DHF Introduction

The Door and Hardware Federation can trace its roots right back to 1897 in the Association of Building Hardware Manufacturers.

The federation now represents;

- Powered gate
- Industrial door
- Garage door
- Pedestrian door
- Building hardware

With separate groups serving each of the industry sectors, it is an independent not for profit organisation so all funds are directed to serving the relevant sectors.

The Powered Gate Group was set up in 2010 with encouragement from HSE after two young children were killed in powered gate accidents in the same week. The group comprises the premier gate automation manufacturers, distributors, fabricators and installers.

Powered Gate Group Milestones

2010 – Powered gates discussed in garage door meeting

2011 – Powered Gate Group formed

2012 – DHF gate safety guide published

2013 – Powered Gate Safety Diploma Launched

2014 – Full Time Training Officer appointed

2014 – Gate Safety Week launched

2015 – Code of practice project underway

2016 – Code of practice pilot audits commenced

Gate Related Major Incidents

Adult death – Strabane 2005 – Sliding gate, crush
Adult death – Braithwell 2005 – Sliding gate, structural failure
Child death – Poole 2006 – Swing gate, hinge gap crush
Adult Death – Cheltenham 2009 – Traffic barrier crush
Child injury – Bournemouth 2010 – Swing gate, hinge gap crush
Child death – Manchester 2010 – Sliding gate, crush
Child death – Bridgend 2010 – Sliding gate, crush
Child injury – Manchester 2010 – Swing gate, main edge crush
Child injury – Dudley 2010 – Swing gate, main edge crush
Child injury – Manchester 2011 – Swing gate, main edge crush
Child injury – Manchester 2012 – Sliding gate, support frame draw-in
Adult death – Newport 2012 – Swing gate, structural failure
Child injury – London 2012 – Sliding gate, structural failure
Adult death – Norfolk 2013 –Sliding gate, structural failure
Child injury – Caerphilly 2014 – Telescopic gate, structural failure
Adult death – Limerick 2015 – Sliding gate, crush
Child injury – London 2015 – Swing gate, structural failure
New cases are still being reported……..

2006 Child Death

Died in the hinge gap of this gate, the gap reduced as the gate moved.
Any reducing gap constitutes a crush hazard and must be eliminated, guarded or controlled.

Jason Keet 9

Gate company prosecuted and fined £80K

2009 Adult Death

Daily Mail, Thursday, April 2, 2009 c1

Killed by the car park barrier as she left hospital

By **Andy Dolan**

A PENSIONER died after she was struck on the head by a car park barrier as she left a hospital.

Anne Evans climbed out of her husband's car to pay at a ticket

Settled by an undisclosed sum in a civil action.

2010 Child Death

Karolina Golabeck 5

Crushed against the closing post of this relatively small sliding gate, there was a perfectly functioning photo beam but insufficient force limitation.

The last company to repair the gate, and the last company to maintain the gate were prosecuted and together paid fines and costs totalling £190,000.

2012 Child Injury

In 2012 a young child was carried into the gap between the sliding gate leaf and a supporting pillar, and sustained serious internal injuries which required surgery.

The fully functional safe edge fitted on the support pillar failed to prevent this.

Although no criminal charges were made, the company who had fitted the safe edges ended up paying for the HSE investigation to the tune of around £10K.

2013 Adult Death

Jill Lunn 57 was killed only months after this gate was installed when it became detached an fell on her.

The installation company, one of their installers and a director have been charged…….

In the UK, everyone is considered innocent until proven guilty in a court of law, we await the outcome.

2015 Adult Death

Adult crushed at the leading edge against the closing post. There was a perfectly functioning photo beam protecting the gate

An investigation continues in Ireland ……

The Problem

The point about these incidents is that the companies and individuals concerned were not aware that they were operating in a way that was at all;

- Dangerous
- Illegal

There are thought to be around 500,000 powered gates and barriers in the UK and best estimates indicate that less than 1/3 of those are in a condition that would avoid incidents like those highlighted here today.

List of Applicable Criminal Law

Supply of Machinery (Safety) Regulations

(Machinery Directive)

Electrical Equipment (Safety) Regulations

(Low Voltage Directive)

Electro Magnetic Compatibility (Safety) Regulations

(EMC Directive)

Workplace (Health Safety and Welfare) Regulations

Health and Safety at Work Act

Electricity at Work Regulations

Building Regulations

Construction Design and Management Regulations

Radio Equipment and Telecoms Terminal Equipment Regulations

(Radio Equipment Directive)

Civil law also applies …….

Machinery Law

Regulation	Who is responsible?	Requirement
Supply of Machinery (Safety) Regulations 2008 bring the: **Machinery Directive 2006/42/EC** into UK law. *Requires that account must be taken of the "state of the art" **(Standards)***	The manufacturer of the powered gate/barrier is responsible for compliance. This will be the installer when the gate is an assembly components from multiple sources, or when an existing gate is automated on site. • ***Installer*** • ***Manufacturer***	The gate/barrier must be safe when first supplied or put into service. A **risk assessment** must be conducted to **identify all possible hazards**, which **Essential Health and Safety Requirements** apply and how they are to be addressed. The manufacturer must issue a **Declaration of Conformity** and apply a **CE Mark**

The List of Applicable Essential Health & Safety Requirements

1. **Foreseeable misuse**
1.1.2. Principles of safety integration
1.1.3. Materials & products
1.1.5. Design of gates to facilitate handling
1.2.1. Safety & reliability of control systems
1.2.2. Control devices
1.2.3. Starting
1.2.4. Stopping
1.2.5. Mode selection
1.2.6. Failure of power supply
1.3.1. Stability of foundations
1.3.2. Risks of break up during operation
1.3.4. Risks due to surfaces, edges or angles
1.3.5. Risks related to combined machinery
1.3.6. Risks related to variations in operating conditions
1.3.7. Risks related to moving parts
1.3.8. Choice of protection against risks from moving parts
1.3.9. Risks of uncontrolled movements
1.4.1. General requirements for guards
1.4.2.1. Special requirements for fixed guards
1.4.3. Special requirements for protective devices
1.5.1. Electricity
1.5.4. Errors of installation
1.5.14. Risk of being trapped
1.5.15. Risk of slipping, tripping or falling
1.6.1. Machinery maintenance
1.6.2. Access to servicing points
1.6.3. Isolation of energy sources
1.7.1. Information
1.7.1.2. Warning devices
1.7.2. Warnings
1.7.3. Markings
1.7.4. Instructions

UK Health and Safety Law

Regulation	Who is responsible?	Requirement
Health and Safety at Work Act 1974	Any employer, employee or self-employed person when carrying out their work. • ***Manufacturer*** • ***Installer/manufacturer*** • ***Maintainer*** • ***Repairer*** • ***Modifier***	**Section 3** requires "work" to be carried out so as to ensure the safety of anyone who is not an employee. **Section 7** requires employees to take reasonable care for the health and safety of themselves or other persons who may be affected by their acts or omissions at work.

In all cases safe means applying the "state of the art" and taking all reasonable and practicable steps (use of standards)

Electrical Safety Law

Regulation	Who is responsible?	Requirement
Electricity at Work Regulations 1989 **Building Regulations** Part P in England and Wales, section 5.6 in Scotland.	Any employer, employee or self-employed person when carrying out their work, to the extent that they have control of electrical systems e.g. • ***Installer***	**Reg. 4** requires electrical systems to be constructed and maintained so as to prevent danger from electric shock, fire, etc. *In practice this means that the supply will need to comply with **BS 7671** and the remainder must comply with **EN 60204-1** which have equal requirements for electrical safety.*

Electrical competence is required on both sides of the supply terminals …….

List of Applicable Standards

EN 13241-1	**Harmonised product standard**
EN 12453	Safety in use (powered gates, doors & barriers)
EN 12445	Test methods (for 12453)
EN 12604	Mechanical aspects (manual and powered)
EN 12605	Test methods (for 12604)
EN 12978	Safety devices (gates, doors and barriers)
EN 954-1	Safety device test categories
EN 12635	Documentation
EN 954	Anti crush safety distances (machines)
EN ISO 13849-1	Control system safety (machines)
EN 1760-2	Safe edge performance
EN ISO 13857	Guards and fencing (machines)
EN 60335-1	Drive units (general)
EN 60335-2-103	Drive units (gates and doors)
BS 6180	Fencing and railings (buildings)
EN 60204-1	Electrical wiring (machine)
BS 7671	Electrical wiring (supply)

All contain sub references to other standards…….

The Cause

The criminal law is complicated and made up of at least 9 differing pieces of criminal legislation.

The way to achieve safety and hence comply with the law, is to apply the information contained in perhaps 30 or more differing UK and European standards.

The standards themselves are complex and often confusing because they apply to differing products and areas and make continual references to other standards;

- Powered gates, barriers, industrial doors, garage doors
- Electrical safety
- Machine guarding
- Safety system integration and control system integrity

The European commission declared in July 2015 that the Harmonized Standard EN 13241-1, does not adequately address two of the Machinery Directive Essential Health and Safety Requirements

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HSE Inspector Quote Following a Powered Gate Death Investigation

The prime function of identifying the responsibilities of duty holders is not to hold them accountable when things go wrong, but to ensure things don't go wrong in the first place

Don't think ….

- What do I need to do to avoid prosecution?

But ….

- What do I need to do to ensure the installation is safe?

Stuart Charles HSE 2014

The Solution

DHF have generated a Code of Practice exclusively targeting powered gates and traffic barriers that clarifies all the confusion and complexity. DHF can offer all the consultation and training needed to understand powered gate and barrier safety.

- **TS-011 Powered Gate and Traffic Barrier C.O.P.**
- **DHF Powered Gate Safety Diploma**

It is proposed that the code will be publicly available and will become *the* industry reference document setting the benchmark for powered gate and barrier safety for both client and installer/manufacturer alike.

Numerous FM providers and Housing Associations have shown interest already.

DHF and NSI are at IFSEC

DHF can be found at stand C1810 to discuss Powered Gate safety, DHF membership and Code of Practice TS - 011 – Installation, Repair and Maintenance of Powered Gates and Traffic Barriers.

NSI can be found at stand B1050 to discuss 3rd party independent audit services against the DHF TS - 011 code of practice.