AUTOMATIC SWING DOORS COMPLIANCE - OVERVIEW

Automatic swing door installations must comply with the criteria set out in the following standards

BS EN 16005:2012 Power operated pedestrian door sets - Safety in use - Requirements and test methods.

BS 7036-0:2014 Power operated pedestrian door sets - Safety in use | Part 0: Code of practice for risk assessment and risk reduction.

Compliance with the standards at installation and thereafter will ensure the safe operation of power operated pedestrian door sets. The entire installation must be maintained according to the Manufacturer's specification but no less frequently than annually. The regularity of service/maintenance visits is determined by the Manufacturer based on anticipated traffic profiles. The Manufacturer is normally the installation company since they put together a number of diverse components to build the machine.

In the powered pedestrian door industry, a complete machine may comprise the following components (amongst others):

- Door/Frame & Associated Ironmongery
- Powered Drive Unit
- Activation Devices (Actuators, Switches, Key Switches, RF Fobs/Receivers, Motion Detectors)
- Safety Sensors
- Barriers & Pocket Screens
- Finger Guards

BS EN 16005:2012 states it is the Building Owner's (or Occupier's) responsibility to ensure recommended service/maintenance visits are carried out and any subsequent work completed is recorded in the log book provided by the Manufacturer at installation/commissioning. Additionally, the Building Owner (or Occupier) must complete their own regular risk assessments and daily visual inspections of all machines under their jurisdiction.

Concise and simple maintenance instructions shall be made available to the Building Owner (or Occupier) highlighting those routines that may be undertaken without specific competence (see below). Additional necessary maintenance routines (also contained in these instructions and clearly highlighted as such) are to be carried out by an Authorized Technician familiar with the installed components and qualified in all necessary areas for site work of this nature.

ADSA Authorized Technicians carry an industry ID card to show they have completed the ADSA (Automatic Door Suppliers Association) competency exam.

Relcross Door Controls recommends the ADSA route as the best way to ensure competency although other agencies exist.

AUTOMATIC SWING DOORS COMPLIANCE – MAINTENANCE ROUTINES & RESPONSIBILITIES

1. This Manual (Log Book) is to be retained by the Building Owner (or Occupier). Careful compliance with the contents will ensure the safe and reliable operation of all automated swing door installations mentioned herein. Safety is ensured only if inspection and maintenance routines are carried out in accordance with this Manual (Log Book).

2. This Manual (Log Book) is evidence of correct installation and compliance with *BS EN 16005:2012 Power operated pedestrian door sets - Safety in use - Requirements and test methods.* Additionally, this Manual (Log Book) is evidence of the correct risk assessment and risk reduction process* per *BS 7036-0:2014 Power operated pedestrian door sets - Safety in use | Part 0: Code of practice for risk assessment and risk reduction.*

*Having been carried out by an Authorized Technician prior to installation

3. IMPORTANT - All repairs, replacements and adjustments must be carried out by qualified personnel (Authorized Technician to BS EN 16005), as appropriate, in a timely manner.

4. This Manual (Log Book), when used with the 'Authorized Technician's Check Sheet' provides a detailed record of all door maintenance activity.

SERVICE & MAINTENANCE (INCLUDING GUIDANCE ON SAFETY & LEGISLATION FOR AUTO DOORS)

Regular servicing and maintenance of automatic swing doors ensures continuity and free movement within the building, reduces break-downs, prevents avoidable accidents and saves money in the long run.

Building Owners (and Occupiers) have legal responsibilities for Health & Safety generally and in particular at 'accessible' doors where automatic swing door operators are installed.

The following pieces of legislation are relevant when considering legal responsibilities in respect of the proper maintenance of all doors in a commercial environment (whether automated or manual). These regulations are binding on the Building Owner (or Occupier) who has a duty to safeguard the health and safety of all employees and other persons on or adjacent to their premises.

Health & Safety Executive (HSE) Defines:

- All doors as part of the workplace
- Powered doors as 'Work Equipment' and 'Machinery'
- Fire doors as 'Fire Fighting Equipment'

NB – A person or persons can be convicted if found to contravene, in particular, the following legislation:

Regulation 5 of the Workplace (Health, Safety and Welfare) Regulations 1992

Extract: '… the equipment devices and systems to which this regulation applies shall be subject to a suitable system of maintenance.'

This applies to all doors in a commercial environment (whether automated or manual).

Regulation 5 of the Provision & Use of Work Equipment Regulations 1998 (PUWER)

Extract A: 'Every employer should ensure that work equipment is maintained in an efficient state, in efficient working order and in good repair.'

Extract B: 'Every employer should ensure that where any machinery has a maintenance log, the log is kept up to date.'

The most important aspect of safety in use for powered pedestrian doors is that they are classified as machines under the Machinery Directive. The Machinery Directive is mandatory and compliance must be proven for both safety in use and maintenance. Non-compliance can mean severe fines and/or imprisonment in exceptional cases, especially where negligence is proven.

Accidents will be investigated by 'The Health and Safety Executive'. The HSE is a UK government agency responsible for the encouragement, regulation and enforcement of workplace health, safety and welfare, and for research into occupational risks in Great Britain. The HSE will be the primary body investigating accidents involving powered pedestrian doors. They will draw upon all relevant documentation providing guidance on how to show compliance in terms of 'safety in use'; namely

- *BS EN 16005:2012 Power operated pedestrian door sets - Safety in use - Requirements and test methods*
- *BS 7036-0:2014 Power operated pedestrian door sets - Safety in use | Part 0: Code of practice for risk assessment and risk reduction.*

Regulatory Reform (Fire Safety) Order 2005

This extract applies to all Fire & Life Safety Doors (Fire Compartmentation Doors and Doors on Escape Routes)

Extract: '… Where necessary in order to safeguard the safety of relevant persons the responsible person must ensure that the premises and any facilities, equipment and devices provided in respect of the premises under this Order or, subject to paragraph (6), under any other enactment, including any enactment repealed or revoked by this Order, are subject to a suitable system of maintenance and are maintained in an efficient state, in efficient working order and in good repair.'

All 'Services Engineers' (Authorized Technicians) must be trained to comply with the standards and requirements outlined in this document. The best way to ensure qualification is to become ADSA BS EN Standards Qualified.

It is the Building Owner's (or Occupier's) responsibility to ensure all fire doors and escape doors are well maintained and in good working order. Fire compartmentation doors are an essential part of a building's passive fire protection - resisting the spread of fire and smoke whilst protecting escape routes. Fire doors must close in the event of fire and will be equipped with self-closing devices, usually overhead closers. Where this is not the case, fire doors must be kept locked shut. Appropriate signage will indicate the purpose and required status of this type of door. Doors which are kept locked shut must not be on escape routes and will be invariably doors to cupboards, store rooms or similar.

Escape doors provide safe unhindered egress from buildings in the event of an emergency. Escape doors are not always fire compartmentation doors. Where this is so they should not be referred to as fire doors but as escape doors or emergency exit doors. All escape doors, irrespective of their location or desired security levels, must be 'free from fixings' – easily openable by all persons without the use of a key.

Planned maintenance routines are essential to the continued safe performance of both fire compartmentation doors and escape route doors.

Equality Act 2010

The concept of universal access is not new but it still provides a challenge for the construction industry.

BS8300 'Design of buildings and their approaches to meet the needs of disabled people' and the Building Regulations (Approved Document M – 'Access to and use of buildings') continue to be the areas by which conformity is measured.

In summary The Equality Act requires service providers to make 'reasonable adjustments to the physical features of their premises to overcome barriers to access.'

PRE-INSTALLATION SITE SURVEY & RISK ASSESSMENT CHECK SHEET (AUTOMATED SWING DOORS)

It is the responsibility of the installer* to ensure compliance with the requirements of BS EN 16005:2012. A risk assessment must be completed and recorded for each door prior to installation.

*The installer must be an Authorized Technician as recognized by ADSA or similar.

Pre-installation Site Survey

Doors, Frames & Headers

Headers must be suitably reinforced to accommodate an automatic operator. Automatic operators exert significant forces during operation – plaster board and batons will not suffice.

Doors must be free swinging and squarely hung on a minimum of three ball race hinges (or similar) which are certified suitable for the door size and mass.

Doors should not exceed the parameters set out by the Manufacturer for the Automatic Door Operator –

Operator Model & Arm Configuration	
Door Width Must Not Exceed	
Door Mass Must Not Exceed	

Only toughened or laminated glazing is permissible. Georgian wired glass and float glass is outlawed for all automated doors.

Electrical Guidance

Each installation will require a switchable, fused mains spur adjacent to the door, approximately 150mm above the pivot point at the operator side of the door.

Supply installations shall be compliant with BS7671 requirements for electrical installations. IEE Wiring Regulations, 18th Edition.

Electrical supply installations must include an easily accessible supply disconnection device for safe isolation during maintenance or repair work.

Location of Control Devices

Establish a location for control elements such as key switches and stop buttons.

Prevent the possibility of inadvertent operation & tampering.

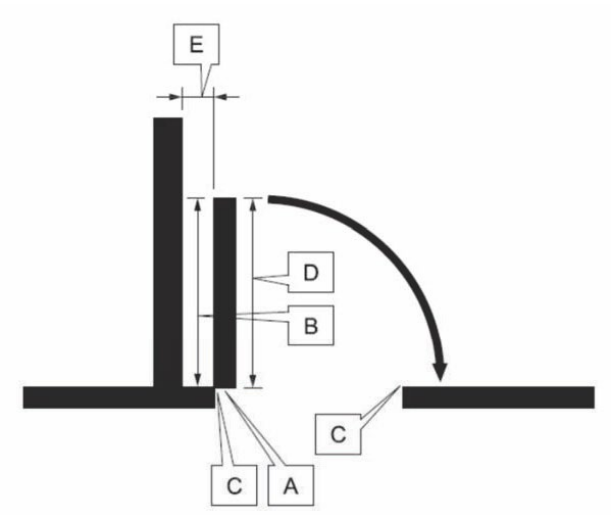
Ensure controls are easily accessible.

RISK ASSESSMENT CHECK SHEET (complete one sheet per door set)

Check the expected traffic profile with the Building Owner (or Occupier) before undertaking the risk assessment.

Where a significant number of users will be elderly, infirm, disabled persons or young children – for this type of user any contact with the door during an automated sequence is considered to be HIGH RISK and therefore unacceptable.

Risk Category	Default Specification
HIGH	Powered Pedestrian Swing Door Requiring Full Safety
LOW	Low Energy Swing Door



Location	Hazard
A	Drawing In
B	Impact
C	Shearing
D	Impact
E	Crushing

ESPE – electro-sensitive protective equipment

PSPE – pressure-sensitive protective equipment

Tick chosen protective measures.

Location	Hazard	Guards or hinge design	Barriers	Limitation of leaf forces	ESPE or PSPE	Safety distances	Low energy movement	Signage
A	Drawing in	■						
B	Impact		■		■			
C	Shearing	■			■			
D	Impact				■			
E	Crushing			■	■	■		

NOTES for risk category HIGH:

1. Highlighted boxes denote protective options
2. Locations B, C & D use ESPE only (not PSPE)

Safety glass	Activation distance	Escape door	Fail safe system	Breakout system

Door Location _____ Name of Assessor _____ Date __/__/__

DAILY MAINTENANCE ROUTINE FOR BUILDING OWNERS (OR OCCUPIERS) – POWER OPERATED PEDESTRIAN DOOR SETS

SWING DOOR ACTIVATION & SAFETY CHECKS

Activation: (Door Sets Fitted w. Microwave Motion Detectors or Similar Motion Sensing Devices)

1. When a swing door set opens away from the user, at normal walking pace an automated sequence should be triggered a minimum of 1000mm in front of the closed plane of the door set, across its entire width.
2. When a swing door set (on an escape route) opens away from the user, at normal walking pace an automated sequence should be triggered a minimum of 1500mm in front of the closed plane of the door set, across its entire width.
3. When a swing door set opens towards the user, at normal walking pace an automated sequence should be triggered a minimum of 1000mm in front of the leading edge of the door set, when the door set is fully open.

On Door Safety: Door Sets Fitted w. Infra-Red Presence Sensors or Similar Presence Sensing Devices

1. Closing Cycle – using the field test box* (700mm x 300mm x 200mm). Trigger an automated sequence and with the door fully ajar place the field test box upright in protected area. The door will start to close and the field test box will be detected. The door leaf will stop before it touches the field test box and reverse (re-open).
2. Opening Cycle - using the field test box* (700mm x 300mm x 200mm). With the door closed place the field test box upright in protected area. Trigger an automated sequence. The door leaf will remain closed or will stop before it touches the field test box.

**BS EN 16005:2012 Power operated pedestrian door sets - Safety in use - Requirements and test methods, Annex C (normative) Tests for Protective Device*