section 5.1.1.

Photos courtesy of Relyon

Table 3 BS 7177 Typical examples of premises in each hazard category

Low Hazard	Medium Hazard	High Hazard	Very High Hazard
Domestic dwellings (including non motorised caravans)	Boarding schools	Certain hospital wards	Locked psychiatric accommodation
	Day centres	Hostels	Prison cells
	Halls of residence at universities and colleges	Hotels	
	Holiday camp chalets	Offshore installations	
	Hospitals	Old peoples' homes	
	Hostels		
	Hotels		
	Old peoples' homes		
	Residential schools		
	Services messes		

Table 3 only provides typical examples of hazard categories for different premises. It is important to remember that the fire safety risk assessment may identify that a product should be assigned to either a lower or higher level. Consultation with the specifier, purchaser or Responsible Person for the premises is required to ensure furniture which meets the correct hazard category is supplied. **Further details of the requirements for BS 7177 are contained in Appendix 1, Section A2.**

5.3 BS 5867: Part 2: 2008 Fabrics for curtains, drapes and window blinds. Flammability requirements. Specification

BS 5867 was updated and republished in 2008. The Standard sets requirements for different ignition levels of fabrics and fabric combinations for use as curtains, drapes and window blinds – including combinations of curtains and linings. The Standard assists those involved in the supply chain to specify required fire safety levels in different non-domestic end-use environments.

Compliance with the Standard involves three key elements:

- Meeting technical requirements for ignition resistance
- Frequency of testing
- Product labelling.

5.3.1 Hazard classification and typical examples of hazard end uses

In order to establish the required ignition resistance for curtains, it is necessary to have a thorough knowledge of the end-use environment so that a suitable assessment can be made.

BS 5867 does not provide guidance on the choice of hazard areas. However as with furniture and mattresses various factors should be considered when identifying risk.

Among these factors it is obviously necessary to consider the RRFSO, together with other factors such as those detailed in Section 5.1.1.

Photo courtesy of Harlequin

Table 4 BS5867 Suggested typical examples of premises in each risk category

Low Risk	Medium Risk	High Risk	Very High Risk
Colleges	Casinos	Offshore installations	Locked psychiatric accommodation
Day centres	Hospitals	Sleeping accommodation in certain hospital wards and in certain hostels	Prison cells
Exhibitions	Hostels		
Museums	Hotel bedrooms		
Offices	Places of entertainment		
Schools	Public buildings		
Universities	Public halls		
	Public houses and bars		
	Restaurants		
	Services messes		

Table 4 only provides typical examples of risk categories for different premises. It is important to remember that the fire safety risk assessment may identify that a product should be assigned to either a lower or higher level. Consultation with the specifier, purchaser or Responsible Person for the premises is required to ensure any curtains supplied are suitable for the risk environment. **Further details of the requirements for BS 5867: Part 2 are contained in Appendix 1, Section A3.**

6.0 Guidance for specifiers

The RRFSO places the onus firmly on the Responsible Person to carry out a fire safety risk assessment on a building and its contents. This will define the fire safety requirements for furniture and furnishings. Reference to the Standards described in Section 5.0 simplifies the specification process.

6.1 BS 7176: 2007 and BS 7177: 2008 – Upholstered furniture and mattresses

A first essential step is for the hazard associated with the end use premises to be assessed.

This is the responsibility of the Responsible Person for fire safety of the premises. Once the assessment has been made, the required fire safety levels for the product are set. Specifiers can then use BS 7176 or BS 7177 to directly specify the fire safety level required for any furniture to be used in the premises.

A simple statement such as ***'The furniture shall comply with BS 7176: 2007 for Medium Hazard'*** is a full and precise definition of requirements. It is advantageous in that it not only sets ignition resistance levels but also requires the use of Schedule 1 Part 1 of the FFFSR (combustion modified foam) and clarifies the need for the durability of any flame retardant treatments.

This statement also requires re-testing the product at a set frequency during production. This would be extremely difficult for a purchaser or Responsible Person to police, hence a level of trust is needed between the specifier and supplier.

It also requires the furniture to be visibly labelled which may not be possible in an acceptable manner with some styles of furniture, especially those built-in items (which cannot be reversed to view a label on the underside). These issues should be addressed with the selected supplier during the tendering process.

Test houses are unlikely to be able to issue a test certificate stating full compliance to BS 7176 or BS 7177, due to the difficulties in policing the labelling and re-test requirements. Instead, any certificate usually makes a statement such as ***'this item complies with the ignition resistance requirements of BS 7176 Medium Hazard'***.

There are two distinct positions in relation to the purchase of furniture for the non-domestic sector:

- The purchase of furniture for a specific building or contract, covered by a written specification
- The purchase of furniture from standard ranges.

Guidance for specifiers

6.1.1 Specific contract

In the majority of cases the furniture style and cover are selected by the owner of the premises, or his agent (an interior designer or architect), and fire safety is not, in general, the first consideration when selecting the cover fabric.

However, the introduction of the RRFSO has influenced the specification process. The fire safety of any finished furniture located on the site is down to the Responsible Person for the premises, not the agent or furniture supplier. As such fire safety requirements must be included within the specification and associated contract terms.

6.1.2 Standard production

Standard product ranges, in standard covers, are supplied through the internet, catalogues, brochures, shops etc.

The specifier / purchaser shall ensure that the items he is intending to buy are clearly identified in any sales literature as complying with the appropriate end-use hazard rating in accordance with BS 7176 and BS 7177.

6.2 BS 5867: Part 2: 2008 – Curtains, drapes and window blinds

The hazard associated with the premises' end-use shall be assessed by the Responsible Person. The fire safety levels for the product are then set and specified against BS 5867. A simple statement such as ***'The curtains shall comply with BS 5867: Part 2: 2008 – Type B'*** is a full and precise definition of requirements.

This statement also requires re-testing the product at a set frequency during production. This would be extremely difficult for a purchaser or Responsible Person to police, hence a level a trust is needed between the specifier and supplier.

Test houses are unlikely to be able to issue a test certificate stating full compliance to BS 5867, due to the difficulties in policing the labelling and re-test requirements. Instead, any certificate usually makes a statement such as ***'this item complies with the Type A ignition resistance requirements of BS 5867: Part 2'.***

There are two distinct positions in relation to the purchase of furniture for the non-domestic sector:

- The purchase of curtain fabric for a specific building or contract, covered by a written specification
- The purchase of curtain fabric from standard ranges.

Photo courtesy of Edmund Bell

6.2.1 Specific contract

In the majority of cases the curtains or blinds are selected by the owner of the premises, or his agent (an interior designer or architect), and fire safety is not, in general, the first consideration when selecting the curtain fabric.

However, the introduction of the RRFSO has influenced the specification process. The fire safety of any curtains or blinds located on the site is down to the Responsible Person for the premises, not the agent or furniture supplier. As such fire safety requirements must be included within the specification and associated contract terms.

6.2.2 Standard production

Standard curtain fabrics that are supplied through the internet, catalogues, brochures, shops etc.

The specifier / purchaser shall ensure that the items he is intending to buy are clearly identified in any sales literature as complying with the appropriate end-use risk category rating in accordance with BS 5867: Part 2.

7.0

Guidance for manufacturers and suppliers

Whilst the RRFSO places the onus firmly on the Responsible Person to carry out a fire safety risk assessment on a building and its contents, it is advantageous for manufacturers, suppliers and component suppliers to establish a route for proving that their furniture / materials meet fire safety Standards.

7.1 BS 7176: 2007 and BS 7177: 2008 – Upholstered furniture and mattresses

There are two distinct positions in relation to supply for non-domestic environments:

- The supply of furniture for a specific building or contract and covered by a written specification
- The supply of furniture from standard ranges.

7.1.1 Specific contract

In the majority of cases, especially in the leisure industry (hotels, restaurants, bars, clubs, pubs etc), the furniture style and cover are selected by the owner of the premises, or his agent (an interior designer or architect), and fire safety has not always been the first consideration. However, the introduction of the RRFSO means that it has to be considered.

Fire safety is the responsibility of the Responsible Person for the premises, not that of any agent or furniture supplier, and thus the Responsible Person should ensure that fire safety requirements for furniture are elements of the terms of the contract regarding purchase and supply.

In essence when tendering for a contract, the furniture manufacturer / supplier needs to establish precise and clear cut specifications against which he will work. Whenever possible he should ensure this specification derives from the Responsible Person. It is strongly recommended that the product supplier insists on written conformation of the fire safety specification to protect his own trading position, and he should also make it clear that he is quoting for supply against that specification.

- ***The provision of a Standard number alone in a specification is insufficient (e.g. 'BS 7176: 2007'). It is essential that the specification quotes the Standard and performance level required (e.g. 'BS 7176: 2007 Medium Hazard').***

7.1.2 Standard production

Where furniture manufacturers or suppliers offer a standard range of products in standard covers and promote them through the internet, catalogues, brochures etc. BS 7176 and BS 7177 are of great value, not only as a positive aid to sales but also to identifying the fire safety levels of different products.

Each product range can be evaluated against the requirements of BS 7176 or BS 7177 and producers can declare its suitability for the appropriate hazard category. In other words, each piece of furniture produced could carry a label stating that the item complies with, for example, BS 7176: 2007 Medium Hazard. This information can then also appear in promotional material.

7.2 Recommendations for supply of furniture and furniture components

7.2.1 Manufacturers / Importers / Distributors

Suppliers of furniture to a specific contract for a non-domestic environment are responsible for ensuring the furniture meets the level of ignition resistance set by the purchaser. They are, therefore, advised to seek reassurance concerning the validity of any test certificate provided by suppliers or third parties.

Manufacturers, importers and distributors are dependent on suppliers to provide information on the ignition behaviour of component materials and should ask for current copies of full test results (i.e. not abbreviated ones) on a continuous basis. Some purchasers incorporate requirements into purchase orders, stipulating that quality and make-up of products are not to be altered without prior notice, and to seek written assurance that this has been adhered to. Therefore, manufacturers, importers and distributors are advised to ask their suppliers for new certificates if there are any substantive changes to the product specification. In addition, repeat test(s) will be required if the manufacturers, importers and distributors or their suppliers make any major changes to material construction or if there are changes in suppliers.

It is advisable for manufacturers, importers and distributors to carry out regular checks to ensure materials continue to meet fire safety requirements.

Short-run production

To claim full compliance with BS 7176, all upholstery combinations on the furniture item must satisfy the relevant hazard category ignition requirements, the frequency of testing requirements must be met and the product must be labelled.

Manufacturers of furniture offering standard items in many different cover fabrics would, technically, need to test, and re-test, each combination of foam and fabric. This could impose a significant burden on a furniture manufacturer, and in these cases a risk-based product selection process is considered a valid option for predicting the likely ignition behaviour of upholstery composites for small orders.

Furniture manufacturers should buy fabrics that conform to the required hazard rating for the fabric. In such cases manufacturers will find that the fabric supplier typically tests fabrics using Schedule 1 Part 1 compliant foam and provides information on the ignition behaviour to the purchaser.

For example, the fabric may be supplied as resistant to ignition sources 0, 1 and 5 when tested with combustion modified (Schedule 1 Part 1) foam of density 35 Kg/m^3.

Manufacturers must assess whether the result is of direct relevance to the final product.

If the manufacturer is using a different grade of a similar combustion modified foam then a similar result would be expected. However, the behaviour of distinctly different filling types is difficult to equate and testing of the actual fabric and filling composites is advised. More information is contained in 7.2.2.

The information provided by fabric and foam suppliers can help furniture manufacturers reduce the burden of full compliance to BS 7176. It should be understood that the information supplied is primarily for guidance and manufacturers must assess this information for its relevance against their product and be prepared to commission tests of the fabric using fillings used in production. This can be in the form of a rolling programme of testing for different fabric and filling combinations over an appropriate period of time.

In such instances it is recommended that the furniture manufacturer consults an expert for advice.

7.2.2 Cover supplier

Although BS 7176 and BS 7177 do not provide any requirements for the frequency of testing for suppliers of component materials, most furniture producers expect the component material supplier to provide information on the ignition behaviour of the item prior to purchase. Furniture producers then combine filling materials with selected covers to produce a finished furniture item.

Previous editions of BS 7176 allowed cover producers to use a predictive test route for demonstrating compliance with smouldering cigarette, match equivalent and source 5 ignition resistance requirements, especially for orders of less than 200 identical units. This route basically allowed a cover fabric to be tested over a 'worst case' filling and, provided a satisfactory result was obtained, it could be assumed that the fabric in combination with less ignitable foam materials would satisfy the test at the same ignition level.

The foam filling identified in previous versions of BS 7176 for use in this predictive test is no longer available, instead the majority of fabric suppliers provide manufacturers relevant information on the ignition behaviour of fabric by testing in combination with 35 Kg/m^3 density combustion modified foam that meets Schedule 1 Part 1 of the FFFSR for domestic applications.

The predictive test route was originally introduced for the specific use of manufacturers where a major feature of the business involved production of multiple small orders and where it was commonplace to offer an infinite selection of cover fabrics. It was accepted at that time that the cost of direct testing each available fabric / filling combination would place a significant cost restraint on the business and that use of the predictive test route by testing over a 'worst case' filling was more realistic. The same concerns apply today, and an argument for the use of a 'worst case filling' to predict the likely ignition behaviour of a composite remains valid. The 'worst case' test approach, applied mainly to cover materials, is to test the cover over a filling which is known to produce a more ignitable composite than the filling that is planned to be used. This has the advantage that the fabric supplier can test fabrics in combination with fillings known to perform less well than the range of fillings likely to be used.

Consequently the furniture manufacturer using such fabric can assess whether the filling to be used in production will be adequately represented by the test result already obtained.

It is generally considered that low density foam is more ignitable than higher density foam provided the same FR chemical is used to modify its combustion. Thus it can be reasonably expected that if the fabric satisfies the Medium Hazard requirements of BS 7176 when tested in combination with a low density melamine Schedule 1 Part 1 compliant foam, it will also satisfy the test in combination with Schedule 1 Part 1 compliant melamine foam of higher density.

Most fabric suppliers offer fabric as suitable for either Low Hazard (cigarette and match resistant) or Medium Hazard (cigarette, match and source 5 resistant) or both. However, as the fabric supplier does not know what filling the fabric will actually be used over, it has become the norm for fabric offered as suitable for non-domestic / contract upholstery use to be routinely tested in combination with a 35 Kg/m^3 Schedule 1 Part 1 compliant foam. Consequently fabric suppliers should be able to provide certification to demonstrate ignition performance.

However, if the foam used by a manufacturer is of a lower density, or does not utilise the same FR chemical to modify its combustion, or is supplied from a different foam producer, then the advice is to conduct direct tests on actual upholstery combinations.

In addition, where a client supplies his own cover, suitable documentation should be made available with it to demonstrate that it is capable of meeting the required ignition resistance level. If the client is unable to comply with this request then the fabric, in combination with an appropriate filling, must be tested before it can be used. If clarification over specific requirements is required it is recommended that advice is sought from a recognised expert.

7.2.3 Foam supplier

Foam producers are able to demonstrate that their product meets generally accepted ignition resistance requirements by testing to Schedule 1 Part 1 of the FFFSR or to the relevant Annex in BS 7176 or BS 7177 which virtually reproduced the ignition test for urethane foams.

Only foam which satisfies this test is considered compliant with the Standards and, indirectly, is the only type of foam material deemed suitable for use in furniture in the UK. Normally it is expected that the foam producer will supply certification with the product which is no more than 1 year old or more recent dependent on product volume.

7.3 BS 5867: Part 2: 2008 – Curtains, drapes and window blinds

In relation to the supply of curtains for the non-domestic sector there are two distinct positions:

- The supply of curtains for a specific building or contract, covered by a written specification
- The supply of curtains from standard ranges.

7.3.1 Specific contract

In the majority of cases, especially in the leisure industry (hotels, restaurants, bars, clubs, pubs etc), the curtain material is selected by the owner of the premises, or his agent (an interior designer or architect), and fire safety has not always been the first consideration. However, the introduction of the RRFSO means that has to be considered.

The fire safety of curtain materials, drapes and blinds is the responsibility of the Responsible Person for the premises, (not that of any agent or furniture supplier) and thus the Responsible Person should ensure that fire safety requirements are elements of the terms of the contract regarding purchase and supply.

In essence, when tendering for a contract, the curtain manufacturer / supplier needs to establish precise and clear cut specifications against which to work. Whenever possible he should ensure this specification derives from the Responsible Person. It is strongly recommended that the producer / supplier insists on written confirmation of the fire safety specification to protect his own trading position and he should also make it clear he is quoting for supply against that specification.

- *Ensure that the specification quotes the Standard and performance level required such as 'BS 5687: Part 2: 2008 – Type B' provision of a Standard number alone is insufficient.*

7.3.2 Standard production

Where curtain manufacturers, or suppliers, offer a standard range of products and promote them through the internet, catalogues, brochures etc. BS 5687: Part 2 is of great value, not only as a positive aid to sales, but also in identifying the fire safety levels of different products.

A product range can be evaluated against the requirements of BS 5687: Part 2 and then the producer can declare its suitability for the appropriate risk level. In other words each curtain material produced can be classified as complying with, for example, BS 5687: Part 2: 2008 – Type B. This information can then also appear in promotional material.

Testing

Product testing is essential for meeting fire safety controls and for demonstrating that products meet specified levels of ignition resistance.

8.1 Benefits of testing

- Provides independent assurance that products meet specified fire safety requirements
- Offers assurance to customers that products are legal
- Assists pre-qualification for tenders / orders
- Reduces the likelihood and cost of failures and complaints in service
- Acts as a valuable marketing tool
- Forms part of a due diligence defence in the unfortunate occurrence of a failure or incident
- Protects against possible product recalls.

8.2 The testing process

Testing may be required at different stages of furniture production. For example:

- An initial product prototype will need to be tested to ensure it has the requisite fire safety behaviour
- Potential component materials will need to be tested for fire safety behaviour prior to supply
- Repeat testing on representative samples will be required to show continued compliance.

Testing is necessary whenever the safety or conformity of the product, materials or components cannot be ascertained from visual inspection. The frequency of such tests will depend on issues such as the likelihood of variations, the confidence in the process or supplier, legislation, specified requirements and product volumes.

Any test programme should consider:

- Sampling procedures
- Test requirements
- Testing frequency
- Storage or handling requirements.

The test requirements should be reviewed to ensure they are adequate, appropriate and meet customer and Standard (British, European and International) requirements.

8.3 Test procedure

Testing may be carried out by different parties. In some cases routine testing of production batches is conducted in house by suitably trained staff but it is more common for testing to be conducted by external accredited third party test facilities.

Whichever method is used, it is important that the tests are:

- Appropriate for the product or component concerned
- Carried out with suitable, calibrated equipment
- Accompanied by appropriate quality control checks in the system
- Properly recorded.

A good testing organisation will always offer advice on the appropriate test regimes. It is important for companies to confirm test schedules and to ensure that the integrity of test samples is maintained at all times.

8.4 Accreditation

Test laboratories should be accredited to the International Standard BS EN ISO 17025 (or a local equivalent).

Accreditation is the process whereby a laboratory is assessed by an independent third party to ensure it is competent. Well known accreditation bodies are UKAS and HOKLAS. It is also necessary to ensure that the laboratory selected is accredited for the specified tests.

Where in-house testing is undertaken, regular verification of results using a third party accredited laboratory is recommended. In addition, UKAS accredited test reports may be required by enforcement authorities.

The regularity of independent verification will be governed by an in-house risk assessment and the volume of product produced.

Selecting a hazard category

It is generally considered that items destined for the non-domestic sector should offer no less protection regarding fire safety than that laid down by government regulation in the domestic sector (FFFSR). The public are more vulnerable when visiting contract premises than they may be in their own homes due to lack of familiarity with escape routes etc.

Photo courtesy of Gradus

9.1 Educational institutions

Furniture for student and staff living accommodation in universities, colleges and schools should, as a minimum, comply with the requirements of the FFFSR.

However, the fire safety risk assessment may require higher levels of ignition resistance for certain areas such as accommodation for disabled students and for areas of common use such as shared kitchens, common rooms, reception areas and lecture theatres etc. In these localities it is recommended that furniture meets at least the Medium Hazard Categories of BS 7176 and BS 7177 respectively.

Type B ignition resistance has been successfully employed for curtains over the years.

Furniture and furnishings for student accommodation are usually underpinned by contract agreements. However, in some cases, students or staff may be allowed to supply their own furniture. The Responsible Person must decide if this is acceptable and should establish procedures to ensure such items meet the required levels of ignition resistance.

9.2 Healthcare

Suppliers should obtain written documentation confirming required ignition resistance levels as different levels of fire safety are likely to be applicable to different locations within the premises.

9.2.1 Hospitals and other healthcare facilities

The Department of Health provides recommendations, advice and guidance for hospitals and other healthcare premises through the following fire safety publication:

Firecode – Fire safety in the NHS, Health Technical Memorandum 05-03: Operational provisions, Part C Textiles and furnishings (HTM 05-03)

HTM 05-03 is comprehensive and recognises current British Standard fire safety specifications. It uses BS 7176 and BS 7177 for setting ignition resistance recommendations for furniture and for mattresses.

9.2.1.1 Upholstered furniture and mattresses

Generally hospitals are classified as 'medium risk' and furniture for hospitals should, as a minimum comply with all requirements of BS 7176 or BS 7177 Medium Hazard.

However, certain areas are designated as 'high risk' and it is recommended that items destined for these areas comply with the High Hazard category of BS 7176 or BS 7177.

The following accommodation types are classified as high risk for healthcare premises (HTM 05-03):

- The elderly
- People with learning difficulties
- Young people with disabilities
- Medium secure and secure premises for people with mental health problems.

9.2.1.2 Curtains

Furnishings are also covered within HTM 05-03.

In general 'Medium Risk' in accordance with BS 5867: Part 2 – Type B performance is appropriate. In higher risk areas Type C performance is advised.

9.2.2 Residential care

It is recommended that privately owned healthcare premises mirror the ignition requirements set for NHS premises within HTM 05-03.

If, as a result of the risk assessment, this recommendation is not deemed appropriate, all items should, as a minimum, comply with the requirements of the FFFSR.

However, it is likely that an effective fire safety risk assessment will recommend higher levels of ignition resistance for certain areas such as accommodation for disabled / infirm residents and for areas of common use such as common rooms, reception areas etc. In these localities it is recommended that the Medium Hazard categories of BS 7176 or BS 7177 are met.

In the case of curtains Type B ignition resistance has been used successfully over the years.

Furniture and furnishings for residential care are usually underpinned by contract agreements. However, in some cases, residents or staff may be allowed to supply their own furniture. The Responsible Person must decide if this is acceptable and should establish procedures to ensure such items meet the required levels of ignition resistance.

Photo courtesy of Panaz

9.3 Hospitality

Any supplier of furniture to the hospitality trade should establish the level of ignition resistance required prior to supply and it is strongly recommended that written documentation is obtained confirming the required ignition resistance levels. It may be that different levels of fire safety are needed for different areas within the premises.

9.3.1 Hotels and boarding houses

In the case of premises where sleeping accommodation is provided, such as hotels and boarding houses, it is essential to reduce the risk to people if there is a fire. Consideration should be given to how to restrict the spread of fire and smoke as the majority of fatalities result from people being overcome by smoke.

Furniture, mattresses and furnishings will contribute to a fire should they ignite. One key requisite therefore is that the fire safety level of such products is determined prior to purchase and supply.

For most hotels and boarding houses the risk level for furniture is considered as medium. Therefore, most furniture should comply with the Medium Hazard category of BS 7176 (seating) BS 7177 (mattresses, divans, and bed bases) and Type B of BS 5867: Part 2 (curtains).

However, certain areas may be designated as 'high risk' and it is recommended any items destined for these areas demonstrate a higher level of ignition resistance such as compliance with the High Hazard category of BS 7176 or BS 7177 and Type C of BS 5867: Part 2 for curtains.

9.3.2 Licensed premises and public entertainment venues

The risks associated with factors such as: sale of alcohol, location of a dance venue e.g. basement disco, etc require that special attention is given to fire safety.

There is no set risk level for most licensed premises and public entertainment venues. It is considered that most furniture should comply with the Medium Hazard category of BS 7176 (seating) and Type B of BS 5867: Part 2 (curtains).

Certain areas may be designated as either 'low risk' or 'high risk' and it is recommended any items destined for these areas demonstrate appropriate levels of ignition resistance as detailed in BS 7176 and BS 5867: Part 2 for curtains.

9.4 Offices

The requirement to reduce the risk to staff and visitors if there is a fire in an office applies whether the office is located in a dedicated office building or is situated in any other type of workplace e.g. manufacturing plant. Consideration should be given to how to restrict the spread of fire and smoke as the majority of fatalities result from people being overcome by smoke.

Selecting a hazard category

Furniture and furnishings will contribute to a fire should they ignite. One key requisite, therefore, is that the fire safety level of such products is determined prior to purchase and supply and is appropriate to the office location.

Generally, for most offices, the risk level for furniture is considered as low. Therefore, most upholstered office furniture would generally be expected to comply with the Low Hazard category of BS 7176 and for curtains to comply with Type A of BS 5867: Part 2.

However, certain areas may be designated as either 'medium risk' or 'high risk' and it is recommended that items destined for these areas demonstrate levels of ignition resistance as detailed for the appropriate risk categories as detailed in BS 7176 and BS 5867: Part 2 for curtains.

Suppliers of office furniture should be aware that items supplied for the home (e.g. home office) must comply with the FFFSR.

9.5 Letting

All furniture supplied within rented accommodation (including items classified as 'fixtures and fittings') needs to meet the full requirements of the FFFSR.

These include holiday homes and residential furnished accommodation (such as houses, flats, bed-sits and static caravans) which are let in the course of business, and affect persons who let such accommodation as a business activity.

9.5.1 Holiday homes and furnished residential properties

Furniture for holiday homes and furnished residential properties must meet the full requirements of the FFFSR.

There are no requirements set for furniture supplied in show homes. However, it is advised that all items comply with the FFFSR, especially if the furniture is to be sold with the show home as part of the "fixtures and fittings" of the residency.

The responsibility imposed by the FFFSR applies to the actual supplier of furniture acting in the course of a business. For a residential furnished let this may be either the landlord, estate agent or the letting agent

9.5.2 Chalet hotels and holiday apartments

Furniture within chalet hotels and holiday apartments is a grey area. Whereas holiday apartments and houses are specifically covered by the FFFSR, hotels are not and are covered by the RRFSO, which governs the fire safety of non-domestic premises.

Some areas such as holiday camps and chalet hotels straddle both sectors and it is, therefore, difficult to give clear guidance. As a minimum, it is recommended that the level of safety should not be less than that laid down in the FFFSR and it is recommended that advice is sought from a recognised expert.

9.5.3 Caravans

The FFFSR apply to upholstered furniture (including mattresses) supplied with new caravans. The Regulations do not apply to motor homes / camper vans. However, it should be noted that holiday caravan parks are similar to chalet hotels and therefore fall into a grey area.

As a minimum it is recommended that the level of safety should not be less than that laid down in the FFFSR and it is recommended that advice is sought from a recognised expert.

Exporting furniture

Furniture offered for export from the UK is not required to meet UK fire safety controls. However, it is essential that any requirements for fire safety in the country into which the furniture is supplied are met.

There are no global Standards which encompass fire safety. Each country or region may, or may not, have its own set of Standards.

For example Europe have harmonised cigarette (EN 1021-1) and match (EN 1021-2) resistance Standards which should be understood by all members. However, there are no such Standards for higher sources of ignition. Plus use of these Standards is mostly voluntary, dependent on whether the country in question calls them up in National Regulations. As can be seen from the UK, any fire safety controls may or may not use the European Standards, but may use Standards with certain modifications embedded in National Regulations.

There are also International Standards for measuring cigarette (ISO 8191-1) and match (ISO 8191-2) ignition resistance which are similar, but not identical, to the procedures detailed in the EN Standards. Again there are no such Standards for higher ignition sources and it is not a global requirement that any country adopts or uses these Standards.

In the USA, there is a Federal Law requiring that all mattresses for domestic use are fire retardant (Consumer Product Safety Commission 16 CFR Part 1633 – Standard for the flammability (open flame) of mattress sets; Final rule). The Regulations require full scale testing of the final product.

There is currently no Federal Law relating to upholstered seating. However, reference is commonly made to the California Fire Safety Regulations, which have very different test criteria to Europe / UK, but do offer a good degree of fire safety.

However, where fire safety is cited in a country's Regulations this means it is a law within that country (or state for the US) and so must be met. Failure to meet such a regulation is a criminal offence. It can, therefore, reasonably be assumed that where a country has fire safety regulations any product purchased must meet these regulations.

When fire safety is governed by Standards only, compliance with such Standards is not normally mandatory. Standards are a good indication of best practice but, depending on any one country's views on product safety, and their ability to enforce them, a product may, or may not, conform to the Standard. In this instance careful examination of any claims or labelling supplied with a product must take place.

It should be noted that national legislation and Standards across the globe are constantly changing, and while every effort has been made to ensure this information is correct at the time of publication, changes may occur and the user of the Guide is encouraged to check the status of this information regularly.

- ***More information on the fire safety requirements in other countries is available in FIRA's International Flammability Guide for Furniture.***

Useful contacts and acknowledgements

This Guide was prepared by FIRA with the support and assistance of the organisations listed below. The authors would also like to express grateful thanks to all furniture and furnishings industry companies and organisations that have provided invaluable information and help in the production of this Guide.

The British Furniture Confederation (BFC) acts a single voice for UK furniture and bed manufacturers. Led by an Executive, comprising representatives of BCFA, BFM, FIRA and NBF, and supported by associate members (AMUSF, GMB, Proskills and WCFM), its mission is to ensure that the UK furniture industry has a strong and sustainable dialogue with Government. Its roles include:

- Securing the long term future and prosperity of the British furniture industry
- Raising the profile of the industry at a political level
- Formulating strategies for dealing with key industry issues
- Engaging in dialogue and negotiating with Government on these issues
- Working with the All Party Parliamentary Furniture Group to promote cross party discussion and to meet with senior influencers within Government agencies
- Ensuring that the industry gains the recognition and attention that its size deserves.

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FIRA International Limited is the UK's centre of excellence for furniture and one of the world's leading furniture technology centres. Founded in 1949 by the industry, for the industry, FIRA remains dedicated to supporting the furniture industry and its associated supply chains.

FIRA can help your business understand and implement a responsible fire safety strategy by providing:

- UKAS accredited testing laboratories to produce reports and test certificates that are recognised by the enforcement officers
- Consultancy services to help companies design and install record keeping systems and to advise on any testing requirements
- Regular flammability training courses geared towards individual needs
- Technical experts to advise on product safety, test programmes and problem solving where upgrade of performance is required
- A dedicated expert witness service for companies, enforcement officers, or the courts to assist when things go wrong.

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The **National Bed Federation** represents the interests of UK based bed manufacturers and their component suppliers. Its members account for circa 70% of the UK bed market's turnover. It has been closely involved with the development of the UK's fire safety regulations and standards and has campaigned actively over the years to ensure their correct interpretation and effective enforcement. It advises members on the flame retardant requirements for mattresses and beds for both contract and domestic markets; and supports proper compliance with an active policy to test any suspect products and report any failures to the appropriate authorities.

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Useful contacts and acknowledgements

The **British Contract Furnishing Association (BCFA)** is the business association for the British contract furnishing industry. Our members are leading designers, manufacturers and suppliers of furnishing services to the office, hospitality, education and healthcare industry.

Established in 1970 The BCFA is the only business association dedicated to serving the UK contract furnishing market. Members furnish buildings throughout the UK and many operate on a worldwide basis. The potential applications are extensive and include; hotels, restaurants, offices, schools & universities, hospitals, carehomes, cruise ships , outdoor spaces, sporting and leisure venues - in fact anywhere outside the domestic housing market.

The aim of the BCFA is to encourage and maintain levels of excellence in design, innovation, product quality and in particular in customer service.

Promoting designers, manufacturers and suppliers of contract furnishings the BCFA takes a strong commercial stance to improve the business prospects of its members.

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British Furniture Manufacturers (BFM) is the premier trade association and employers' organisation and has been representing the interests of the furniture industry for more than 50 years.

BFM provide their members with a first class portfolio of services designed to increase their sales, represent their interests, ensure their legal compliance and reduce their operating costs.

These services, coupled with the wealth of knowledge, data, statistics and network of contacts that BFM holds assists members to compete successfully at home and overseas.

BFM will continue to work with the membership in the creation of a strong and integrated sector; and to serve the interests of the industry.

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The **Interior Design Association (IDA)** is the professional body representing Interior Design professionals and practices working principally, but not exclusively, in the international commercial interiors market with public and private sector clients.

The IDA promotes and protects the interests of members and encourages the highest possible standards of design, service and professional performance.

IDA members' expertise lies in quite distinct market sectors: corporate; hospitality; healthcare; education; retail; museum & exhibition. In essence, anywhere there is space visited or occupied by the public IDA members create the setting and so have a considerable responsibility.

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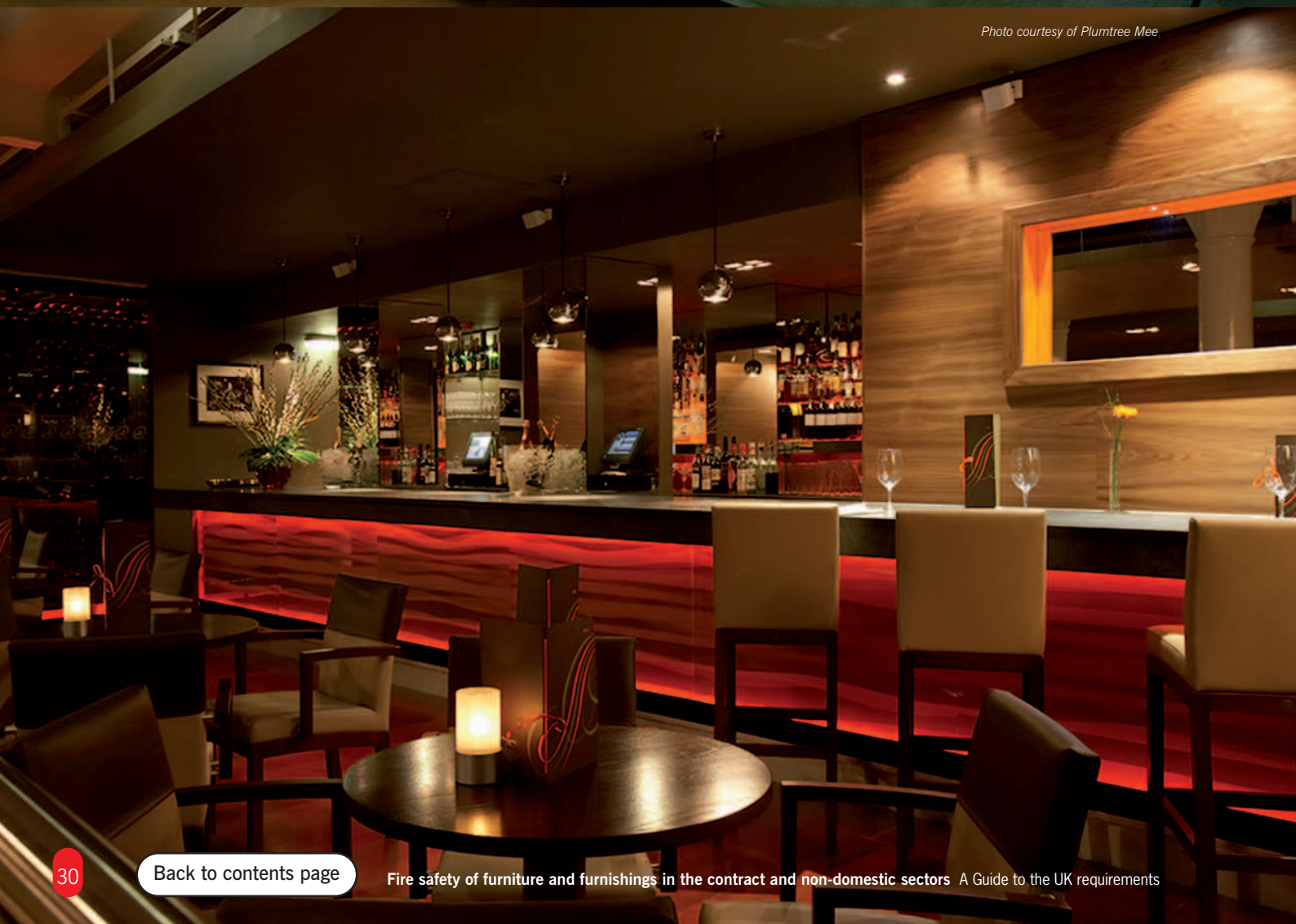

Photo courtesy of Plumtree Mee

Appendix 1

Specific information on technical requirements of relevant Standards

A1 BS 7176: 2007 Specification for resistance to ignition of upholstered furniture for non-domestic seating by testing composites

A1.1 Ignition resistance

BS 7176 does not state categorically the ignition resistance requirements for different categories of end-use such as office furniture, pub or bar furniture, hotel reception furniture and so on. Instead, the Standard relates the requirements to the perceived hazard in each individual end-use environment. Hence the ignition resistance levels are set out against low medium, high and very high hazard areas as shown in Table 5.

Table 5 BS 7176 Hazard categories, ignition requirements & test methods

Hazard category	Ignition resistance requirements	Test method
Low Hazard	Resistant to ignition source (IS): smouldering cigarette – IS0 flame source 1 (match equivalent) – IS1	BS EN 1021-1:006 BS EN 1021-2: 2006
Medium Hazard	Resistant to ignition source: smouldering cigarette – IS0 flame source 1 (match equivalent) – IS1 flame source 5 for upholstery components – IS5	BS EN 1021-1:2006 BS EN 1021-2:2006 BS 5852:2006 Clause 11
High Hazard	Resistant to ignition source: smouldering cigarette – IS0 flame source 1 (match equivalent) – IS1 flame source 7 for upholstery components – IS7	BS EN 1021-1:2006 BS EN 1021-2:2006 BS 5852:2006 (Clause 11)
Very High Hazard	Resistant to ignition source: smouldering cigarette – IS0 flame source 1 (match equivalent) – IS1 flame source 7: - for upholstery components – IS7 - for complete items of furniture – IS7	BS EN 1021-1:2006 BS EN 1021-2:2006 BS 5852:2006 (Clause 11 or 12)

Note: IS = Ignition Source

Each upholstery composite, that is the combination of cover and filling, in an item of upholstered seating, must satisfy the ignition resistance requirements in Table 5.

BS 7176 specifies the resistance to ignition performance requirements for upholstered seating with the test methods being detailed in Standards BS EN 1021-1, BS EN 1021-2 and BS 5852. These procedures require testing to be conducted on actual upholstery composites.

BS 7176 requires that each different upholstery composite on an item of furniture be tested in an 'L' shaped configuration as detailed by the respective test Standards. The combination of materials must achieve the required level of ignition resistance. For example, if an upholstered chair or sofa has different fillings in the seat, back and arms then there are considered to be three upholstery composites and each one requires testing for ignition resistance.

The manner in which testing is conducted for compliance to BS 7176 is different to that contained within the domestic FFFSR (where test procedures are specified in a series of Schedules to the Regulations). These Schedules use the method and selected sources described in BS 5852 but adapt them to measure the ignition resistance of individual upholstery components. Therefore, compliance testing for domestic upholstery does not require tests on actual upholstery combinations as they occur in the upholstered product, but instead requires individual upholstery components to be tested in combination with specified materials.

Appendix 1

Specific information on technical requirements of relevant Standards

BS 7176 also allows for domestic furniture (i.e. furniture that complies with the FFFSR) to be used in certain non-domestic environments. Such furniture is deemed to meet the Low Hazard category.

BS 7176 also requires that filling materials for all hazard categories must separately satisfy the ignition tests detailed in its annexes (A to E). These annexes reproduce test procedures specified for fillings detailed in the FFFSR. For example, any urethane foam must satisfy BS 7176 Annex A, which effectively replicates the ignitability test for urethane foam in slab or cushion form as defined in Schedule 1 Part 1 of the FFFSR.

A1.2 Durability

In addition to ignition resistance, there are requirements for the durability of flame retardant treatments applied to the outer cover or fire barrier material. Whenever any such material has been treated it shall be subject to a thirty minute water soak procedure before it is conditioned and tested.

Water soak

The water soak procedure is required for treatments (including back-coating) that are applied to covers that are finished in all other respects. When a cover is produced from materials formulated to be, or inherently, flame-retardant (e.g. fabric woven from flame-retarded yarns) then there is no requirement to water soak, provided that no additional treatments are applied.

When it is not known whether the cover has been treated or not then the cover shall be water soaked and dried.

The water soak procedure is detailed in, and forms an integral part of, the following Standards:

- BS EN 1021-1: 2006 – Annex D
- BS EN 1021-2: 2006 – Annex D
- BS 5852: 2006 – Annex E.

Dry cleaning

BS 7176 does not provide any requirements for the supply of covers identified as suitable for dry cleaning. However, it does call the user's attention to the fact that any flame retardant treatments may deteriorate during a dry cleaning process. Consequently, it is strongly recommended that, before a cover is conditioned prior to testing, the cover is subject to a chosen number of dry cleaning cycles as detailed in BS 5651.

Washing

This degeneration of flame retardant treatments may also apply to covers marked as suitable for washing. It is strongly recommended that a number of wash cycles are conducted prior to testing for such covers. Details of suitable wash procedures and number of cycles are found in BS 5651.

A1.3 Frequency of testing

Testing when a product is first introduced does not necessarily guarantee on-going compliance with BS 7176. In effect, any test data applies to the item evaluated; not to the actual item supplied. Therefore, it is essential that there is an adequate, planned re-testing regime in place.

In order to claim compliance with BS 7176 it is necessary to conduct repeat tests on a product. Thus, not only is a test on the first example of the product essential, but repeat testing is required on each specification of each type of upholstered furniture either once a month or every 2,500 units, whichever is the more practicable.

A basic alteration to a furniture's specification effectively constitutes a new model which must be re-tested. In addition to the obvious new model or style, this applies to a change of:-

- Cover – other than a simple change of colour
- Pattern or construction – other than minor changes of the order of 2 picks / cm
- Filling
- Component supplier.

BS 7176 does not provide any requirements for the frequency of testing for component suppliers. The appropriate frequency of testing depends on the volume of product produced. It is the supplier's responsibility to assess the risk and decide on the frequency of testing required for a certain product.

- ***Enforcement Authorities normally expect to see a UKAS accredited test certificate which is no more than 1 year old (and less than 1 year old for larger production runs).***

Appendix 1

Specific information on technical requirements of relevant Standards

A1.4 Product labelling

Full compliance with BS 7176 requires that each item bears a permanently attached label, positioned so that it is clearly visible. The minimum dimensions of the label and size of lettering are also specified within this Standard.

The label shall state 'Complies with BS 7176 for (Low, Medium, High or Very High) Hazard', as appropriate.

BS7176 label for Medium Hazard

- The size of the graphic part of the label shall be not less than 50mm x 50mm
- The base colour of the label shall be white with a green border
- The word "RESISTANT" shall be white and of minimum height 5mm
- The smouldering cigarette, flaming match, flame and ignition source number(s) shall be black
- The following wording shall appear on the label:
  - a) "Conforms to BS 7176: 2007 for low hazard (not recommended for use in higher hazard areas)"; or
  - b) "Conforms to BS 7176: 2007 for medium hazard (not recommended for use in higher hazard areas)"; or
  - c) "Conforms to BS 7176: 2007 for high hazard (not recommended for use in higher hazard areas)"; or
  - d) "Conforms to BS 7176: 2007 to agreed level for very high hazard".

  The letters of the wording shall be easily legible and of minimum height 2mm.

There is no formal scheme for proving compliance with a Standard and a supplier can simply claim compliance. However, the accuracy of such a claim needs to be justified when challenged by purchasers or Enforcement Authorities.

Although the RRFSO requires the Responsible Person for the building to conduct the risk assessment and set suitable risk levels, the fire authorities still have the right to enforce fire safety. As such, the Enforcement Authorities are able to insist on sight of documentation pertaining to all products located within premises. In the case of an incident, it is essential that this documentation is available to demonstrate all reasonable steps were taken to ensure specified ignition resistance requirements were met and to underpin any due diligence defence.

Appendix 1

Specific information on technical requirements of relevant Standards

A2 BS 7177: 2008 Specification for resistance to ignition of mattresses, mattress pads, divans and bed bases

A2.1 Ignition resistance

BS 7177 does not state categorically the ignition resistance requirements for different categories of end-use such as hotel or hospital applications etc. Instead, the Standard relates the requirements to the perceived hazard in each individual end-use environment.

Table 6 BS 7177 Hazard categories, ignition requirements & test methods

Hazard category	Ignition resistance requirements	Test method
Low Hazard	Resistant to ignition source: smouldering cigarette – IS0 flame source 1 (match equivalent) – IS1	BS EN 597-1 BS EN 597-2
Medium Hazard	Resistant to ignition source: smouldering cigarette – IS0 flame source 1 (match equivalent) – IS1 flame source 5 – IS5	BS EN 597-1 BS EN 597-2 BS 6807 Clause 9
High Hazard	Resistant to ignition source: smouldering cigarette – IS0 flame source 1 (match equivalent) – IS1 flame source 7 – IS7	BS EN 597-1 BS EN 597-2 BS 6807 Clause 9
Very High Hazard	Resistant to ignition source: smouldering cigarette – IS0 flame source 1 (match equivalent) – IS1 flame source 7 – IS7 additional requirements at the discretion of the specifier with High Hazard requirements as a minimum	BS EN 597-1 BS EN 597-2 BS 6807 Clause 9

Note: IS = Ignition Source

Each finished product must satisfy the ignition resistance requirements in Table 6.

BS 7177 specifies ignition resistance for finished products with the test methods detailed in other Standards (BS EN 597-1, BS EN 597-2, and BS 6807). Different product types need to be tested. The Standard allows for either the finished product or a small representative sample (sample dimensions 450mm x 450mm x nominal thickness) to be tested.

In contrast with BS 7176, BS 7177 covers all end uses, including domestic use, and therefore the low hazard category in BS 7177 sets the ignition resistance requirements for cigarette and match resistance of the finished item for domestic product.

Filling materials for all hazard categories must separately satisfy the ignition tests detailed in Annexes A to E of BS 7177.

These Annexes reproduce test procedures specified for fillings detailed in the FFFSR. For example, any urethane foam must satisfy BS 7177 Annex A, which effectively replicates the ignitability test for urethane foam in slab or cushion form as defined in Schedule 1 Part 1 of the FFFSR.

A2.2 Durability

The durability requirements for mattresses differ from those for seating.

Ticking materials (cover) and fire barriers that have subsequently received a flame resistant treatment only need to undergo water soaking if they are destined for High and Very High Hazard environments. The water soak procedure is detailed in BS 5852 Annex E.

Appendix 1

Specific information on technical requirements of relevant Standards

Photo courtesy of Knightsbridge Furniture

A2.3 Frequency of testing

Testing when a product is first introduced does not necessarily guarantee on-going compliance with BS 7177. In effect, any test data applies to the item evaluated; not to the actual item supplied. Therefore, it is essential that there is an adequate, planned re-testing regime in place.

In order to claim compliance with BS 7177 it is necessary to conduct repeat tests on a product. Thus, not only is a test on the first example of the product essential, but repeat testing is required on each specification of each product type. This is shown in Table 7.

Table 7 BS 7177 Frequency of test

No of units produced per month	No of units tested
More than 2400	1 per month
Between 400 and 2,400	1 per 2,400
Less than 400	1 every 6 months

A basic alteration to a mattresses specification effectively constitutes a new model which must be re-tested. In addition to the obvious new model or style, this applies to a change of:

- Fibre content of ±5%
- Mass per unit area of 15% or more
- Construction – other than minor changes of the order of 2 picks or ends / cm
- Density or type of filling
- Flame retardant finish
- Component supplier.

BS 7177 does not provide any requirements for the frequency of testing for component suppliers. The appropriate frequency of testing depends on the volume of product produced. It is the supplier's responsibility to assess the risk and decide on the frequency of testing required for a particular component.

- ***Enforcement Officers normally expect to see a UKAS accredited test certificate which is no more than 1 year old (and less than 1 year old for larger production runs).***

A2.4 Product labelling

Full compliance with BS 7177 requires that each item bears a permanently attached label positioned so that it is clearly visible. The minimum dimensions of the label and size of lettering are specified within the Standard.

The label shall state 'Complies with BS 7177 for (Low, Medium, High or Very High) Hazard', as appropriate.

BS7177 label for Low Hazard

BS7177 label for Medium Hazard

There is no formal scheme for proving compliance with a Standard and a supplier can simply claim compliance. However, the accuracy of such a claim needs to be justified when challenged by purchasers or Enforcement Authorities.

Although the RRFSO requires the Responsible Person for the building to conduct the risk assessment and set suitable risk levels, the fire authorities still have the right to enforce fire safety. As such, the Enforcement Authorities are able to insist on sight of documentation pertaining to all products located within premises. In the case of an incident, it is essential that this documentation is available to demonstrate all reasonable steps were taken to ensure specified ignition resistance requirements were met and to underpin any due diligence defence.

- The size of the graphic part of the label shall be not less than 50mm x 80mm
- The base colour of the label shall be white with a blue border
- The word "RESISTANT" shall appear on the border and be white and of minimum height 5mm
- A smouldering cigarette symbol, flame symbol and the ignition source number(s) shall appear in the central white area and shall be black
- Information defining additional tests shall be included on the label for very high hazard mattresses and upholstered mattress pads
- The following wording shall appear on the label:

  a) "Conforms to BS 7177: 2008 for domestic use (low hazard)"; or

  b "Conforms to BS 7177: 2008 for medium hazard"; or

  c) "Conforms to BS 7177: 2008 for high hazard"; or

  d) "Conforms to BS 7177: 2008 for very high hazard".

  The letters of the wording shall be easily legible and of minimum height 2mm.

Appendix 1

Specific information on technical requirements of relevant Standards

A3 BS 5867-2: 2008 Fabrics for curtains, drapes and window blinds. Flammability requirements. Specification

A3.1 Ignition resistance

BS 5867-2 does not state categorically the ignition resistance requirements for different categories of end-use such as for curtains used in offices, pubs or bars, hotels, hospitals etc. Instead, the Standard describes the requirements and testing levels for the flammability of fabrics intended to be used as curtains, drapes or window blinds.

Based on knowledge of the Standard, and its usage over many years, it is generally accepted that this Standard details ignition performance requirements for three risk levels (Table 8).

Table 8 BS 5867 Ignition requirements, Test methods and suggested risk levels

Performance	Sugested 'Risk Level'	Ignition resistance requirements	Test method
Type A	**Low**	All fabrics shall be tested prior to cleansing. Unless the performance specification details that test after an approved cleansing or wetting procedure is unnecessary all fabrics shall be tested after being subjected to the appropriate procedure.	BS EN ISO 6941: 2003 Procedure A (surface ignition)
Type B	**Medium**	All fabrics shall be tested prior to cleansing. Unless the performance specification details that test after an approved cleansing or wetting procedure is unnecessary all fabrics shall be tested after being subjected to the appropriate procedure.	BS EN ISO 10528: 2002 Procedure A (surface ignition)
Type C	**High**	All fabrics shall be tested before and after being subjected to the appropriate cleansing procedure.	BS EN ISO 10528: 2002 Procedure A (surface ignition)

A3.2 Durability

A number of durability requirements must be considered prior to supply, purchase or use.

All fabrics and fabric assemblies, whether for use in Type A, B or C environments, must be tested before any cleansing procedure.

In addition fabric and fabric assemblies for use in Type A and B environments shall be subjected to any relevant cleansing procedures prior to ignition testing as required by either the performance specification (as agreed / required by the purchaser, specifier etc.) or as required by information provided on the care label.

It is strongly recommended that fabrics intended for use in Type B environments are tested before and after cleansing if the fabric has been subjected to an FR treatment.

Fabric and fabric assemblies for use in Type C environments must always be tested before and after 50 cycles of standard washing according to BS EN ISO 10528.

Photo courtesy of Harlequin

Appendix 1

Specific information on technical requirements of relevant Standards

The following washing and dry cleaning procedures apply to fabric and fabric assemblies intended for Type A and Type B use environments:

- Fabrics suitable for washing must be subjected to 12 cycles of standard washing in accordance with BS EN ISO 10528 (commercial laundry durability)
- Fabrics suitable for dry cleaning must be subjected to the water soak procedure as specified in BS EN 1021-1: 2006 Annex D and 6 cycles of dry cleaning according to BS 5651 (dry cleaning durability)

In certain cases non-durable finishes may be used to meet the ignition requirements of BS 5867. These do not need to be subject to any cleansing procedure. However, if such non-durable finishes are used the fabric shall be clearly labelled in either of the following ways:

- Warning - if wetted in any way it is essential to re-treat the fabric to meet flammability requirements
- Warning - wetting in any way might remove the fire resisting qualities of the fabric

A3.3 Frequency of testing

Initial testing to BS 5867: Part 2 when the product is first introduced does not necessarily guarantee on-going compliance with the Standard. In effect, any test data applies to the item evaluated; not to the actual item supplied. Therefore, it is essential that there is an adequate, planned re-testing regime in place.

Repeat testing is required on each specification of each fabric type. Test samples shall be taken from each finishing batch or at least every 5000m. Should repeat testing be required at intervals of less than every 5000m then this should form a special agreement between the supplier and purchaser.

Any basic alteration to the fabric specification constitutes a new product and requires re-testing. This applies to a change of:

- Fabric– other than a simple change of colour
- Flame retardant finish
- Pattern or construction – other than minor changes of the order of 2 picks / cm
- Fibre content
- Flame retardant finish
- Mass per unit area.

■ ***Enforcement Officers normally expect to see a UKAS accredited certificate which is no more than 1 year old dependant on product volume.***

A3.4 Product labelling

A fabric complying with BS 5867: Part 2 shall be supplied with the following information:

- Manufacturer's name, trademark or other identifying mark
- The statement 'Flammability complies with the requirements of BS 5867: Part 2: 2008, adding type 'A', type 'B' or type 'C' as appropriate
- A statement as to the durability of the fire resistance of the fabric
- Instructions on any special precautions to be taken concerning care (including cleansing) of the curtain, drape or window blind to be manufactured from the fabric, preferably using an appropriate care labelling symbol in accordance with BS EN ISO 3758 and taking account of the durability procedure specified in clause 5 of this Standard. If the fabric is unsuitable for cleansing this shall be stated
- If the fabric has a non-durable finish, it shall be labelled as specified in clause 5 of BS EN ISO 3758. Any finished assembly of fabric having a non-durable finish shall be permanently labelled in the same way.

Note - Marking BS 5867: Part 2: 2008 on, or in relation to, a product represents a manufacturer's declaration of conformity to the Standard. The accuracy of the claim is solely the claimant's responsibility. Such a declaration is not to be confused with third-party certification of conformity which will be supported by test reports and certificates from UKAS accredited test laboratories.

Appendix 2

Frequently Asked Questions

Q1 ***We are a furniture retailer and we have been asked to supply a local hotel with seating and bed products. Our concern is whether the products in our store are suitable for use in a non-domestic environment especially regarding fire safety?***

Although there are no regulations for non-domestic environments as there are in the domestic sector (FFFSR) there are some Standards for this area. The RRFSO requires that the building owner or designated Responsible Person carries out a fire risk assessment on the building and its contents. This would mean any furniture within the premises should satisfy appropriate levels of fire safety.

Although furniture that meets the FFFSR can be classed as meeting the Low Hazard category of BS 7176 (seats) and BS 7177 (mattresses etc.) these Standards classify hotel bedroom furniture as Medium Hazard. This suggests that not only would the foam need to meet Schedule 1 Part 1 of the FFFSR and the upholstery be cigarette and match resistant, but that the composite should also be resistant to ignition at source 5 (wood crib).

However, the result of the risk assessment is the key factor here – as, if for example, the building has an extensive smoke/fire detection and sprinkler system, combined with other fire safety prevention measures (no smoking etc) it may be considered that this is adequate and furniture that meets the Low Hazard category is acceptable, plus different risk levels may be specified for different areas. Therefore, it is important that prior to supply you obtain written documentation of what fire safety levels are required and retain this information for six years. In the unlikely event of an incident you would need to demonstrate that the furniture supplied met the fire safety requirements of the purchaser.

Q2 ***I am a furniture manufacturer and I buy fabrics that are compliant with BS EN 1021 and foams that comply with the FFFSR can I therefore claim that my product complies with BS 7176 Low Hazard?***

If the fabric that you purchase has been tested with the actual foam you use in your product then you are able to claim the upholstery composite meets the ignition resistance requirements of BS 7176 Low Hazard. However, if the fabric has been tested with a different foam then you are advised to have the actual composite you are using tested.

Q3 ***We supply a trade warehouse with upholstered chairs designed for bistros and cafes, these chairs meet the Medium Hazard category of BS 7176 which is stated on the box and a test certificate is available if required. Is this method of supplying the information acceptable?***

If the trade warehouse is supplying to businesses (hotels, restaurants, offices etc) then the information you provide should be sufficient. However, if he intends to supply into the domestic market then the FFFSR must be met. The warehouse should provide you with this information and you need to ensure that you have written confirmation that the product is not being supplied into the domestic market.

Appendix 2

Frequently Asked Questions

Q4 ***Our company produces a variety of textiles and we have been asked whether they are suitable as wall coverings for use in a boarding house – are there any fire safety issues we need to consider?***

The fire safety Standards and requirements that apply to textile wall covers are identified in Table 9:

Table 9 Standards that typically apply to wall coverings for the non-domestic sector in the UK

Performance specification	Test procedures	
The Building Regulations 2000 – Approved Document B 'Fire safety' Table 10 – Classification of Linings	BS 476: Part 6: 1989+A1: 2009 (1981) Method of test for Fire propagation of Products	British classification system
	BS 476: Part 7: 1997 (1971, 1987) Method of test to determine the Classification of the surface spread of flame of products	
BS EN 13501-1: 2002, Fire classification of construction products and building elements, Part 1 - Classification using data from reaction to fire tests	BS EN 13823: 2002 Reaction to fire tests for building products. Building products excluding floorings exposed to the thermal attack by a single burning item	European classification system
	BS EN 11925-2: 2002 Reaction to fire tests. Ignitability of building products subjected to direct impingement of flame. Single-flame source test	

As Table 9 indicates both British and European classification systems currently operate in the UK.

The European system operates in the UK alongside the existing British system and is likely to do so for a period of time. Best estimates suggest this is likely to be several years, although no-one is able to confirm this yet.

Eventually the European Standard procedures will supersede the British Standard test methods which will then not be available for Building Regulatory purposes.

In order to demonstrate that your product satisfies fire safety requirements, you are currently able to use either system. However, manufacturers are testing products for compliance with the European classification system in preparation for the 'hand-over' date.

Basically, products which fail British Standards may pass European Standards. The opposite may also occur thus product compositions may need to be modified.

The British system measures flame spread and heat release, with products being classified as Class 0, 1, 2, or 3 (with 0 being the most stringent)

The European system is similar, but also measures smoke production and flaming droplets. Products are classified as A1, A2, B, C, D, E or F, (with A1 being the most stringent). Smoke production and flaming droplets are shown as s1, s2, s3, and d0, d1, d2 (with s1 being minimal smoke production, and d0 being zero flaming droplets).

In the UK, wall coverings for reception areas, lift lobbies, stairwells, open-plan offices, restaurants within buildings (including hospitals), anywhere designated as a fire escape route, or public areas must achieve:

Either:

the British Class '0' fire rating

Or

European Class B-s3, d2.

Table 10 Approved Document B indicates that the European Classification B-s3, d2 is the general equivalent of Class O

The testing and performance requirements for wall coverings are extremely complex and it is strongly advised that an expert is consulted.

The fire safety requirements for wall coverings are found in - The Building Regulations 2000 –Section 7 **(Table 10)** of Approved Document B 'Fire safety'.

Specified performance levels are summarised below

Location	British	European
Small rooms of area not more than 4m² Residential accommodation 30 m² non-residential accommodation 40 m² domestic garages	Class 3	Class D-s3, d2
Other rooms (including garages), circulation spaces within dwellings	Class1	Class C-s3,d2
Other circulation spaces, including common areas of flats and maisonettes	Class 0	Class B-s3, d2

Source: Approved Document B 'Fire safety'

For more detailed information contact the BCFA at www.thebcfa.com

Q5 ***I have been tasked with procuring furniture for communal areas in a new development of private flats intended for the elderly. What are the fire safety implications for this furniture?***

Although the development is private and the flats are owned by the occupants there should be someone who is responsible for the communal lounge. This is possibly the owner or person responsible for running the retirement home. It is considered that the lounge will fall under the requirements of the RRFSO. This order requires the Responsible Person for a building to conduct a fire safety risk assessment on the building and its contents - furniture falls into contents. This will include an assessment of the ease of escape (i.e. whether there are ample fire escapes, whether the room is on the ground floor or upper floor, the age and infirmity of the residents, provision of sprinklers, provision of fire extinguishers etc).

It is recommended that the minimum requirement for fire safety is that any upholstered furniture meets the FFFSR which also means it meets the Low Hazard Category of BS 7176 or BS 7177. However, the Responsible Person for the communal lounge may or may not choose to move the fire safety requirement to a higher level dependant on occupancy levels, ease of access to escape, whether the users are elderly or infirm etc. If you are unable to obtain a specification concerning the fire safety of the furniture from the owner or Responsible Person, and as you are dealing with the elderly, it is recommended that you fail safe and any product purchased meets the Medium Hazard requirements of BS 7176 or BS 7177.

Appendix 2

Frequently Asked Questions

Q6 ***Our company produces non-upholstered plastic shell type chairs and has been asked to supply a large number of these chairs with the request that they meet BS 7176 Medium Hazard. It is our understanding that this is a Standard for upholstered seating. How can we test to this Standard?***

BS 7176 details test procedures for testing the ignition resistance of upholstered seating and is not applicable to non-upholstered chairs.

Non-upholstered chairs are required to be included as part of a fire safety risk assessment under the RRFSO as they, like upholstered furniture, fall into the building contents category. Once the fire safety risk appropriate to the premises and its contents has been determined then the required fire safety level for any non-upholstered chairs will be known.

BS 5852 Clause 12 allows you to demonstrate that your product is fire safe for various risk areas. Clause 12 of BS 5852 details procedures for measuring the ignition resistance of complete seating items and although designed mainly for upholstered seating, the procedures are valid for non-upholstered seating. Thus you can show that your product is resistant to ignition by cigarette and match and to ignition at source 5 (wood crib), or higher as appropriate.

It is generally accepted that non-upholstered furniture should be assessed as follows:

- Furniture for Low Hazard areas should be resistant to ignition from cigarette and match
- Furniture for Medium Hazard areas should be resistant to cigarette, match and ignition source 5.

Whilst this method of assessment can be used for all types of non-domestic furniture it is normally used for seating products. However, it is recommended that you obtain written confirmation from the specifier / purchaser / Responsible Person as to the fire safety level required.

Q7 ***Can you please confirm the FR requirements for single mesh materials / products if they are to be placed within the UK office and Government sectors?***

A single mesh material / product when used for seating would need to meet BS 5852: 2006: Clause 12. This is a test for ignitability of complete items of furniture generally using ignition sources 0, 1, 5 & 7. Depending on whether the building or room therein has been categorised as Low Hazard, Medium Hazard or High Hazard will dictate which ignition sources are used. Our recommendation for Low Hazard areas is that your product is cigarette and match resistant (ie. resistant to ignition sources 0 & 1), for Medium Hazard areas we recommend your product is resistant to cigarette match and flame source 5 (ie. resistant to ignition sources 0, 1 & 5) and for High Hazard areas we recommend your product resists ignition at ignition sources 0, 1 & flame source 7. UK office and Government sectors will normally be Low or Medium Hazard areas therefore testing to Medium Hazard would cover you for both.

Q8 ***We supply office seating to the wholesale market. We understand that only products that go into the domestic market need to be labelled and not the wholesale market. Can you advise please?***

Ask the question – do the wholesalers supply the product into the domestic sector? If they do then the product must comply and be labelled for fire safety according to the UK FFFSR. In this case it is your responsibility, as well as the onward supplier's, to ensure the product complies with the Regulations.

If the product is being supplied into the non-domestic sector with no chance of supply into the domestic sector then there is no requirement to label. The recommendation in this case, however, is that the product at least meets the Low Hazard category of BS 7176 (cigarette and match ignition resistant) and any foam used complies with Schedule 1 Part 1 of the FFFSR.

Appendix 2

Frequently Asked Questions

Q9 ***We are a mattress supplier and have been approached by a local day nursery to supply a number of small mattress pads for use by the children during afternoon nap times. Our products use foam which complies with the FFFSR and are cigarette and match resistant as required under the General Product Safety Regulations - are they suitable for nursery use?***

The owner or designated Responsible Person for the nursery is required to conduct a fire safety risk assessment on the premises and its contents under the RRFSO. This should include an assessment of the ease of escape (ie. whether there are ample fire escapes, whether the facility is on the ground floor or upper floor, provision of sprinklers, provision of fire extinguishers etc.). It is the Responsible Person's responsibility to set the level of fire safety required for contents such as these mattress pads.

The pads that you supply are ignition resistant to the Low Hazard category of BS 7177 as they use compliant Schedule 1 Part 1 foam and are cigarette and match resistant. Thus provided the area is designated as Low Hazard they are suitable for use in the Nursery. However the required level may be higher such as Medium Hazard so please ensure you have written confirmation from the customer that the level of fire safety of your product is suitable.

Q10 ***Our business is the supply of bedding products such as pillows, duvets, quilts, duvet covers, sheets, bedspreads etc. to various hotels. What fire safety Standards apply?***

A suite of fire safety Standards exists that may be applied to bedding items such as pillows, duvets, bedspreads, sheets etc. The main Standards used for bedcovers etc are listed below:

BS EN ISO 12952-1: 1999 'Textiles. Burning behaviour of bedding items. General test methods for the ignitability by a smouldering cigarette'

BS EN ISO 12952-2: 1999 'Textiles. Burning behaviour of bedding items. Specific test methods for the ignitability by a smouldering cigarette '

BS EN ISO 12952-3: 1999 'Textiles. Burning behaviour of bedding items. General test methods for the ignitability by a small open flame'

BS EN ISO 12952-4: 1999 'Textiles. Burning behaviour of bedding items. Specific test methods for the ignitability by a small open flame'

BS 7175: 1989 'Methods of test for the ignitability of bedcovers and pillows by smouldering and flaming ignition sources'

The BS EN ISO 12952 set of Standards details the tests required to measure the cigarette and match resistance of bedcovers. The cigarette source 0 and gas flame I match equivalent described in these Standards are taken from BS EN 1021 Parts 1 and 2.

BS 7175 details test procedures for measuring the ignition resistance of bed covers etc to higher sources of ignition such as ignition source 5. The flaming sources described for use within this Standard are taken from BS 5852.

There is one other consideration related to pillows only. Pillows are covered by the FFFSR and under these regulations pillow filling materials must satisfy specified ignition tests. It is therefore advised that, as a minimum, pillows supplied into non-domestic environments meet these requirements.

Appendix 2

Frequently Asked Questions

All bedding items are required to be included as part of a fire safety risk assessment under the RRFSO as they fall into the building contents category. Once the fire safety risk appropriate to the premises and its contents has been determined then the required fire safety level for any bedding items will be known.

The suite of Standards listed above can be used to demonstrate items such as pillows, duvets, bedspreads etc are fire safe for various risk areas. Thus you can show that your product is resistant to ignition by cigarette and match and to ignition at source 5 (wood crib) or higher as appropriate.

It is generally accepted that pillows, duvets bedspreads etc considered suitable for location in:

Low Risk areas should be resistant to ignition from cigarette and match

Medium Risk areas should be resistant to cigarette, match and ignition source 5

It is recommended that written confirmation of the required fire safety specification for bedding products is obtained from the specifier / purchaser / Responsible Person prior to supply.

Q11 I supply different designs and styles of artificial plants for various offices, reception areas etc – what are the fire safety requirements for these products and which Standards apply if they need to be tested?

The RRFSO requires that the Responsible Person for the premises and its contents conducts a fire safety risk assessment and specifies required fire safety levels. The purchaser should let you know what is needed regarding ignition resistance of the item and it is advised that written confirmation of these requirements is obtained. As a guide, for contents such as artificial foliage it is suggested that they are tested as detailed in BS 5867: Part 2 and it is recommended that they meet Type B performance as a minimum.

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Notes

FIL007 RIGA 03/10

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