

Mobility scooters: be aware of the fire risks

According to new research, storage of mobility scooters in flats and residential accommodation, including care homes, may pose additional fire risks. Martin Shipp explains.

They are vitally important to quality of life for the elderly and physically infirm who rely on them. But new research shows that mobility scooters may be putting lives at risk if parked in corridors or communal space within the care home.

As well as posing a potential obstruction to escape, there is now a clear and increasing body of evidence to show that mobility scooters present a fire risk in themselves, often while charging. When burning, they produce quantities of smoke and heat, exacerbating the spread of the fire and its impact on safe escape.

Fire incidents involving mobility scooters have been hitting the headlines. One story dramatically describes the scooter as having “exploded”. Sadly, there have also been reports of fatal fires. One was caused by a mobility scooter left on charge overnight. Another resulted from an arson attack specifically directed at a machine.

With some 300,000 mobility scooters in Britain, this is likely to be just the tip of the iceberg, especially as we cater for an ageing population.

In response, the BRE Trust and Welwyn Garden City Housing Association have co-funded a project to examine the characteristics of burning mobility scooters.

The data is intended to help managers and decision-makers involved in the care sector as well as social housing to provide an appropriate level of fire safety for residents, with minimal detriment to normal life. It is also assisting designers, fire engineers and fire risk assessors by providing design parameters and allowing an objective assessment to be made of the real fire risks from these machines.

BRE carried out an experiment to measure heat release and smoke production rates from two mobility scooters. They used two machines rated as Class 2 Powered Wheelchairs and Scooters, the type often brought indoors.

Important note: none of the findings should be taken as suggesting that any particular make or model of mobility scooter performs better or worse in fire compared with others.

Following ignition of scooter 1, after 3 minutes ceiling temperatures in the experiment rig had reached 300°C. Within a further 2 minutes, the fire had spread to scooter 2.

After 7 minutes, gas temperatures at ‘ceiling height’ had reached just over 1000°C. By this time, a substantial quantity of smoke was also being produced.

Based on this evidence, it follows that bigger scooters (or a greater number of scooters) are likely to lead to far more severe fires and quantities of smoke.

Clearly, a fire involving mobility scooters, within the confines of a corridor or stairway, will create a substantial risk to occupants. The resulting smoke and heat will make such routes impassable and put at risk any occupants who open their doors.

Where current legislation is concerned, there is no requirement in building regulations to design separate scooter storage, and no specific reference in fire regulations to mobility scooters. However, care providers still face a legal obligation to assess and mitigate the risks under fire regulations for care homes and communal accommodation. These, of course, require escape routes to be kept clear of combustible materials and obstructions.

Of course, new build projects provide a major opportunity to ‘design out’ the risk; by incorporating, for example, separate ‘scooter’ parks and stores away from residential blocks.

But this may not be an option with existing properties.

Depending on internal design and fire safety management, the installation of a fire suppression or sprinkler system within a room identified for scooter storage may be feasible. BRE has recently been commissioned by Lewisham Homes to examine the effectiveness of sprinklers on burning mobility scooters.

Care homes based in older properties, extended over time into complex layouts, may face particular challenges in accommodating scooter storage alongside fire safety needs. By its very nature, elderly care involves a higher concentration of older and infirm residents, and potentially a bigger population of mobility scooters to also house. This brings into sharp focus how crucial it is to ensure escape routes are not impeded by scooters in the way or, worse still, on fire.

What is important is that care home managers are aware of the risks and take action to address them within their fire safety management procedures.

Consult with a fire risk professional or your local fire brigade for advice on assessing your fire risks from mobility scooters. They will help you to ensure suitable mitigation measures are implemented, if required.

ENDS

Martin Shipp is Technical Development Director for Fire Safety at BRE Global Limited

BRE's full report "Heat release and smoke production from burning mobility scooters" can be downloaded free-of-charge here: <http://www.bre.co.uk/filelibrary/Fire%20and%20Security/FI---Trust-Report-Mobility-Scooters-May-15.pdf>

Video of the fire experiment can be viewed at: <http://www.bre.co.uk/page.jsp?id=3667>