Mobility Scooter Guidance

Produced by:
Foreword
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Acknowledgements

The Chief Fire Officers Association Mobility Scooter Working Group and the National Social Housing Fire Strategy Group have engaged with a sector led group of stakeholders, partners and suppliers comprising:

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<th>Abbreviation</th>
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<tr>
<td>National Social Housing Fire Strategy Group</td>
<td>NSHFSG</td>
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<tr>
<td>Chief Fire Officers Association / National Fire Chiefs Council</td>
<td>CFOA/NFCC</td>
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<tr>
<td>CFOA Fire Engineering and Technical Standards Committee</td>
<td>FETS</td>
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<tr>
<td>Midlands Social Housing Fire Strategy Group</td>
<td>MSHFSG</td>
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<td>Horizon Medical</td>
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<td>Building Research Establishment</td>
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Introduction

1. Purpose of this Guide

1.1 The purpose of this guide is to provide a framework that responsible persons of multi-occupancy residential buildings can use to consider all relevant factors, in ensuring the safe use, storage and charging of mobility scooters. This guidance aims to focus on some of the more common situations. However there may be alternative solutions of achieving the criteria set out in this guide.

1.2 Nationally it is recognised that for increasing numbers of tenants, the ability to use and store a mobility scooter is an essential part of their lives, where there is an underlying medical condition or disability.

1.3 It is also recognised that the risk of harm is significant in the event of a fire, and in multi-occupancy buildings, these risks can pose a life safety risk to tenants, employees, fire and rescue services and other relevant persons.

1.4 This guide therefore considers all relevant factors to enable responsible persons to develop pragmatic and risk based policies that act as an enabler to prevent injury and reduce risk to all relevant persons in the event of a fire, promote independence and comply with all relevant fire safety and health and safety at work legislation.

1.5 Whilst fire involving mobility scooters do not thankfully happen every week, the consequences when they do happen are particularly devastating. Using the Fire Information and National Data System, (FINDS notice), and the Chief Fire Officers Association (CFOA) Communities Forum information regarding fires that have involved mobility scooters was gathered. There were many responses for Fire and Rescue Services up and down the UK, consisting fire investigation reports to Local Authority policies on the storage and use of mobility scooters.
2. Background and Scope of this Guide

2.1 Since 2010 mobility scooters have become more popular in the UK. For those that have a medical condition or disability, mobility scooters can promote independence and provide a lifeline. In other cases mobility scooters are becoming popular to others as a lifestyle choice.

2.2 It is also well reported that the UK has an ageing population and that we are all living longer than ever before. This presents both a short term and more long term challenge that sets an expectation that mobility scooter usage will increase over time.

2.3 The need to maintain fire safety provisions in such buildings often conflicts with the everyday life of the occupants. But as well as the potential obstruction to escape routes, there is now clear evidence to show that mobility scooters present a fire risk in themselves.

2.4 In recent years, there have been some fatalities and many others rescued from fires involving mobility scooters, see Appendix 2 for further information. These fires have been started both maliciously and accidently, internally and externally to buildings, many of these incidents have involved fires spreading to the buildings through doors and windows. These have not only caused deaths and injuries but also the disruption to occupiers and neighbours through redecorations costs and mobility issues.

2.5 This guide therefore will only focus on the criteria and considerations that responsible persons of multi-occupancy residential buildings will need to consider in relation to the wider application of fire safety in such buildings.

2.6 This guide also provides guidance on safe storage, charging and use of mobility scooters.
3. Intended Audience

3.1 This guide is particularly aimed at those who manage, give advice or enforce standards in multi-occupancy residential buildings. The guide will also be helpful to those who undertake fire risk assessments of such buildings.

3.2 Typically, these groups will include:

- Landlords
- Local Authorities
- Managing Agents
- Facility Managers
- Health and Safety Managers
- Resident Committees
- Fire and Rescue Enforcement Teams
- Tenants
- Leaseholders
- Fire Risk Assessors

4. Key Legislation and Guidance

4.1 Whilst mobility scooters are currently not regulated in the UK, the primary pieces of legislation relating to mobility scooters are:

- Regulatory Reform (Fire Safety) Order 2005
- Equality Act 2010
- Use of Invalid Carriages on Highways Regulations 1988

Information and guidance on mobility scooters is also noted within various publications such as:

- Fire Safety in Purpose Built Block of Flats Guide
- CFOA Specialised Housing Guide
- Care Quality Commission (CQC) Fire Safety Information and Guidance Note 422
- RC59 “Risk Control: Fire safety when charging electric vehicles” 2012 published by the Fire Protection Association on behalf of RISC Authority
• House of Commons Transport Committee, Mobility scooters, Ninth report of session 2009-10.
• Department of Transport: Mobility scooters and powered wheelchairs on the road.

4.2 Information and guidance for tenants is noted in Appendix 1.

5. Classes of Vehicle

5.1 Mobility Scooters are defined as an “Invalid Carriage” under the Use of Invalid Carriages on the Highways Regulations 1988 and have three categories:

Class 1 Vehicles
Manually operated wheelchairs that are not electrically powered.

Class 2 Vehicles
Powered Wheelchairs and mobility scooters for pedestrian routes and indoor use, that are limited to a maximum speed of 4mph and do not exceed an unladen weight of 113.4 kg.

Class 2 vehicles are not allowed on the public highway and are not required to be registered with the Driver and Vehicle Licensing Agency (DVLA).

Class 3 Vehicles
Powered vehicles and mobility scooters that are designed to:

• Travel up to 8mph and are used on roads/highways and;
• Fitted with a device to restrict travel to a maximum speed of 4mph on pedestrian routes and for indoor use.

Class 3 Vehicles must not exceed an unladen weight of 150 kg.

Class 3 vehicles are not classed as motor vehicles but they are required to be licensed with the DVLA for road use and cannot be operated by anyone below the age of 14.

5.2 For the purposes of this guide, Class 1 vehicles are excluded.
6. Definitions

6.1 Invalid Carriage

“a vehicle, whether mechanically propelled or not, constructed or adapted for use for the carriage of one person, being a person suffering from some physical defect or disability.”

6.2 Communal Area

“Any internal area within a building which is shared or is accessed by more than one person e.g. corridors, cupboards, lounges etc.”

6.3 Disabled Person

“Any individual with a physical or mental impairment which has a substantial and long term adverse effect on that person’s ability to carry out normal day to day activities.”

6.4 Escape Route

“Route forming part of the means of escape from any point in a building to the final exit.”
PART A: Fire Safety Considerations

7.0 Understanding the Risk

7.1 The Fire and Rescue Service’s Incident Reporting System (IRS), shows that 36 fires involving mobility scooters have been reported since 2009/10. Of the 36 fires, 24 were started deliberately.

7.2 Mobility scooters are often stored outside and not in a secured compound, resulting in deliberate ignition. This has seen fatalities and fire spreading through windows and doors to buildings and internal compartments.

7.3 There have also been several research projects done recently:

- “Fire experiments on mobility scooters protected by sprinklers” – BRE report in May 2016.

8.0 Fire Loading

8.1 Mobility scooters are generally constructed around a steel frame, with plastic fairings, rubber tyres, foam seats, wiring and batteries. Often retro fitted with vehicle registration number plates, waterproof covers and storage bags.

8.2 The type of batteries used in mobility scooters are generally lead acid (wet cell) or sealed lead acid scooter batteries. There are also Gel and Absorbed Glass Mat (AGM) batteries.

8.3 The recent use of lithium iron phosphate (LiFeP04) batteries instead of
lead acid batteries to power mobility scooters has increased risks due to their unpredictable and adverse reaction when subjected to fire. All batteries can give off hydrogen when charging.

9.0 Heat Release Rate

9.1 The above Research noted in 7.3 has shown that within 3 minutes of ignition the temperature of the mobility scooter reached 375°C. In this study, between 5 – 8 minutes of ignition the compartment temperature rose from 54°C to 181°C and continued increasing to 214°C after 8.5 minutes, with the mobility scooter itself reading 556°C.

9.2 In separate research, where a number of scooters are burning simultaneously, the fire is exacerbated by heat-feedback and the heat release rates in excess of 2.5MW can be achieved from two or three scooters. In a recent BRE experiment, one scooter burned slowly for about 3 minutes when a second scooter became involved.

10.0 Toxic smoke

10.1 As proven by fire testing compartment fires involving mobility scooters have demonstrated the smoke layer within a 3m high room falls to 2m from the floor after just 3 minutes, and thick black smoke just a 1m from the floor after 8 minutes. The smoke is dense and is given off in large quantities even at relatively low temperatures, filling compartments up with toxic smoke possibly before an occupier would notice the fire. The materials that some mobility scooters are constructed of can produce large volumes of smoke more quickly than would normally be expected.

11.0 Occupants

11.1 With the speed that the temperature rises and the volume of the products of combustion, occupants would need to make their escape very quickly. A mobility scooter fire that is being stored within common
Egress routes of premises would render circulation corridors untenable in less than 3 minutes. It is evident that a fire involving mobility scooters, within an escape corridor or stairwell, will create a substantial risk to occupants since the smoke and heat will make such routes impassable and put occupants at risk.

- 36 recorded mobility scooters fires, with 66% of incidents related to arson.
- Mobility scooter temperature can reach 375°C within 3 minutes and 556°C within 8.5 minutes.
- Multiple mobility scooters can exponentially increase heat release rates.
- Escape routes will fill with dense toxic smoke.
PART B: Will my building support a managed approach?

There are many factors to consider when deciding on whether your building will support a managed approach to mobility scooters. The following principles should be applied to all multi-occupancy residential buildings:

- No Storage or Charging in Lift Lobbies or on protected stairwells in any building.
- No Storage or Charging of mobility scooters on any escape route

Where these principles cannot be applied to a building, a managed approach may be considered by taking the below considerations into account.

In most situations there are normally 4 options available:

**Stage 1** – Consider whether suitable and safe storage and charging can be achieved within the domestic dwelling. (Refer to guidance in Sections 12 and 13)

**Stage 2** – Consider where reasonable adjustments could be made to the building that could offer alternative safe storage and charging within a protected compartment.

**Stage 3** – Consider external storage solutions where internal storage is not viable or possible.

**Stage 4** – Consider all available options and findings from the fire risk assessment to:

1) agree a solution or;
2) to refuse permission to store within the premises.

**Stage 5** – Document findings

It is also important that the maximum capacity of mobility scooters is identified for the premises and relevant persons are aware of any local arrangements in place, in order to future proof buildings.

The below workflow diagram sets out the key stages
12. Means of Escape

12.1 A person’s ability to escape will be effected by both smoke and heat from a fire. Smoke not only reduces visibility, but can, because of the toxic gases and irritants in the smoke, cause incapacitation.

12.2 High temperatures and radiant heat from the flames will also affect people’s ability to escape. Recognising these hazards and meeting this objective underlies fire safety design in all buildings. It applies equally to dwellings.

12.3 Storage and use of mobility scooters in residential buildings can also pose other safety concerns to relevant persons and cause damage to the building such as fire doors and walls.

12.4 In the event of a fire, people react differently and it is important that escape routes, protected lift lobbies and stairwells are kept clear at all times to ensure that all persons can reach a point of safety as quickly as possible.

12.5 Mobility Scooters place a significant “fire loading” on the escape route(s) and in the event of a fire, would present significant risks to all relevant persons.

12.6 The protected escape route would be untenable due to smoke and fire and would place relevant persons still within their flats at significant harm.

- Keep escape routes clear to enable all relevant persons to evacuate quickly and safely.
- Ensure that no mobility scooters are stored on escape routes including in protected lift lobbies or stairwells.
- Report any damage to any fire protection measures e.g. fire doors or any structural parts of the building to the landlord.
13. Storage and Charging

13.1 Tenants should ensure any manufacturer guidelines or instructions on the safe use and charging of the equipment used are followed.

13.2 When considering storage solutions for mobility scooters the following questions should be considered:

- Is there sufficient detection in place to provide early warning to others in the event of a fire?
- Can a fire be restricted to the room of origin?
- Can all persons reach a place of relative or ultimate safety?
- Are there sufficient electrical sockets available?
- Are there any other combustible materials in the vicinity?
- How many scooters can be stored safely within the proposed storage area?
- Is access and egress sufficient for the mobility scooters using it?
- Does the solution affect other residents?
- Is storage in-line with manufacturer recommendations?

13.3 Separating the battery from the mobility scooter can reduce the risk, thus removing the source of ignition. It should be noted that some mobility scooters manufactured are not designed to have the battery removed.

13.4 In all multi-occupied residential buildings, policies will operate to ensure that tenants keep any personal belongings within their property, this includes mobility scooters. Responsible persons should carefully ensure that any policies requiring mobility scooters to be placed within an individual property do not place tenants at undue risk.

It is not acceptable to remove the risk from the means of escape and introduce increased risk within a domestic dwelling.

13.5 Where storage within a domestic dwelling is not suitable e.g. where a tenant’s own means of escape from their dwelling is affected, then other areas of the building should be considered. This should include assessing existing rooms or areas within the grounds where reasonable adjustments can be made or future provision is identified.
13.6 Any electrical sockets provided in any designated storage area should be suitable for the charging taking place, and should restrict the power supply between the hours of 8pm and 8am, this will prevent any charging to be undertaken and reduce the risk to sleeping occupants.

13.7 Any charging that is undertaken within any designated storage area should be subject to an appropriate portable appliance-testing programme.

13.8 No charging should occur on any means of escape; this includes where fire sprinklers or suppression systems are installed.

- Manufacturer’s guidelines should be followed.
- Ensure that any storage area within a building is of at least 30 minutes’ fire resisting construction and has early warning systems available.
- Removing the battery from the mobility scooter will remove the source of ignition.
- It is not acceptable to move the risk from a means of escape to a domestic dwelling.
- Restrict charging at night, from 8pm to 8am – this will reduce sleeping risks.
- Any charging in designated storage areas should be subject to a portable appliance testing programme.
- NO charging should occur on the means of escape.
14.0 **External Storage**

14.1 An assessment should be carried out to take into account the following considerations:

- Arson Risk
- Fire Spread
- Any impact on external escape routes
- Electrical Installation
- Location, access and egress
- Maintenance
- Monitoring

14.2 It is recommended that any mobility scooter storage solution should be sited at least 6m away to reduce fire spread; however, the risk assessment should take all factors noted in sections 12 and 13 when considering suitable and appropriate external storage solutions.

✓ Any External Storage solution should be full risk assessed and consider arson, location, fire spread, access/egress and maintenance.
PART C: Management Considerations

15.0 Consent/Permissions and Insurance

15.1 In all cases responsible persons should ensure they give permission and consent for a tenant to store a mobility scooter within a building. Responsible persons should also reserve the right to refuse storage where this would be a breach of legislation or impacts on the health, safety or welfare of other occupants within the premises.

15.2 Responsible persons should ensure that procedures exists to highlight to new and existing tenants of any organisational mobility scooter polices and conditions of permission given. No mobility scooters should be stored in premises where permission or consent has not been given or where any policies or legislation is breached.

15.3 Expectations should also be appropriately identified and supported within tenancy agreements and communicated to tenants.

15.4 Appropriate Insurance cover should be in place by tenants that covers liability for damage or injury to others. Contents insurance alone is not sufficient to provide cover should any damage occur to the premises or to another person.

15.5 Responsible persons should not give permission if appropriate insurance cover is not in place for the equipment being used.
16.0 Maintenance and Testing

16.1 Tenants should ensure that mobility scooters are maintained in line with manufacturer recommendations; this should include mobility scooter usage and charging.

16.2 Responsible persons should ensure that appropriate maintenance and testing regimes are in place to ensure any designated storage areas are fit for purpose and offer effective fire protection. These should include:
   - Fixed wiring installation testing
   - Portable appliance testing of equipment
   - Fire detection maintenance and testing
   - Fire doors and fire door furniture
   - Emergency lighting
   - Ventilation
   - Inspection of floors, walls or ceilings

17.0 Alterations

17.1 Any alterations made to existing premises should be reasonable and proportionate as it is recognised that not all requests or future provision can be catered for in buildings and therefore responsible persons should identify capacity and communicate this with tenants where appropriate.

17.2 Any alterations made should be risk assessed and all fire safety considerations considered prior to any alterations being made.

17.3 Any material alterations considered may also require local authority and fire service approval.
18.0 Local Considerations

18.1 Building and tenants needs can vary significantly based on building design, fire strategy, occupancy and behaviours. With this in mind, it is recognised that a one-size fits all or prescriptive approach will not provide a reasonable and proportionate approach in managing risk.

18.2 Responsible persons should set expectations with tenants on any local rules for the premises. Any local rules implemented should be clearly communicated to tenants and monitored as appropriate.

18.3 While the Fire and Rescue Service are regulators of the Regulatory (Fire Safety) Order 2005, the Regulators Code places an expectation on them to work with local businesses and provide support.

19.0 Appeals

19.1 As noted in Part A and B, it is important that responsible persons identify where a building is suitable and what maximum capacity a building can accommodate, taking into account any fire safety/local considerations.

19.2 Responsible persons should have procedures in place where permission or consent is refused. In such cases, there should be an appeals process that tenants can follow.

20.0 Incident Reporting

20.1 Responsible persons should ensure that appropriate reporting procedures exist so that relevant persons are able to report any incidents that could have an impact on the health, safety or welfare of other persons.

20.2 In the event of any fire incident involving a mobility scooter (however small), in addition to informing your local fire and rescue service, a report should be made to the Medical Devices Regulatory Authority (MHRA) who are responsible for regulating medical devices which
includes mobility scooters. The make and model of the scooter involved will be required as well as the details of the incident. To report an incident please visit the following website:
https://yellowcard.mhra.gov.uk/. In addition, responsible persons should ensure a review of the buildings fire risk assessment is made following any fire incident.

- Ensure consent/permission is given to tenants to store any mobility scooter.
- Ensure that tenants have insurance cover and are maintaining the equipment in line with manufacturer recommendations.
- Ensure any designated areas are maintained and are fit for purpose for storage and charging.
- Ensure any alterations consider fire safety and any building regulation requirements.
- Ensure an appeals process exists and report any fire incidents to the regulator.
Appendix 1 – Tenant Information

There are many factors to consider when deciding on whether multi-occupancy residential buildings will support tenants having mobility scooters. As a baseline to all buildings, no storage or charging of mobility scooters on any escape route is allowed. Check with your landlord on what their policy is before purchasing a scooter.

Before choosing a mobility scooter, it is important that you consider your needs. Although users of mobility scooters are less likely to be in the best of health it is, nevertheless, still important that they are fit to use one, especially if they will be using it on the road and/or pavements, amongst many other people and vehicles.

Before buying a mobility scooter, it is important that you take time to consider your options as this may save you time, effort and resources later on. There are many different types and you need to find one that is suitable for your needs i.e. size, height, weight and restricted movement.

- Set your budget, including the cost of the vehicle, insurance and breakdown cover, maintenance, servicing and repairs and any adaptations required. Funding from charities may be available. For those in receipt of the higher mobility component of the Disability Living Allowance or War Pensioner’s Mobility Supplement the Motability Scheme may allow for the benefit to be put towards the cost of leasing or buying a scooter.
- It is recommended that you choose a dealer experienced in assessing customer needs. Avoid buying from an untrained sales person. Some vehicle suppliers are members of the British Healthcare Trades Association (BHTA).
- Check whether the dealer can offer appropriate training.
- Ask if scooters/vehicles can be hired to gain experience before making purchase.
- Consider your budget limit and whether you wish to buy new or second hand.
- Make sure you are familiar with all the controls on the scooter/vehicle before buying and taking it home.
- Check whether there are instructions as if second hand there may not be any.
- Ask if there is a warranty, what this covers and how long this is for.

Visit [www.charitychoice.co.uk](http://www.charitychoice.co.uk) or [www.guidestar.org.uk](http://www.guidestar.org.uk) for contact details of charities that may assist with funding. Visit [www.motability.co.uk](http://www.motability.co.uk) for more information on the Motability Scheme. Visit [www.BHTA.net](http://www.BHTA.net) for more information regarding the British Healthcare Trades Association

It is important that your scooter is properly maintained. This will prolong its life and reduce the risk of fire and mechanical breakdown. The manufacturer’s handbook will tell you how often your scooter should be tested.

The storage of mobility scooters, is not permitted on any escape route or any communal area unless the communal area is specifically designed and adapted for the purpose of the storage of vehicles, and where express written permission has been given for storage.
## Appendix 2 – Case Studies

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<th>03/09/2007</th>
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<tr>
<td>Fire Authority:</td>
<td>Derbyshire FRS</td>
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<td>Details:</td>
<td>The scooter was being stored outside and was not being charged at the time. Witnesses stated that the fire started in the scooter and destroyed the majority of it. There was no evidence to suggest that a flammable liquid or any other means of ignition was used to maliciously ignite the scooter. There was a broken wire leading from the battery terminal which had not been cut mechanically, but it did show signs of arcing. The two 12V batteries were in situ even though the scooter had been cutting out intermittently and engineers were due to repair the scooter the 4th September 2007, the day following the fire</td>
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| Outcome(s): | The cause of the fire was put down to the plastic battery cover or shroud caused a kinking of the wire, which over a period of time frayed the insulation exposing the conductor. This came into contact with a metallic or suffered in-line arcing igniting either the plastic cover or the nylon battery strap |

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<td>Fire Authority:</td>
<td>Lincolnshire FRS</td>
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<td>Details:</td>
<td>A fire in a care home in Lincolnshire was caused by a power surge to a mobility scooter which was being stored inside. The mobility scooter ignited and the fibre glass construction was described as a blow torch effect, burning through a 60 minute fire resisting compartment ceiling. This incident was followed by a similar fire in the south of Lincolnshire which saw the FRS implement a policy that states that all mobility scooters are serviced which is to include the charging unit</td>
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| Outcome(s): | The care home, which mentioned above has now fitted an electrical circuit specifically for the mobility scooters, which only operates between 09:00 and 07:00 |
Date: 2008
Fire Authority: Leicestershire FRS
Details: A fatal fire within a three storey block of flats in Leicestershire was investigated by the local FRS. The most severe fire damage was restricted to the back door in the kitchen where a mobility scooter had been stored. The development of the fire was mainly due to the combustible materials on and adjacent to a mobility scooter. As the scooter was positioned against the wooden back door this in turn became involved on fire. The ceiling and wooden joists burned through. The scooter had failed two days previously and another scooter had been used to push the broken down scooter several hundred yards.
Outcome(s): An electrical fault on the mobility scooter was believed to have started the fire even though the scooter was not plugged into the charging unit.

Date: 27/02/2010
Fire Authority: Warwickshire FRS
Details: The double fatal fire occurred at 02:58 whilst the occupants were sleeping. The mobility scooter was being stored outside the property and the occupants were awoken by a noise outside. An orange glow could be seen through the front door. On arrival of the FRS the fire was well developed and so intense that fire had spread to the canopy area above the scooter.
Outcome(s): Arson

Date: September 2016
Fire Authority: London Fire Brigade
Details: Attended a fire in a four storey sheltered accommodation block. Five appliances attended the fire
caused by a mobility scooter being charged in a communal area. Preliminary findings indicate a fault within the charging point of the scooter. Three people were led to safety by LFB wearing breathing apparatus with eight people suffering from smoke inhalation.
Appendix 3 - Technical Standards and Other Publications

- **EN7176 – series** - the internationally accepted series of standards that describe the various testing methods for wheelchairs and mobility scooters. Part 16 defines the resistance to ignition of upholstered parts – requirements and test methods.
- **2014/35/EU - Low Voltage Directive**
- **Medical Devices Directive 93/42/EEC** - The Medicines and Healthcare Products Regulatory Authority (MHRA) regulate the implementation of the EC Medical Device Directives in the UK.
- **EN12182 2009**: Assistive products for persons with disability – General requirements and test methods.
- **EN12184 2004**: Electrically powered wheelchairs, scooters and their chargers – Requirements and test methods.
- **EN 60601-1 2006**: Medical electrical equipment Part 1, General requirements for basic safety and essential performance.
- **EN14971 2012**: Medical devices application of risk management to medical devices.
- **EN12814** - Testing of welded joints in thermoplastics semi-finished products
- **MHSWR: 1999**, Management of Health and Safety at Work Regulations
- **ISO 7193:1985**, Wheelchairs — Maximum overall dimensions
- **76/756/EC**, the installation of lighting and light-signalling devices on motor vehicles and their trailers
- **2008/164/EC**, technical specification of interoperability relating to ‘persons with reduced mobility’ in the trans-European conventional and high-speed rail system