



Health and Safety Guidance for Powered (Automatic) Gates and Doors

Purpose

This guidance is specifically applicable to:

- those persons who are responsible for commissioning:
 - the purchase and installation of powered (automatic) gates and doors and/or;
 - the on-going maintenance of powered (automatic) gates and doors.

and;

- those persons who are responsible for ensuring:
 - the 'on-site' safe operation, management and maintenance of powered (automatic) gates and doors.

Introduction

Following a number of incidents involving personal injury and, in some cases, fatalities, the Health and Safety Executive (HSE) has produced safety information concerning powered (automatic) gates and doors. The purpose of this information is to ensure that;

- any hazards in relation to gate design are identified and;
- suitable and sufficient risk assessments are undertaken to ensure any risks are either eliminated or safely controlled (paying particular attention to the force limitation and other anti-crushing, shearing, drawing-in and trapping, protection devices).

Organisations and contractors who design, construct and/or commission the installation of powered (automatic) gates and doors, have specific legislative responsibilities to ensure compliance with all relevant standards, including safeguarding against crushing hazards created by the operation of the gate and/or door.

Definitions

Site Responsible Person – is the person with the overall day-to-day responsibility for the health and safety of that premise/site. This person may be the Premise Representative or Facilities Support Manager for Facilities Management (FM) centralised properties, or the manager at non-FM centralised properties, or Head teacher at a school. The Site Responsible Person may nominate someone ('nominated person') on site to undertake specific tasks in relation to powered (automatic) gate(s) and door(s).

Nominated person - a person who has specific responsibilities assigned to them regarding the safe operation, management and general maintenance of the powered (automatic) gate(s) and door(s).

Design, Construction and Installation

The actions below are applicable to all those who are commissioning contractors to install powered (automatic) gates and doors on WCC sites.

Action required:

1. Ensure that all contractors are sufficiently competent to undertake the work.
 - Competency means that the contractor understands the risks associated with these products and law concerning supply. The competent contractor must ensure they are installed according to the manufacturer's instructions, making checks and adjustments as necessary so they are left safe. (Refer and comply with the [WCC Health and Safety Policy for the Safe Management of Contractors](#)).
2. Prior to installation, obtain from the contractor a site specific risk assessment for the installation of the powered (automatic) gates and doors. This must consider the design of the powered (automatic) gates and doors to ensure consideration has been given to the environment of us, the presence of vulnerable people, potential foreseeable misuse as well as intended use.
3. Obtain from the contractor an EC declaration of conformity/certificate showing adherence to **BS EN 12453:2001**: which is the standard for "Industrial, commercial and garage doors and gates – safety in use of power operated doors" – (see example CE Certificate EC Type Examination Machinery that is included as part of the [user manual](#)). This will demonstrate that the powered (automatic) gates and doors have been manufactured (including when assembled from components in situ) to the safety standards required by law.
4. Obtain from the contractor a "User/Operation Manual/Instructions" and any other relevant documentation to ensure the safe operation and maintenance of the powered (automatic) gates and doors (see example [Heras User Manual](#)).
5. Ensure that a handover meeting takes place and that on site instruction/training is delivered by the contractor to the nominated person on site AND/OR Site Responsible Person, to include:

- a) a demonstration of how the powered (automatic) gate(s) and door(s) works
- b) a demonstration of how the safety devices work
- c) instruction on action to take if the safety devices fail
- d) instruction on action to take if the power fails
- e) instruction on how the release system works
- f) instruction on any other potential defects, where relevant
- g) instruction on any general maintenance checks, where relevant
- h) who to contact for defects, problems, service and maintenance
(these should also be detailed in the User/Operation Manual/Instructions)

Note:-

Where powered (automatic) gates and doors are already installed on site, actions 2- 5 still apply and the Site Responsible Person must ensure that these are actioned. Even where powered (automatic) gates and doors have been installed for a number of years, every endeavour must be made to obtain written confirmation that the gates comply with the required standards – this is likely to be obtained from the installation contractor, the manufacturer or through those commissioned to manage the original project.

There has been a revision of the Standards for Powered Doors, Gates and Barriers. See below:

It is aimed at Architects, designers, manufacturers, suppliers and installers of powered doors, gates and barriers primarily for vehicular use, and those responsible for servicing and maintaining these products in workplaces, car parks and the common areas of shared premises, including residential.

Introduction:

- British/European standards BS EN 12453:2017 concerning the safety requirements and tests for powered doors, gates and barriers primarily for vehicular use, and BS EN 12604:2017 concerning mechanical requirements and tests for the safety of both powered and non-powered versions of these products, have now been published. They are available for purchase online from BSI.
- They replace and supersede in full the 2000/01 versions of these standards which dealt with the same products and issues; these two new standards cover what was previously dealt with in four standards (BS EN 12453, BS EN 12445, BS EN 12604 and BS EN 12605).
- These new standards are a major step forward in helping to define the ‘state of the art’ for all products in scope, especially for the safety related parts of the control system on which these products depend for safety. They maintain the previous requirements for basic strength, stability and testing, including where force limitation is the primary means of delivering safety. The requirement on force limitation is not to exceed the existing force limits (basically 400 N for crushing and 1400 N for impact).
- HSE’s view, however, is that there are aspects of the standards where they do not as yet fully meet the objectives of the Essential Health and Safety Requirements (EHSRs) of the European Machinery Directive 2006/42/EC. This means that compliance alone with the standards will not be enough to meet the requirements of the Supply of Machinery (Safety) Regulations 2008 (SMR08) for either new

products placed on the market, or when first put into service (e.g. in situ manufacture, and powering existing gates).

Background:

- Following two child fatalities which involved powered gates in 2010, HSE carried out a detailed examination of the suite of British/European standards then available to support the design and construction of powered doors, gates, barriers etc (see the related previous [safety alerts](#)) HSE concluded that collectively the standards failed in a number of areas to adequately support the EHSRs of the Machinery Directive.
- The Directive, which has been implemented into UK law for well over 20 years by SMR08, applies to all machinery, which includes powered doors, gates and barriers, when newly placed on the market, or when first put into service (eg when made in situ, or existing manual gates are 'motorised').
- The UK launched its *Formal Objection* to the standards in December 2010, as permitted by Article 10 of the Machinery Directive.
- The European Commission considered the objection and agreed with the UK that the key standards did not entirely satisfy the EHSRs of the Machinery Directive. Its decision was confirmed and published by two Decisions which were made publicly available in 2015. Additionally, warnings were placed against the entries for EN 12635 and EN 13241-1 in the list of standards harmonised under the Machinery Directive in the official Journal of the European Union, in effect removing the 'presumption of conformity' that they previously gave.
- Removing this presumption of conformity does not prevent manufacturers and installers of these products complying with the Directive/UK Regulations. Rather it means that manufacturers/installers who choose to use these standards can no longer simply rely on complying with the standards to meet all of the requirements of the Directive/UK Regulations.
- Regulation 7(1) of SMR08 requires all machinery such as powered doors, gates and barriers to be safe. It is the duty of the person responsible for the design, construction and placing on the market/putting into service of the machinery to ensure this. Others then have the ongoing [responsibility](#) to keep the product safe through its lifetime of use, which includes ensuring non-employed persons are not endangered by the equipment (see below for link to FAQs).

Action required:

- The new standards are not "harmonised". This means that manufacturers (and installers, who often 'put into service' a new machine made in situ), must continue to show through a detailed technical file for each product how it has been designed and constructed to meet the safety objectives of the legislation. This must be undertaken before the CE marking is applied and the product is made available to the end user, together with comprehensive User/Maintenance Instructions, and a Declaration of Conformity, which must be made out in the name of the person responsible for the product's conformity.
- While these new revised standards can help define the 'state of the art' which must be reached, in all cases a thorough assessment of risk must be undertaken which fully considers the unique environment of use, the presence of and use by any vulnerable person, and all hazards arising from use, and foreseeable misuse, such as riding on the door or gate.

- Design measures (to avoid risk, eg from hinge areas, collapse/falling over) and protective measures (guarding, fencing, safety edges, presence detection, etc) must be implemented during construction, taking into account the presence of any vulnerable populations such as children and those with reduced mobility or other disabilities, and any foreseeable misuse that may arise (such as playing on or near such equipment, or anyone rushing through gaps). You cannot rely on warnings alone to manage significant risks, although they may have their place in some circumstances.
- Where force limitation is the primary means of safety, impact and crushing forces should be as low as possible (the standards give maximum levels), and verified by testing post installation.
- Where the technology permits, the check of the safety function should take place before each movement. This is very important where vulnerable populations are at risk, as even one failure could result in serious or fatal injury from crush/entrapment.
- Effective measures should be taken to detect any failure in the means of suspension of vertically moving doors, preferably stopping further use (unintended movement beyond 300 mm should be prevented), so that action can be taken before any catastrophic failure.
- The existing harmonised standard BS EN 12978:2003+A1:2009 on safety devices for power operated doors and gates gives specific requirements to support the safe design of these products (Note: a revision of this standard is expected in 2019).
- Although these standards are not intended for retrospective application, many existing powered doors, gates and barriers may not be as safe as they should be (some did not meet the previous standards or requirements for safety when originally supplied), so they can be used to support the re-assessment and any necessary upgrades to make existing products safer for continued use.
- All readers are advised to consider the other available information and the existing Safety Bulletins published by HSE on these products.

Relevant legal documents and guidance:

- The Supply of Machinery (Safety) Regulations 2008 (SMR08), which implement Directive 2006/42/EC on Machinery (*Note: these replaced the previous 1992 UK regulations, which implemented earlier versions of the Machinery Directive, and have required the same standards of health and safety for all new machinery since January 1995*).
- The Workplace (Health, Safety and Welfare) Regulations 1992, especially Regulations 5 (maintain workplace equipment and systems) and 18 (on safety of doors, etc)
- The Health and Safety at Work etc Act 1974, especially Section 3 the duty towards the safety on non-employed persons (eg the public and visitors) arising out of the way an undertaking is conducted (also applies to landlords and managing agents).
- New [guidance](#) produced by the Gate Safe charity

On Site Management and Maintenance

The Site Responsible Person, where powered (automatic) gates and doors exist, has the responsibility to establish a regime that ensures that the following action is taken.

Action required:

1. Identify and appoint a nominated person that will have direct responsibility for the safe operation, management and general maintenance of the powered (automatic) gates and doors; ensuring that they have received adequate and appropriate instruction and training to enable them to fulfil their required responsibilities.
2. Keep written records of operational checks (inspection) by the nominated person; these checks are to be undertaken at a frequency not exceeding one month, or as specified in the User/Operation Manual/Instruction. As a minimum, these checks are to include the following;
 - a) general inspection/testing of the powered (automatic) gates and doors to ensure they are functioning correctly
 - b) inspection of safety devices to ensure that they are undamaged, adjusted and working correctly
 - c) inspection of the vehicle protection device
 - d) inspection of any other specific force limitation protection device and/or anti-crushing, shearing and trapping safety protection devices
 - e) check that the release systems are working correctly and;
 - f) any other operational and maintenance checks required as specified by the User/Operational Manual/Instruction
3. Undertake a written risk assessment to record and demonstrate that all of the above requirements have been implemented and risks controlled sufficiently considering employees and non-employees. This risk assessment needs to be reviewed annually or sooner if the powered (automatic) gates and doors or the operational practice changes in any way or if an incident occurs that requires a review.

To assist in this process, a Generic Risk Assessment has been produced for use as a guide. If used, this assessment will need to be adapted to relate to the specific design and site operation processes for the specific powered (automatic) gates and doors in question (see [Example Generic Risk Assessment](#)).
4. Ensure that there are written emergency arrangements, systems and release mechanisms that are quickly and easily accessible to ensure that a person can be released promptly should a crushing, shearing or drawing-in incident occur. These arrangements must be appropriately communicated to all relevant persons.
5. Where required, provide appropriate signage which gives clear instructions on the safe operation of the powered (automatic) gates and doors and what action to take in the case of an emergency.
6. If concerns are identified as per action 2, immediately take the powered (automatic) gates and doors out of use until all of the safety concerns have been adequately addressed. Raise any concerns via Hotline.
7. Ensure the annual service of the powered (automatic) gates and doors is undertaken.