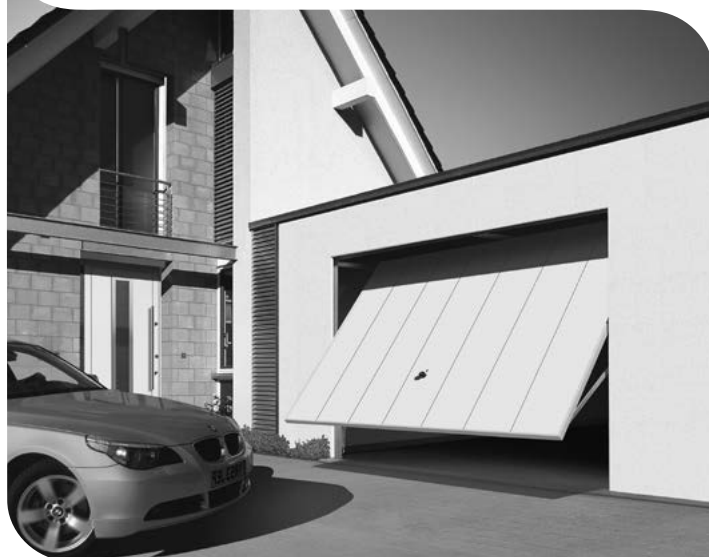


Domestic Garage Doors

Guidance for enforcement bodies



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About **dhf**

dhf represents the key manufacturers and installers of domestic garage doors, industrial, commercial and, automated gates, manufacturers of locks, building hardware and architectural ironmongery.

dhf is a long established and well respected not-for-profit trade association that can trace its roots back to 1897.

dhf provides professionals in all sectors of the building industry with a single source for technical expertise, information, knowledge, advice and practical help. **dhf** actively helps its members comply with the latest CE marking legislation and other health & safety and compliance issues.

With the ultimate aim of maintaining and raising quality standards throughout the industry, all **dhf** members must meet the Federation's Quality Assured standards of competence and customer service.

The federation, which continues to grow in size and influence, has six specialist groups looking after the interests of key players involved in:

1. Domestic garage doors
 2. Industrial doors & rolling shutters
 3. Automated gates & barriers
 4. Metal doorsets
 5. Timber doorsets
 6. Building hardware
-

Applicable legislation & standards

There are six pieces of legislation that apply most directly to the supply and installation of industrial doors. The first two pieces of legislation apply concurrently and have their origins in Europe. They relate to CE marking and product safety. The remaining pieces of legislation apply to building design, electrical safety, repair and maintenance.

1. **Construction Products Regulation 2011 (all doors)**
EU/305/2011
2. **Supply of Machinery (Safety) Regulations 2008 (all powered doors)**
Brings the Machinery Directive 2006/42/EC into UK law
3. **Building Regulations**
Building Regulations Part K6 (England)
Building Regulations Part K5 (Wales)
Building Standards 4.5 & 4.8 in Scotland
4. **Workplace Regulations 1992**
5. **Health and Safety at Work Act 1974**
6. **Electricity at Work Regulations 1989 (all powered doors)**

In addition, there are various other pieces of Health and Safety Legislation that must be taken into account during the installation, service and repair process.

The Construction Products Regulation 2011 (CPR)

Applies to any construction product that has a harmonised European Standard attributable to it when it is placed on the market within the EU and applies equally to powered and manual doors (Article 1&2). Industrial and domestic garage doors are covered by the harmonised standard EN 13241-1:2003+A1:2011. The requirements of the Construction Products Regulation came into force across the EU in July 2013.

Placing on the market means:

- When a door manufactured within the EU is supplied within the EU
- When a door imported into the EU is supplied within the EU
- When a door assembled from components, either by a distributor or an installer, is supplied within the EU

Essential characteristics

The regulations require compliance with the essential characteristics in the relevant harmonised standard. In EN 13241-1:2003+A1:2011 these are found in Annex ZA of the standard. (Article 3&17)

Under CPR, the requirements of these essential characteristics must be tested to verify performance related to health, safety and environmental impact of the product. The testing process is referred to

as Initial Type Testing (ITT). Just how the testing and recording of the tests is to be done is laid out in the harmonised standard. For industrial and domestic garage doors, the properties that must be verified are as follows:

EN 13241-1:2003+A1:2011 Annex ZA

1. Water tightness
2. Dangerous substances
3. Resistance to wind load¹
4. Thermal resistance
5. Air permeability
6. Safe opening² of vertical doors
7. Definition of geometry of any glass components³
8. Mechanical resistance and stability⁴
9. Operating forces⁵ for powered doors
10. Durability of water tightness, thermal resistance, and air permeability against degradation

1 Resistance to wind load means that the door must be tested to ascertain what wind pressure it can safely withstand.

2 Safe Opening means that the door has a means of preventing the door dropping and if any one element of the suspension system fails, that the door will be held in a controlled and safe manner.

3 Definition of geometry of any glass components means only toughened or laminated glass, no plate or wired glass permitted. No sharp splinters or cutting edges are allowed in the event of breakage.


4 Mechanical resistance and stability means that the door and its components, including its fixings to the building, shall be designed so that they will not become deformed or fail in normal use. This also requires the manufacturer to provide comprehensive instructions for assembly and for fixing to load-bearing structures.

5 Operating Forces only applies to powered doors and requires that the door will only exert safe levels of force on encountering an obstacle. The limits are less than 400N, reducing to 150N within 0.75 seconds and reducing further to less than 25N within 5 seconds. Testing is required to verify these forces.

The testing of essential characteristics must be completed by a European Commission approved notified test laboratory test facility who will issue a test report. This report must be retained in a technical file by the person responsible for compliance and used to create a Declaration of Performance document that should be made available with the door. The door should be CE marked as per the example mark overleaf by the person or company responsible for compliance (Articles 7, 8, 9 & EN 13241-1:2003+A1:2011 Annex ZA).

Example CE label (new powered door)

Where the Machinery Directive applies in tandem with the Construction Products Regulation (new powered doors), there is no need for two CE labels - a reference to 2006/42/EC is made to cover this aspect. Manual doors will not require a reference to 2006/42/EC and will not include a reference to operating forces. More details of testing and test evidence, together with a sample Declaration of Performance, can be found in Annex A at the end of this document.

		14 (year of manufacture) XWZ Door Co. Anytown AN1 3TN 305/2011 (CPR) 2006/42/EC (SMR) XWZ M005 (serial or model number)
Essential characteristics	Declared performance	Harmonised standard
Dangerous substances	None	EN 13241-1:2003 + A1:2011
Resistance to wind load	Class 3	
Safe opening	Pass	
Definition of geometry of glass components	Pass	
Mechanical resistance and stability	Pass	
Operating Forces	Pass	
Type testing by	PDQ Labs 9913	
Intended use	Domestic garage door	

Supply of Machinery (Safety) Regulations 2008

Brings the European Machinery Directive 2006/42/EC into UK law


Applies to any powered door when it is placed on the market or put into service. Responsibility for compliance lies with the manufacturer of the door who could be (Clause 3):

- The manufacturer of a complete door kit
- The distributor of a complete door kit
- The installer of a door built from components supplied by multiple suppliers
- The installer who applies a drive unit to an existing manual door

The requirement is that the door is safe when supplied or put into service and must comply with the Essential Health and Safety Requirements of the regulations. It must be accompanied by a Declaration of Conformity and be CE marked under 2006/42/EC Machinery Directive. The current regulations replaced the 1992 regulations in 2009 with very little impact on the requirements for safety.

The manufacture is required to keep a technical file for evidence of compliance (Clause 7).

Example CE label (retrospectively automated existing door)

	14 XWZ Door Co. Anytown AN1 3TN 2006/42/EC XWZ 005
--	--

Compliance with SMR 2008 can be demonstrated by complying with EN 13241-1:2003+A1:2011 as this standard is harmonised under the Machinery Directive (Clause 11).

EN 13241-1:2003+A1:2011 refers to EN 12453 for requirements for safety.

EN 12453 requires that operating forces are safe for users and offers four possible methods of achieving this:

1. Hold to run

Hold to run means that the safety of the door is provided by the user, who has to keep constant pressure on a switch. The door will stop when the switch is released. The switch **MUST** be fixed in a position that ensures that it can only be used in sight of the door.

2. Inherent obstacle detection

Inherent obstacle detection means that an intelligent drive unit has been used which can physically sense when the door encounters an obstruction and causes the door to retract.

3. Provision of a "safety edge"

Provision of a safety edge means that there will be a rubber contact strip provided along the bottom edge of the door that will switch on contact and cause the door to retract to prevent injury or damage. Please note that not all rubber strips are safety edges, some are simply a weatherseal.

4. Light or radar curtaining

Light or radar curtaining technology sets up a complete beam curtain that will prevent all possible access to all hazardous movement of the door/gate. This technology may be used to control crush, impact, shear and draw-in hazards.

NOTE: A light curtain should not be confused with a single fixed photo beam. A single fixed photo beam is an enhancement device required to complement option 2 or 3 when the risk level is heightened; for instance, when it opens directly onto the street or when automatic closing is used.

Single beam photo cells alone are not an adequate safety measure because they are too easy to defeat by leaning or standing over the beam.



Draw in hazards

EN 12453 also requires that draw in hazards are addressed when they exist at less than 2.5 m above ground level. The most common occurrence of this is where the roll of a rolling shutter door is exposed. The standard does not allow this type of hazard to be protected by means of limitation of force and requires the use of a guard, this typically comes in the form of a protective hood or enclosure for the door head gear.

Balancing and anti-fall back

EN 13241-1:2003+A1:2011 additionally refers to EN 12604 for protection of other mechanical hazards associated with both powered and manual doors - the main one of which is the requirement for a vertically moving door to be balanced such that it will remain in place wherever it is brought to a stop and that, in the event of any one component in the balancing system failing, a safety device will prevent further out of balance movement. In practice, this means that either there will be dual balancing springs or that there will be a fall back device fitted. The door should be fabricated and assembled such that, in normal use, foreseeable misuse or deployment of a safety device the door will not become deformed or suffer structural failure.

Building Regulations

The regulations apply to electrical works in and about dwellings.

The regulations require that anyone carrying out electrical installation work in a dwelling must make sure that the work is designed and installed to protect people from fire and electric shocks. The regulations apply to any changes or additions made to an existing installation and include the provision of fixed equipment. A powered garage door is classed as fixed equipment.

Domestic electrical work carried out in England and Wales must comply with Part P of the Building Regulations, whereas in Scotland, it is the Building Standards System. At the present time Northern Ireland has no equivalent statutory requirement.

The best way to demonstrate compliance in England and Wales is to follow the provisions of Approved Document P which requires that works are executed, tested and certified to comply with BS 7671 as amended.

This will mean that:

- The existing installation must be assessed for suitability before any modification or addition; this will include ensuring that earthing and equipotential bonding is adequate
- New supply wiring must be provided, tested and certified to BS 7671
- Existing supplies that are utilised must be tested before use
- The use of plug and socket does not negate the need for testing or certification
- Fixed supply wiring within a garage should be provided with mechanical protection by means of conduits, trunking or armouring

Scottish Building Standard 4.5 imposes requirements on the electrical safety of fixed installations in buildings. These must be designed, constructed, installed and tested in accordance with BS 7671:2008. An approved certifier of construction who has been assessed to have the professional skills and relevant experience can certify compliance of an electrical installation. Standard 4.6 imposes requirements on lighting and availability of socket outlets in domestic premises.

Scottish Building Standard 4.8 imposes a general requirement to design and construct buildings so that people in and around a building are protected from injury that could result from fixed glazing, projections and moving elements on the building; this latter point would include garage doors.

ANNEX A

Construction Products Regulation 2011

Building Regulations Part P

Some of the essential characteristics can be declared No Performance Determined (NPD). This applies to items 1, 4, 5 and 10 dependent on the performance requirements of the building. Item 9 can be NPD where the door is not powered.

Items 7 and 8 can be Initial Type Tested by the manufacturer under his own authority. A record of the test method and results must however be retained in a technical file; this is referred to as system 4 Authentication and Verification of Constancy of Performance (AVCP). Items 1, 2, 3, 4, 5, 6, 9 and 10 must be tested by an EU commission authorised notified test laboratory test facility; this is referred to as system 3 AVCP. Some relaxation of the requirement for notified test laboratory testing is allowed where the manufacturer is a Micro Enterprise, see below.

The test results must be recorded in a test report and used to generate a Declaration of Performance (DoP).

Once tested, the door or door components must be manufactured under the control of a factory production control system that will ensure consistency of the finished product. Whenever a product is modified or materials changed, new tests will be required and a new system of cascading ITT evidence developed for the new product. The manufacturer must keep all relevant documents in a technical file.

Notified bodies can be located on the European Commission website at:

http://ec.europa.eu/growth/tools-databases/nando/index.cfm?fuseaction=directive.notifiedbody&dir_id=33

Cascaded Initial Type Testing

To make the testing requirements more manageable, Article 36 of the regulation makes it possible to use what is termed "cascaded" type test evidence. This means that the manufacturer of a door component can have the initial type test completed by a notified test laboratory and then "cascade" the test evidence down to assemblers who wish to use their components. This can be done for drive system/safe edge combinations, anti-fall back devices and door curtains. Evidence of testing and specification of suitable application should be communicated from the supplier who had the product tested, to the assembling company in writing in a "Article 36 Authority" document. The person responsible for drawing up the DOP could be a manufacturer, manufacturer's agent, assembler, distributor or installer depending on who first places the precise combination of components on the market within the EU.

Further notes on Cascaded Initial Type Test evidence and Letters of Authority

The example Article 36 authority at the end of this document is an example of what is possible. In many cases, this is probably the best way to communicate cascaded test evidence as it is simple and precise. The components supplier has maintained the integrity of his evidence and the assembler has no doubt about the scope of his approval.

Where major users of a supplier's components are concerned, the supplier could alternatively provide the assembler with the actual data that he agreed with the notified test laboratory and allow the assembler to calculate the correct outcome himself. In order for this to work, the assembler would have to be in possession of all the required data, the calculation method, the test report detail that led to the calculations together with clear and concise instructions about how to use it. The assembler will also need details of the notified test laboratory, its registration number and details of the notified test laboratory reports. The assembler will also still need to be in possession of an Article 36 authority document to use the data.

All parties must document all elements and retain enough documentary evidence to back up their declarations and authorisations for a product. In the event of an incident or claim of non-compliance, national authorities can demand to see the relevant paper chain back to the Notified Test Laboratory tests.

A reference to any letter of authority used should appear in the DoP under the section headed Appropriate Technical Documentation.

At no point does the assembler need the actual notified test laboratory test reports.

Installers/assemblers

Where a complete door (manual or powered) comes from a single supplier, the supplier must supply a Declaration of Performance, CE mark the door and provide detailed and precise instructions for installation and commissioning of the door. The installer should pass on a copy of the DoP to the client.

Where cascaded evidence is being used to assemble a door from multiple suppliers, the assembler must draw up the Declaration of Performance from information in the appropriate letters of authority and CE mark the door himself.

Micro enterprises

Some relaxation of the testing requirement is allowed when the assembler is a micro enterprise. To qualify as a micro enterprise, the company must have less than 10 employees and turnover less than €2million pa.

Under micro enterprise terms, it would be possible to do your own testing. All tests must however be in accordance with methods laid out in EN 13241-1:2003+A1:2011 and be fully documented and retained in a technical file.

XWZ Door Co. Ltd

Our ref: ADL/14-09-14/2234765

Ashby Doors Ltd
Industrious Estate
Anytown
AN1 3TN

14th September 2016

Dear Ashby Doors Ltd

We confirm under our own authority that when using the door curtain combination as stated in your enquiry as follows:

- Door width 4 m
- Door height 6 m
- Profile thickness 22 mm
- Barrel diameter 76 mm
- Total profile weight 210kg

In combination with our drive package as follows:

- 764 drive and transmission
- 345 control board
- 357 safety brake
- 224-65 safety edge and wireless controller

The resulting door will be in conformity with the following elements of EN 13241-1:2003+A1:2011

- Dangerous substances = PASS (for our components)
- Safe openings = PASS
- Operating forces = PASS

We hereby give you authority under the above conditions only to quote our notified body PDQ Labs 9933 test report number 123456 on your declaration of performance for these elements.

On behalf of XWZ Door Co. Ltd, Anytown, AN3 5XP

Ian Somebody Date **14 September 2016** I A M Somebody

Declaration of Performance Regulation (EU) 305/2011

1. Unique identification code of the product-type: **XWZ-005**
2. Intended use: **Domestic garage door**
3. Manufacturer: **XWZ Door Company, Anytown, AN1 3TN**
4. Authorised representative: **Not applicable**
5. System/s of AVCP: **Systems 3 and 4**
6. Harmonised standard: **EN 13241-1:2003 + A1:2011**
Notified bodies: **PDQ Labs 9913 tested dangerous substances, resistance to wind, safe opening and operating forces**

Declared performance:

Essential Characteristic	Declared performance	AVCP System	Harmonised standard
Water tightness	NPD	3	EN 13241-1:2003 + A1:2011
Dangerous substances	Pass	3	
Resistance to wind load	Class 3	3	
Thermal resistance	NPD	3	
Air permeability	NPD	3	
Safe opening of vertical doors	Pass	3	
Definition of geometry of any glass components	Pass	4	
Mechanical resistance and stability ⁴	Pass	4	
Operating forces for powered doors ⁵	Pass	3	
Durability of water tightness, thermal resistance, and air permeability against degradation	NPD	3	

Name and reference number of the notified body who conducted the test.

Authentication & Verification of Constancy of Performance
3 = Notified test lab
4 = Manufacturer test
This is set by the harmonised standard

The performance of the product identified above is in conformity with the declared performance(s).
This declaration of performance is issued under the sole responsibility of the manufacturer identified above.

Signed for and on behalf of the manufacturer by: **Ian Somebody - (Products Director)**

At: **Anytown** On: **10 June 2017** Signature: **I AM Somebody**

Sample Declaration of Performance (Complete door system from a single manufacturer)

8. Technical Documentation:

Type of technical documentation	Reference number	Requirements
Not applicable		

The performance of the product identified above is in conformity with the declared performance/s.
This declaration of performance is issued under the sole responsibility of the manufacturer identified above.

Signed for and on behalf of the manufacturer by: **Ian Somebody - (Products Director)**

At: **Anytown** On: **10 June 2017** Signature: **I AM Somebody**

Sample Declaration of Performance (Complete door system from a single manufacturer)

Declaration of Performance Regulation (EU) 305/2011

1. Unique identification code of the product-type: **ADS-012**
2. Intended use: **Safe access for goods and vehicles accompanied or driven by persons**
3. Manufacturer: **Ashby Doors (1940) Ltd, Industrious Estate, Anytown, AN1 3TN**
4. Authorised representative: **Not applicable**
5. System/s of AVCP: **Systems 3 and 4**
6. Harmonised standard: **EN 13241-1:2003 + A1:2011**
 Notified bodies: **Labs 9913 tested resistance to wind load and dangerous substances**
ASAP Testing 9927 tested dangerous substances, safe opening and operating forces
7. Declared performance:

Essential Characteristic	Declared performance	AVCP System	Harmonised standard
Water tightness	NPD	3	EN 13241-1:2003 + A1:2011
Dangerous substances	Pass	3	
Resistance to wind load	Class 3	3	
Thermal resistance	NPD	3	
Air permeability	NPD	3	
Safe opening of vertical doors	Pass	3	
Definition of geometry of any glass components	Pass	4	
Mechanical resistance and stability ⁴	Pass	4	
Operating forces for powered doors ⁵	Pass	3	
Durability of water tightness, thermal resistance, and air permeability against degradation	NPD	3	

Name and reference number of the notified body who conducted the test.

Authentication & Verification of Constancy of Performance
 3 = Notified test lab
 4 = Manufacturer test
 This is set by the harmonised standard

8. Technical Documentation:

Type of technical documentation	Reference number	Requirements
Appropriate technical documentation	RSD-005-14	Dangerous substances and resistance to wind load
Appropriate technical documentation	RSD-005-15	Dangerous substances, safe opening and operating forces

Reference number of the letter of authority from the door curtain supplier, the letter is retained in the assembler's technical file.

Reference number of the letter of authority from the door curtain supplier, the letter is retained in the assembler's technical file.

The performance of the product identified above is in conformity with the declared performance(s).
 This declaration of performance is issued under the sole responsibility of the manufacturer identified above.

Signed for and on behalf of the manufacturer by: **Robert Smith (Products Director)**

At: **Anytown**

On: **10 June 2017**

Signature: **Bob Smith**

Sample Declaration of Performance (Door system assembled from components supplied by two differing manufacturers and assembled by the installing company, Ashby Doors in this case)

ANNEX B

Supply of Machinery (Safety) Regulations 2008

Essential Health and Safety Requirements

The manufacturer of the automated door must ensure that the door complies with the applicable Essential Health and Safety Requirements (EHSR) listed in Annex 1 of the regulations by means of a detailed and documented risk assessment. The risk assessment should declare which EHSR apply and what control measures have been applied to achieve this.

Partly completed machinery

SM(S)R 2008 caters for the use of Partly Completed Machinery; a drive unit for an industrial and domestic garage door is a PCM and should be accompanied by a Declaration of Incorporation document and detailed installation instructions from the manufacturer of the drive. The Declaration of Incorporation should declare that the drive, when properly installed to an appropriate door, could create a safe and Supply of Machinery (Safety) Regulations compliant machine.

Note, there is no requirement for a Declaration of Incorporation where the manufacturer manufactures both the door and the drive as a complete unit.

Safety devices

SM(S)R 2008 also brings responsibilities for the manufacturers of safety devices. A safety device is a safety component that could be removed and the door could still function, albeit with reduced safety. A safety device must be supplied with a Declaration of Conformity with the Machinery Directive.

Instructions

The manufacturer of a complete door system should provide detailed and precise installation, maintenance and user instructions. The manufacturer of a drive unit for installation on an existing door should provide detailed and precise installation instructions for the drive unit. The installer of a drive unit to an existing door should provide user and maintenance instructions. A maintenance log should be provided to the user to record maintenance completed.

Technical file

The manufacturer (of the final automated door) should retain all relevant documentation applicable to the door in a technical file that forms an evidence package for the compliance of the door and should be retained for at least 10 years.

The technical file should include at least:

- design risk assessment document
- list of applicable EHSR and applied control measures
- applicable Declaration of Incorporation document for the drive
- copy of the Declaration of Conformity

- copies of installation and user instructions
- copy of the maintenance instructions and maintenance log

Investigating authorities can demand sight of a technical file within a 24-hour notice period

Machinery Directive Declaration of Incorporation for a partly completed machine (electric operator)

The declaration of incorporation must contain the following particulars:

1. Manufacturer: **XWZ Drive Company, Anytown, AN3 5XP**
2. Responsible person: **Ian Somebody - Products Director**
3. Product: **345 Rolling Shutter Operator and Control Panel**
4. The company named above declares under their own authority that the product named above conforms to the following Essential Health and Safety Requirements of 2006/42/EC Machinery directive
eg: 1.2, 1.4.3, 1.5.1, 1.5.4, 1.7.4 (as applicable)
5. The company also declares that a technical file exists in conformity with Annex viii of 2006/42/EC
6. The company declares that the product also complies with:
2014/30/EU - Electro Magnetic Compatibility Directive
2014/53/EU - Radio Equipment Directive (as applicable)
7. The company agrees to transmit, in response to a reasoned request by the national authorities, relevant information on the partly completed machinery by post
8. The product must not be put into service until the final machinery into which it is to be incorporated has been declared in conformity with the provisions of **2006/42/EC**
9. The place and date of the declaration: **Anytown 12 February 2017**
10. Signature responsible person: **I A M Somebody.**

Declaration of Conformity for a completed powered door

The declaration of conformity must contain the following particulars:

1. Manufacturer: **ABC Installations, Industrial Estate, Newtown NT1 4BX**
2. Responsible person: **A B Cotton - Director**
3. Serial number: **Automatic garage door AB NT1 4BX**
4. The company above declares under its own authority that the door above is fully in compliance with:
2006/42/EC - Machinery Directive
5. The company additionally declares that the door is in compliance with the following directives:
2014/30/EU - Electro Magnetic Compatibility Directive
2014/53/EU - Radio Equipment Directive (where applicable)
6. Place of declaration: **ABC Installations, Industrial Estate, NT1 4BX**
7. Date: **12 February 2017**
8. Signature: **A B Cotton**

Useful links

Construction Products Regulation 2011

<http://www.hse.gov.uk/work-equipment-machinery/uk-law-design-supply-products.htm#construction-products-regulations>

Supply of Machinery (Safety) Regulations 2008

<http://www.legislation.gov.uk/ukxi/2008/1597/contents/made>

<http://www.hse.gov.uk/work-equipment-machinery/new-machinery.htm>

<http://www.hse.gov.uk/work-equipment-machinery/machinery-directive-essential-requirements.htm>

<http://www.hse.gov.uk/work-equipment-machinery/declaration-conformity.htm>

Building Regulations Part P

England

<https://www.gov.uk/government/publications/protection-from-falling-collision-and-impact-approved-document-k>

Wales

<http://gov.wales/docs/desh/publications/130205building-regs-approved-document-k-falling-en.pdf>

Scotland

<http://www.gov.scot/Resource/0050/00501013.pdf>

dhf

<http://www.dhfonline.org.uk>





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