SAFETY PUBLICATION SERIES

BEST PRACTICE GUIDE

Safeguarding Requirements for Landing Gates of Goods-only Hoists

National Construction College
The training division of ConstructionSkills

Safeguarding Requirements for Landing Gates of Goods Only Construction Hoists

CPA Best Practice Guide

Working in Partnership

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Foreword

Goods only construction hoists form a key part of many construction projects. They aid in the movement of materials on site which helps to reduce or eliminate the risks associated with manual handling, lifting operations and vehicle movement. As with all machinery however, in order to be safe, they must comply with the requirements of the law. With innovation and significant changes in the availability of hoist gate interlocking systems, it is clear that the safety devices available for this equipment have moved forward.

This guidance reflects those changes and gives direction and information to the construction hoist industry on how to best comply with the legal requirements of both the Supply of Machinery (Safety) Regulations and Lifting Operations Lifting Equipment Regulations **LOLER** - in particular Regulation 6(2).

It is encouraging that this industry sector is not only improving the overall safety performance of its product, but is also taking ownership of the management of that risk by producing its own guidance. This guidance is simple, comprehensive and easy to adopt. It represents current industry best practice.

I thank those who have been involved in its preparation and commend the guidance to anyone who own, supplies or controls the operation of good only construction hoists on site.

Please read this guidance and take the appropriate steps to turn this advice into action.

Philip White
HM Chief Inspector of Construction
Chair of the Health and Safety Executive's Construction Industry Advisory Committee (CONIAC).

1.0 Introduction

This document provides best practice guidance on compliance with the Lifting Operations and Lifting Equipment Regulations 1998 (LOLER), Regulation 6(2) relating to the landing gates for temporarily installed construction hoists (goods only) at sites where construction work is being carried out. The guidance represents a consensus of practical experience by members of the Construction Plant-hire Association's Construction Hoist Interest Group (CHIG).

Since the original publication of this document in 2004 significant changes have taken place in the state of the art of design and availability of hoist gate interlocking systems. This, together with the introduction of the Work at Height Regulations 2005, has required the updating of this document to take account of these issues, which give improvements to overall safety, and to set a date by which all hoist suppliers should supply legally compliant gates with their hoists.

In summary the changes to the guidance are:-

- All hoists with full height gates must have interlocking systems which both prevent the landing gate being opened unless the hoist platform is at the landing (mechanical interlocking) and the hoist platform moving unless all the landing gates are closed (electrical interlocking);
- This means that full height gates with a mechanical self closing latch are no longer acceptable;
- Reduced height gates manufactured after 29.12.09 must have interlocking systems which both prevent the landing gate being opened unless the hoist platform is at the landing (mechanical interlocking) and the hoist platform moving unless all the landing gates are closed (electrical interlocking);
- Inclusion of guidance on compliance with the Machinery Directive 2006/42/EC and CE marking for components not provided by the original hoist manufacturer;

Whilst it is appreciated that the upgrading of existing hoists and landing gates will take time, CHIG members consider it is important that this is carried out within a reasonable time scale. After extensive discussions with the Health and Safety Executive it has been agreed that this upgrading will be completed by December 31st 2011.

NOTE: *There are significant requirements relating to base enclosure gates, hoistway protection and other issues for which guidance can be found in the Further Information and Guidance section on Page 23 of this Best Practice Guide.*

NOTE: *LOLER builds on the requirements of the Provision and Use of Work Equipment Regulations 1998 (PUWER) and focuses on lifting operations and the use of lifting equipment. There is also an important link with PUWER which applies to all work equipment, including lifting equipment. For example, PUWER places requirements on duty holders to provide suitable work equipment for the task (regulation 4), information and instructions (regulation 8) and training (regulation 9) to the people who use it. PUWER also requires measures to be taken concerning dangerous parts of machinery (regulation 11) , controls and control systems (regulations 14 to18) , stability (regulation 20) and mobility (regulations 25 to 29). It is therefore important to remember that duty holders who provide lifting equipment, in addition to complying with LOLER, will also need to comply with all relevant aspects of PUWER and any other applicable health and safety law.*

2.0 Definitions

The following definitions apply throughout this document:

2.1 hoist

2.1.1 ***fixed platform goods hoist (rack and pinion)***

fixed hoist platform rack and pinion goods hoists have a hoist platform fitted with sides to retain the load on the hoist platform . Persons are not allowed to travel on the hoist platform when the hoist is in normal use

2.1.2 ***new construction hoist (goods only) including swivel hoists***

a hoist first supplied after January 1995 and which has CE marking

2.1.3 ***old construction hoist (goods only) including swivel hoists***

a hoist first supplied prior to 1st January 1995 and which has no CE marking

2.1.4 ***swivel hoist***

swivel hoists are similar to fixed hoist platform goods hoists, but have a hoist platform which swivels between the travelling and the load transfer positions at the landing levels. These hoists normally operate in a vertical configuration

2.2 hoist platform

the load carrying device including the floor, sides and entrance/egress points

2.3 hoistway

the total space which is travelled by the hoist platform and its load

2.4 hoistway protection

protection around the hoistway which prevents persons adjacent to the hoistway from the hazards of falling or being struck by the moving hoist platform

NOTE: *In addition to the landing gate, additional safeguarding will be required to the side(s) and/or the top of the landing gates to prevent contact with the moving hoist platform. This forms part of the hoistway protection.*

2.5 interlocking

2.5.1 ***interlocking of the movement of the hoist platform (electrical interlocking)***

it shall not be possible under normal operating conditions to start or keep in motion the hoist platform unless all landing gates are closed

2.5.2 ***interlocking of landing gate (mechanical interlocking)***

it shall not be possible under normal operating conditions to open any landing gate unless the hoist platform floor is at the landing

2.6 landing

a level in a building or construction intended for loading and unloading the hoist platform

2.7 landing gate

2.7.1 ***full height gate***

a gate fully covering the gap between the top and bottom of the landing so that it is not possible to fall into the hoistway or come into contact with moving parts of the hoist

2.7.2 ***reduced height gate***

a gate between 1100 mm and 1200 mm high, consisting of at least a top rail, an intermediate rail at half height and a toe board

NOTE: *Additional protection, such as brick guards, to prevent falling objects may be required following a site specific risk assessment.*

2.8 normal operating conditions

conditions in which the hoist is in operation for carrying materials only

NOTE: *This excludes erection, alteration, dismantling and maintenance by competent, authorised and trained personnel.*

2.9 self-closing latch

a self-closing latching device to fasten a gate in the closed position

NOTE: *The latch can be manually released without the aid of a separate tool; typically a mechanical latch operated by a spring and /or gravity. The locking elements should engage by at least 7 mm. To open the landing gate, two distinct actions are required: first unfasten the latch, and then open the landing gate*

2.10 sweeper bar

a device to ensure that personnel cannot remain on the hoist platform side of a landing threshold when the landing gate is closed

3.0 Background

3.1 LOLER Reg **6**(2) states *"Every employer shall ensure that there are suitable devices to prevent a person from falling down a shaft or hoistway".*

3.2 The Approved Code of Practice (ACoP) to LOLER at paragraph 183 states *"Suitable and substantial gates, or other equally effective means, should be provided at any access and/or egress points to any hoistway or shaft enclosure"*.

3.3 The ACoP to LOLER at paragraphs 184 states *"Any such gate, or other equally effective means, should be fitted with efficient interlocking or other devices, such that (a) the gate cannot be opened except when the lifting equipment is at the landing and (b) the lifting equipment cannot be moved away from the landing until the gate is closed. If it is not reasonably practicable to fit such devices, you should provide alternative arrangements to ensure that the gate is kept closed and fastened except when the lifting equipment is at rest at the landing. Any gate needs to be of suitable height to prevent people toppling over or reaching over it and be of adequate strength"*.

3.4 Guidance is required to address reasonably practicable minimum safeguards at landing gates used with Construction Hoists (Goods only). Recommendations for reasonably practicable minimum safeguards at landing gates are given in this document (See **Section 6.0**).

3.5 The requirements of LOLER allows either full height landing gates or reduced height landing gates for temporary installed builders goods only hoists at construction sites. LOLER imposes hoistway landing gate safeguarding requirements, subject to reasonable practicability.

3.6 Regulation **6**(3) of the Work at Height Regulations 2005 requires that *"Where work is carried out at height, every employer shall take suitable and sufficient measures to prevent, so far as is reasonably practicable, any person falling a distance liable to cause personal injury".*

3.7 Regulation **10**(1) of the Work at Height Regulations 2005 requires that *"Every employer shall, where necessary to prevent injury to any person, take suitable and sufficient steps to prevent, so far as is reasonably practicable, the fall of any material or object."*

4.0 Planning

4.1 *General*

The installation of landing gates on goods hoists must always be considered at the planning stage before installation. This is even more important if the gates to be used are not those supplied by the hoist manufacturer for use with the particular hoist, as the installer will have to ensure that the gates are compatible with the hoist and that clearances and hoistway protection meet the requirements of BS EN 12158-1. The planning of hoist installations is dealt with in detail in Clause 9 of BS 7212:2006 - *Code of practice for the safe use of construction hoists.*

The principle stages in the planning process are:-

- Identifying the task to be undertaken;
- Identifying the hazards associated with the task;
- Carrying out a risk assessment;
- Identifying control measures;
- Developing the method to be used;
- Recording the planning in a Method Statement;
- Communicating the plan to all persons involved;
- Reviewing the plan before the job starts;
- Monitoring the effectiveness of the plan, following implementation.

4.2 *Particular hazards associated with landing gates*

When installing landing gates that have not been supplied by the hoist manufacturer for use with the particular model of hoist care must be taken to ensure that additional hazards are not introduced. An example of this is where a goods hoist designed for use with reduced height gates and a minimum standoff distance of 0.5m (See **Figure 1**) is installed close coupled with full height gates (See **Figure 2**). The hoist is fitted with a wide ramp to bridge the standoff distance and consequently when deployed it intrudes on to the landing, presenting a tripping, crushing and trapping hazard to personnel on the landing (See **Figures 3 & 4**).

NOTE: *Sources of further information and guidance are given in* ***Annex 1***

Figure 1 - Reduced Height Gate with Stand-off and Side Protection

Figure 2 - Full Height Gate Close Coupled

Figure 3 - Tripping Hazard

Figure 4 - Crushing and Trapping Hazard

5.0 Interlocking Requirements

5.1 *General*

In the previous version of this document (**CHIG 0401 May 2004**), taking into account the then state of the art, it was considered that, as a minimum, full height landing gates should be latched in the fully closed position by at least the means of a self-closing latch which could be manually released. To open the landing gate, two actions were required, first to unfasten the latch and then opening the landing gate. This did not however prevent people from opening the gate deliberately whilst the hoist platform was not at the landing.

5.2 *Full Height Landing Gates*

5.2.1 Electrical interlocking is required for all electrically driven hoists to prevent the hoist platform moving unless all of the gates are closed.

5.2.2 Mechanical interlocking is required for all full height landing gates to ensure that it is not possible, under normal operating conditions, to open any landing gate unless the hoist platform floor is at the landing.

It is however recognised that a period of time will be required to allow all hoist owners/users to fully comply with this requirement. Following consultation with the Health and Safety Executive it has been agreed that compliance will be achieved by 31st December 2011. See **Table 1.**

5.3 *Reduced height landing gates for fixed platform hoists*

5.3.1 Electrical interlocking is required for all electrically driven hoists to prevent the hoist platform moving unless all of the gates are closed.

5.3.2 Those supplied before 29th December 2009 did not have to be mechanically interlocked provided that they met the requirements of Clause **5.5.5** of BS EN 12158-1:2000, however some reduced height gates supplied with fixed hoist platform hoists before 29th December 2009 did incorporate mechanical interlocking .

5.3.3 Those entering the supply chain after this date, when the Machinery Directive 2006/42/EC came into force, require mechanical interlocking which can be achieved by meeting the requirements of Clause **5.5.3.1.8** of BS EN 12158-1:2000 + A1:2010.

5.4 *Reduced height landing gates for swivel platform hoists*

5.4.1 Electrical interlocking is required for all electrically driven hoists to prevent the hoist platform moving unless all of the gates are closed.

5.4.2 Those supplied before 29th December 2009 do not have to be mechanically interlocked providing that they meet the requirements of Clauses **5.5.5.2** and **5.5.5.3** of BS EN 12158-1:2000.

5.4.3 Those entering the supply chain after this date when the Machinery Directive 2006/42/EC came into force, require mechanical interlocking which can be achieved by meeting the requirements of Clauses **5.5.5.2** and **5.5.5.3** of BS EN 12158-1:2000 + A1:2010.

NOTE: *Manufacturers will be able to confirm which category a particular gate will fall into.*

Table 1 - Full Height Landing Gate Interlock Implementation Dates	
Hoist Type	***Completion Date agreed with HSE for Full Height Landing Gate Interlock Implementation***
Rack and Pinion Goods-only with a Rated Capacity of 1000kg and above*	End of December 2011
Rack and Pinion Goods-only with a Rated Capacity of 500kg up to 1000kg*	End of December 2011
Rack and Pinion Goods-only Non Swivel with a Rated Capacity of 300 kg up to 500kg*	End of December 2011
Rack and Pinion Goods-only Non Swivel with a Rated Capacity of less than 300kg*	End of December 2011
Wire rope Goods-only Hoist, Non Swivel, Electric Motor	End of December 2011
Rack and Pinion Goods-only Swivel Hoist	See ***NOTE 1***
Wire rope Goods-only Swivel Hoist, Electric Motor	See ***NOTE 1***
Wire Rope Goods-only Hoist, Non Swivel, Internal Combustion Engine	See ***NOTE 2***
**Includes transport hoist platforms used in goods-only mode*	

NOTE 1: *Swivel hoists cannot be used safely with full height gates as opening the gate exposes an unprotected edge until the hoist platform is swung against the landing edge. Swivel hoists are therefore provided with reduced height gates which must meet the following criteria:-*

- *Electrical interlocking is required for all electrically driven hoists to prevent the hoist platform moving unless all of the gates are closed.*
- *Those supplied before 29th December 2009 do not have to be mechanically interlocked providing that they meet the requirements of Clauses **5.5.5.2** and **5.5.5.3** of BS EN 12158-1:2000.*
- *Those entering the supply chain after this date when the Third Amendment to the Machinery Directive 2006/42/EC came into force, require mechanical interlocking which can be achieved by meeting the requirements of Clauses **5.5.5.2** and **5.5.5.3** of BS EN 12158-1:2000 + A1:2010.*

NOTE 2: *Fitting of interlocks is not practicable on this type of hoist due to the lack of electrical control systems.*

6.0 Minimum Safeguarding Requirements for Construction Hoist (Goods Only) Landing Gates

6.1 The following minimum safeguarding requirements below are intended to apply to all construction hoist (goods only) landing gates. They reflect a UK practice by some hoist owners to manufacture their own gates, so in addition to interlocking requirements, guidance should offer advice on basic issues such as strength and security.

6.1.1 Landing gates shall not open towards the hoistway. Typically, sliding gates are employed or gates that hinge inwards onto the landing.

6.1.2 Landing gates shall be strong, durable, and sufficiently stiff to withstand excessive deflection. Typically, a steel frame in-filled with steel mesh. (See **6.2**)

6.1.3 Landing gates shall be securely fastened and guided. The top and bottom of the gate shall be effectively restrained so that it can withstand normal use and foreseeable unintended situations and so that it cannot be displaced into the hoistway.

6.1.4 Persons at the landing shall be able to see when the hoist platform has arrived, e.g. full height gates shall be of mesh construction or be provided with a vision panel.

6.1.5 For full height gates, any gaps at the side(s) and top of the landing gate shall be in-filled to prevent access to the hoistway. (See **Figures 5 & 6**).

6.1.6 Full height gates also require full height protection panels at either side of the gate to prevent persons coming into contact with moving parts of the hoist. Full height protection is also required on any part of the hoistway where persons may come into contact with the moving hoist. (See **Figures 5 & 12**).

6.1.7 Reduced height gates require hoistway protection to ensure that minimum safe distances are maintained between the moving hoist platform, hoist gates and landing guardrails. (See **Figures 10, 11 & 13**).

6.1.8 The landing threshold shall not protrude underneath the gate into the hoistway by an amount that allows room for a person(s) to stand there when the gate is closed. Where this is not practicable, the hoistway side of the gate should be provided with an effective device, and/or a safe system of operation to prevent movement of the hoist platform if a person(s) is standing on that side of the gate (See **Figures 6, 7 & 14**).

6.1.9 Electrical interlocking devices shall not be capable of being over-ridden by simple means. Attention must be given to electrical voltages and interfaces with the existing control and safety circuits when adding or replacing electrical devices. (See BS EN 60204-1:2006)

6.1.10 Mechanical locking devices and latches shall be strong enough and their locking elements should engage by at least 7 mm.

6.1.11 A sign shall be fastened to the gate with words to the effect:

"GOODS ONLY HOIST – NO PASSENGERS – KEEP GATES CLOSED – RATED LOAD XXXX KG".

NOTE: *Consideration should be given to the provision of this information pictorially*

6.2 Landing gates must be of sound engineering design and construction and suitable for their intended use and foreseeable unintended situations. Reference for the construction of landing gates should be made to BS EN 12158-1:2000 + A1:2010 Clause **5.5** – Hoistway protection and landing access.

Clause **5.5.3** – deals with landing access.

Clause **5.5.4** – deals with materials for enclosure and guarding.

Clause **5.5.5** – deals with landing gate locking devices.

6.3 It should be noted that additions to, or modifications of, any hoist, including landing gates, may require a review of the CE marking and Declaration of Conformity. Detailed Guidance on this is given in the CHIG Technical Information Note TIN 301. This document also covers manufacture of components by anyone other than the original hoist manufacturer.

6.4 The following Tables **2, 3** & **4** give examples of safeguarding for the different combinations of hoist and landing gates.

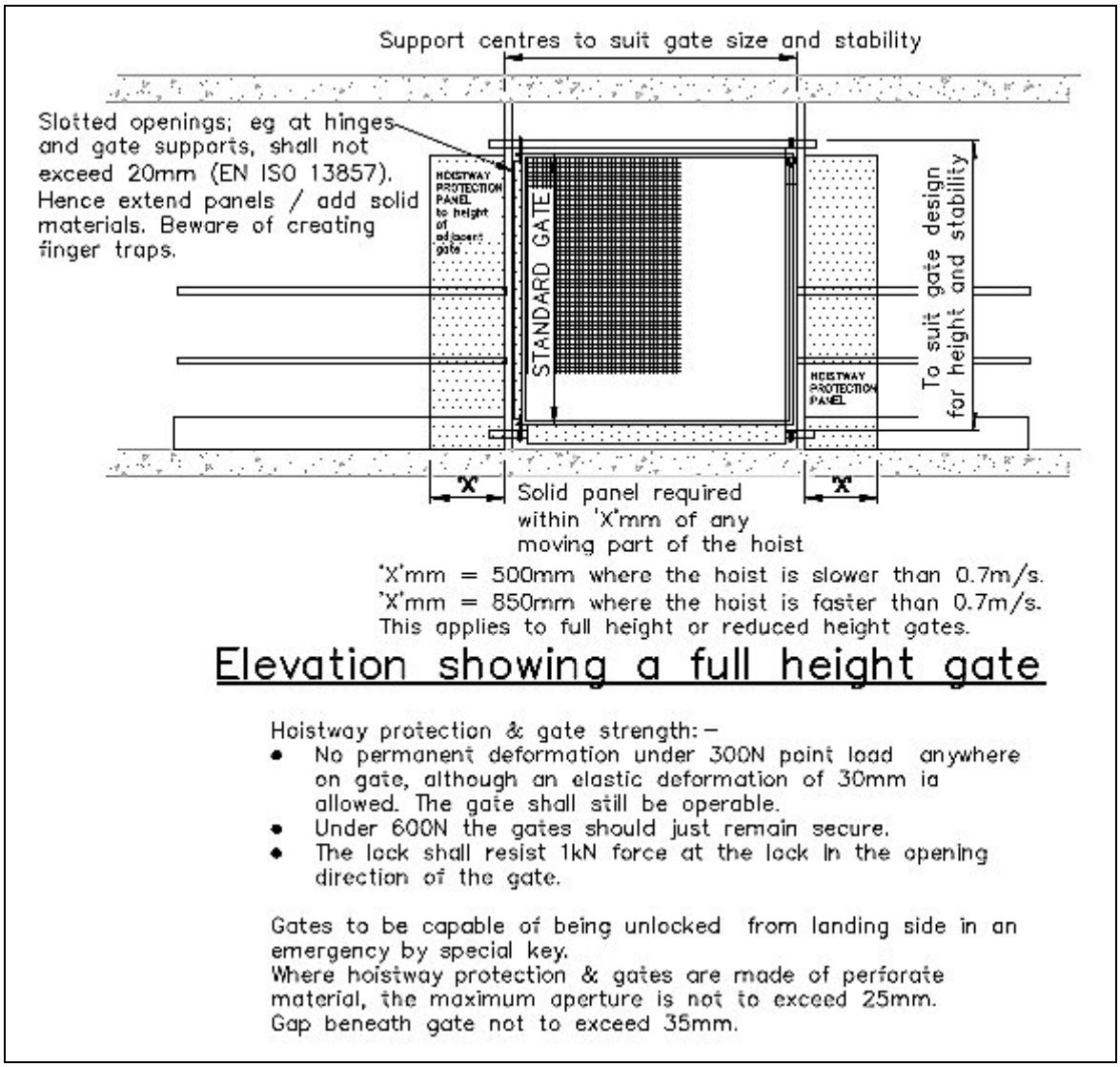


Figure 5 – Full Height Landing Gate - Elevation

NOTE: *Where the landing height is less than 2000mm the landing gate may be less than 2000mm high but must extend to the full height of the opening.*

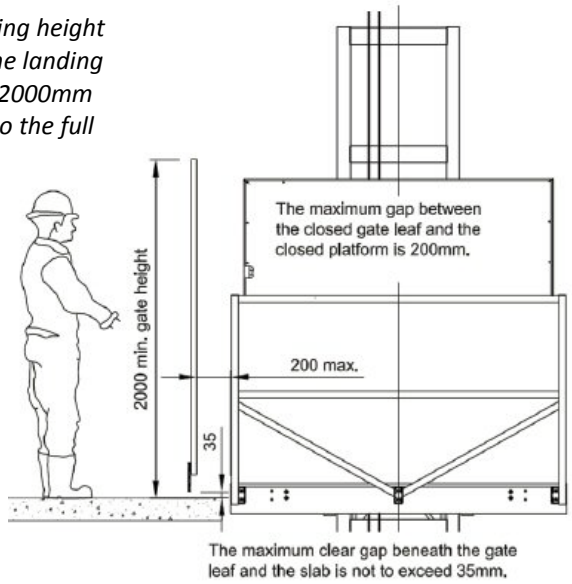


Figure 6 – Full Height Landing Gate - Clearances

NOTE: *Where the landing height is less than 2000mm the landing gate may be less than 2000mm high but must extend to the full height of the opening.*

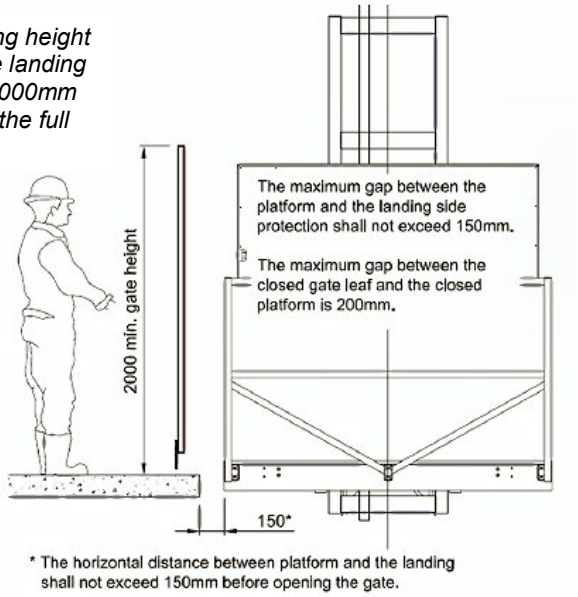


Figure 7 – Full Height Landing Gate - Clearances

Table 2 - All Construction Hoists (Goods Only) Fitted with Full Height Landing Gates (Excluding Swivel Hoists – see Table 4)	
Electrical interlocking	**Required** It shall not be possible under normal operating conditions to start or keep in motion the hoist platform unless all landing gates are closed.
Mechanical interlocking	**Required** It shall not be possible under normal operating conditions to open any landing gate unless the hoist platform floor is at the landing.
Clarification of Requirements	• Landing gates to Clause 5.5 of BS EN 12158-1 • Full implementation required by 31st December 2011 (See **5.2**)

Table 3 – CE Marked Construction Hoists (Goods Only) Fitted with Reduced Height Landing Gates (Excluding Swivel Hoists – See Table 4)	
Landing Gate type - Reduced height first supplied by the manufacturer of the hoist after 29.12.09	
Electrical interlocking	**Required** It shall not be possible under normal operating conditions to start or keep in motion the hoist platform unless all landing gates are closed.
Mechanical interlocking	**Required** It shall not be possible under normal operating conditions to open any landing gate unless the hoist platform floor is at the landing.
Clarification of Requirements	• Landing gates to Clause 5.5 of BS EN 12158-1:2000 + A1:2010; • Any travelling part of the hoist to be off-set a minimum of 500 mm away from landing side of top of gate (850 mm if rated speed of any travelling part of the hoist in normal operation is more than 0.7 m/s); • Platform drawbridge gate with integral side protection to safely span the off-set between hoist platform and landing, prior to opening the landing gate; • Manufacturer's/suppliers instructions to be followed for set-up of gates.
OR	
Landing Gate type- Reduced height first supplied by the manufacturer of the hoist before 29.12.09	
Electrical interlocking	**Required** It shall not be possible under normal operating conditions to start or keep in motion the hoist platform unless all landing gates are closed.
Self-closing latch	**Required** A self-closing latching device to fasten a gate in the closed position.
Mechanical interlocking	**Desirable but not mandatory** It shall not be possible under normal operating conditions to open any landing gate unless the hoist platform floor is at the landing. ***NOTE:*** *Some reduced height gates supplied with fixed hoist platform hoists before 29th December 2009 did incorporate mechanical interlocking. Manufacturer's upgrade kits may be available for those that did not comply*
Clarification of Requirements	• Landing gates to Clause 5.5 of BS EN 12158-1:2000; • Any travelling part of the hoist to be off-set a minimum of 500 mm away from landing side of top of gate (850 mm if rated speed of any travelling part of the hoist in normal operation is more than 0.7 m/s (42 m/min)); • Platform drawbridge gate with integral side protection to safely span the off-set between hoist platform and landing, prior to opening the landing gate; • Manufacturer's/suppliers instructions to be followed for set-up of gates.

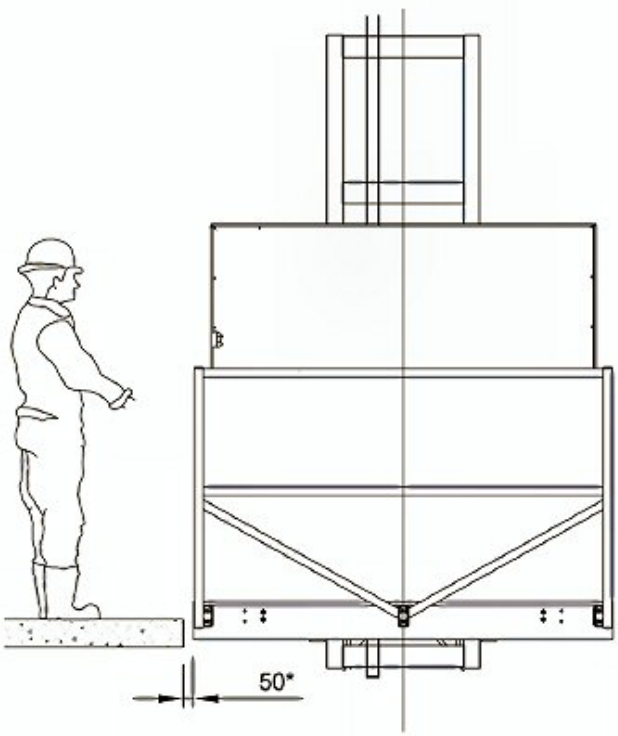


Figure 8 – Typical Goods Hoist Without Ramp at Open Gate

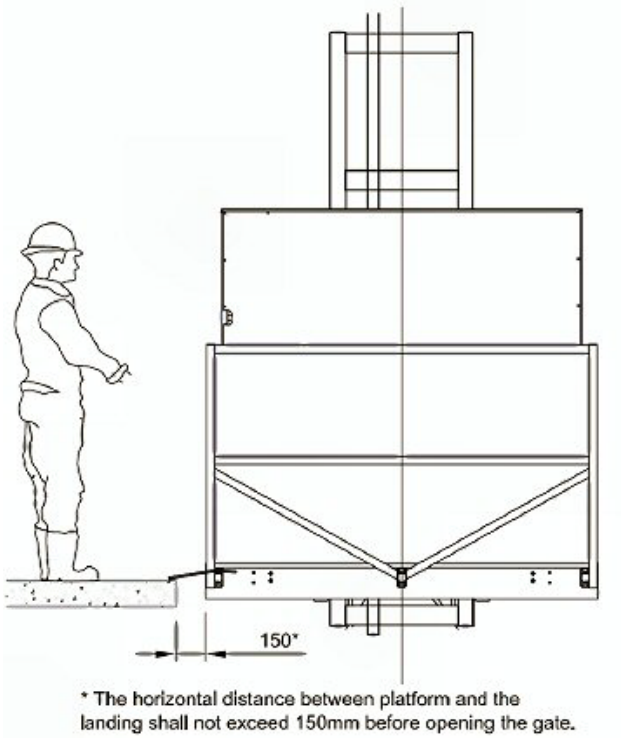


Figure 9 – Typical Goods Hoist with Ramp at Open Gate

Table 4 – Swivel Type Construction Hoists (Goods Only)	
Landing Gate type - CE Marked reduced height first supplied by the manufacturer of the hoist after 29.12.09	
Electrical interlocking	**Required** It shall not be possible under normal operating conditions to start or keep in motion the hoist platform unless all landing gates are closed.
Mechanical interlocking	**Required** It shall not be possible under normal operating conditions to open any landing gate unless the hoist platform floor is at the landing.
Clarification of Requirements	• It shall not be possible to start or keep in motion the hoist platform unless the hoist platform is in its correct position to travel (e.g. travel position switch); • Landing gates to Clause 5.5 of BS EN 12158-1:2000 + A1:2010; • Any travelling part of the hoist offset a minimum of 500 mm away from the landing side of top of gate (850 mm if rated speed of any travelling part of the hoist in normal operation is more than 0.7 m/s (42 m/min)).
OR	
Landing Gate type - CE Marked reduced height first supplied by the manufacturer of the hoist before 29.12.09	
Electrical interlocking	**Required** It shall not be possible under normal operating conditions to start or keep in motion the hoist platform unless all landing gates are closed.
Self-closing latch	**Required** A self-closing latching device to fasten a gate in the closed position.
Mechanical interlocking	**Desirable but not mandatory** It shall not be possible under normal operating conditions to open any landing gate unless the hoist platform floor is at the landing.
Clarification of Requirements	• For hoists that do not have a hoist platform travel position switch (e.g. some wire rope hoists), reduced height gates should <u>not</u> be used because of the risk of person(s) coming into contact with moving part(s) of hoist. Also, a safe system of work shall be followed to prevent hoist platform from starting when the hoist platform is not in the normal travel position; • It shall not be possible to start or keep in motion the hoist platform unless the hoist platform is in its correct position to travel (e.g. travel position switch); • Landing gates to Clause 5.5 of BS EN 12158-1:2000; • Any travelling part of the hoist offset a minimum of 500 mm away from the landing side of top of gate (850 mm if rated speed of any travelling part of the hoist in normal operation is more than 0.7 m/s (42 m/min)).
OR *(See next page)*	

TABLE 3 (continued) – Swivel Type Construction Hoists (Goods Only)	
Pre CE Marked Swivel Hoists	
Landing Gate type - Two-part "stable door" gate	
Electrical interlocking	**Required** It shall not be possible under normal operating conditions to start or keep in motion the hoist platform unless all landing gates are closed.
Self-closing latch	**Required** A self-closing latching device to fasten a gate in the closed position.
Mechanical interlocking	**Desirable but not mandatory** It shall not be possible under normal operating conditions to open any landing gate unless the hoist platform floor is at the landing.
Clarification of Requirements	• Lower part of gate cannot be opened until the top part of gate is open; top part of gate cannot be closed until bottom part of gate is closed and latched; • Lower part of gate shall not be unlatched and opened until the threshold gap has been safely bridged; • Hoist platform cannot be set in motion until the lower gate is closed and latched, and the top gate is closed and latched; • Landing gates to Clause 5.5 of BS EN 12158-1:2000;

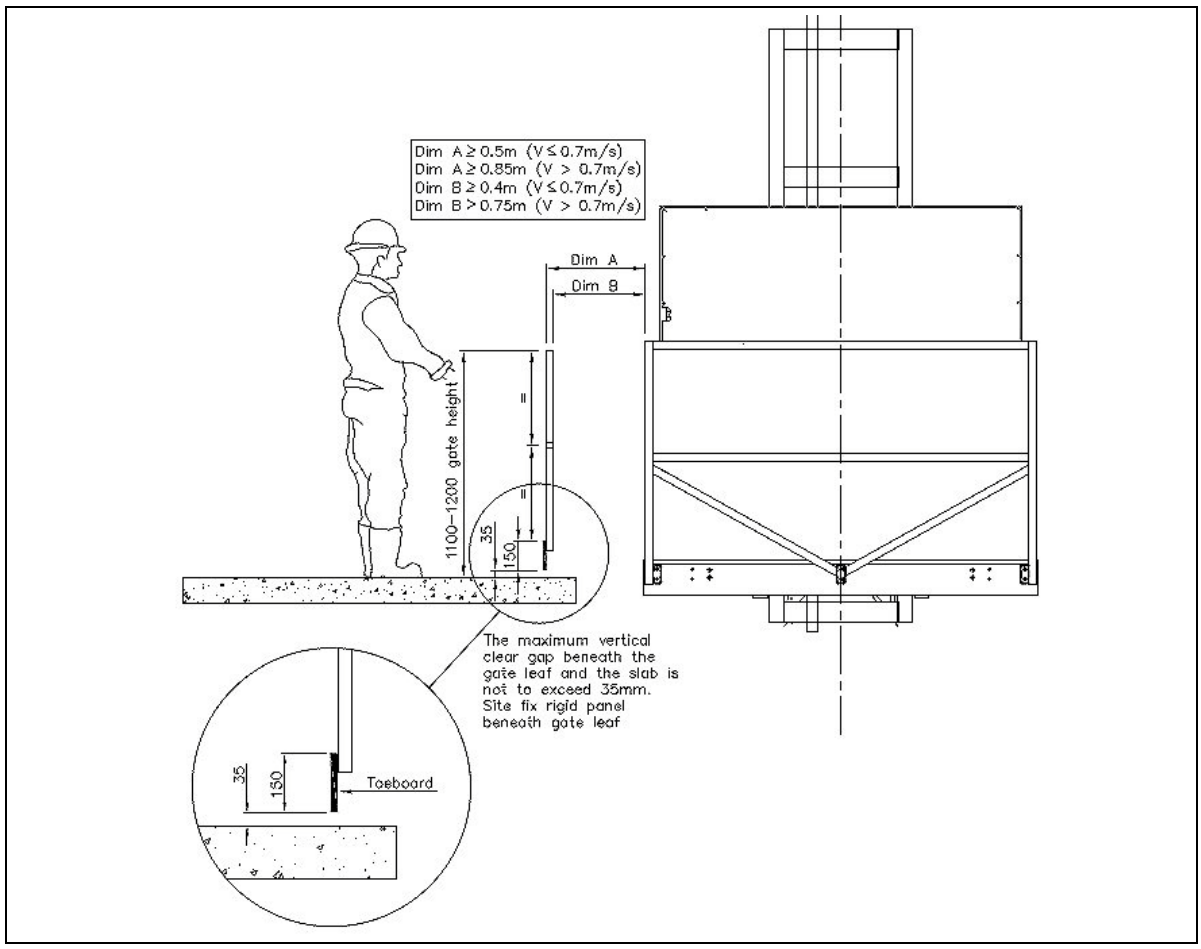


Figure 10 – Reduced Height Landing Gate – Clearances with Ramp Raised

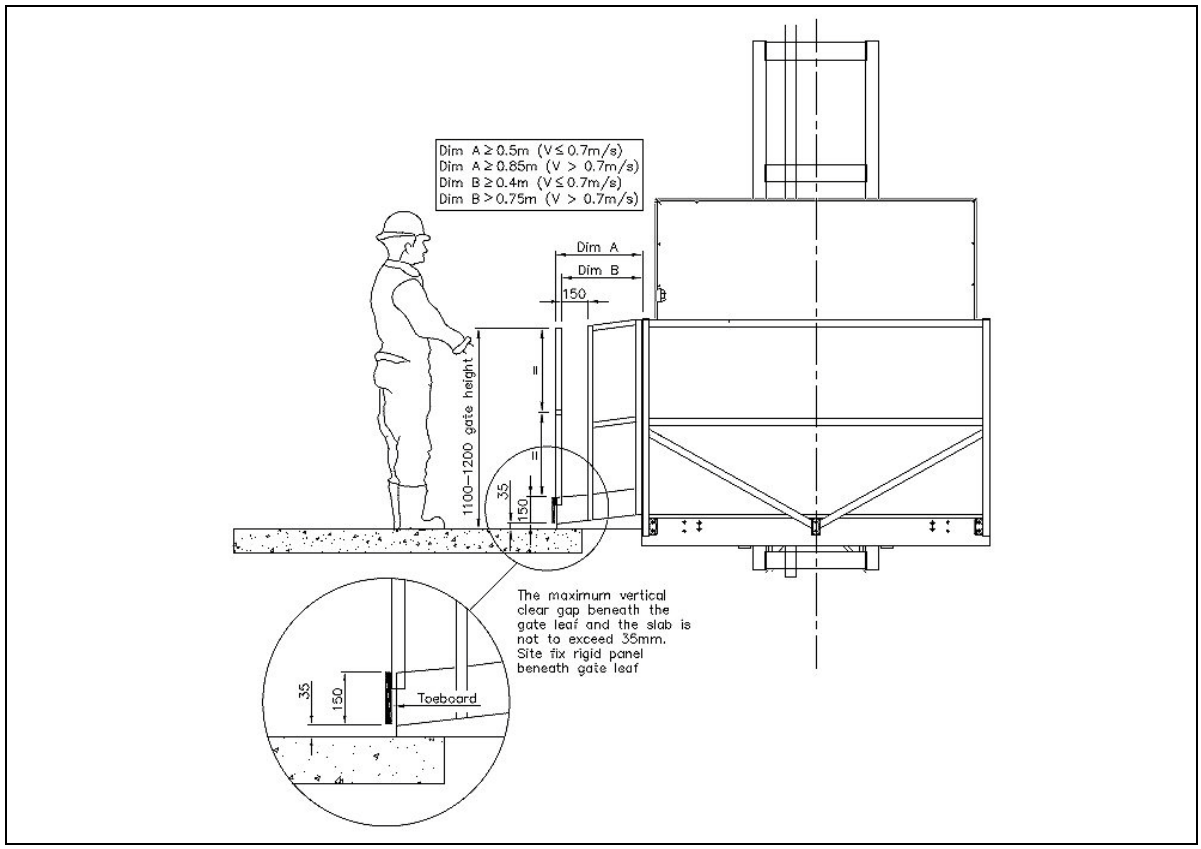


Figure 11 – Reduced Height Landing Gate – Clearances with Ramp Lowered

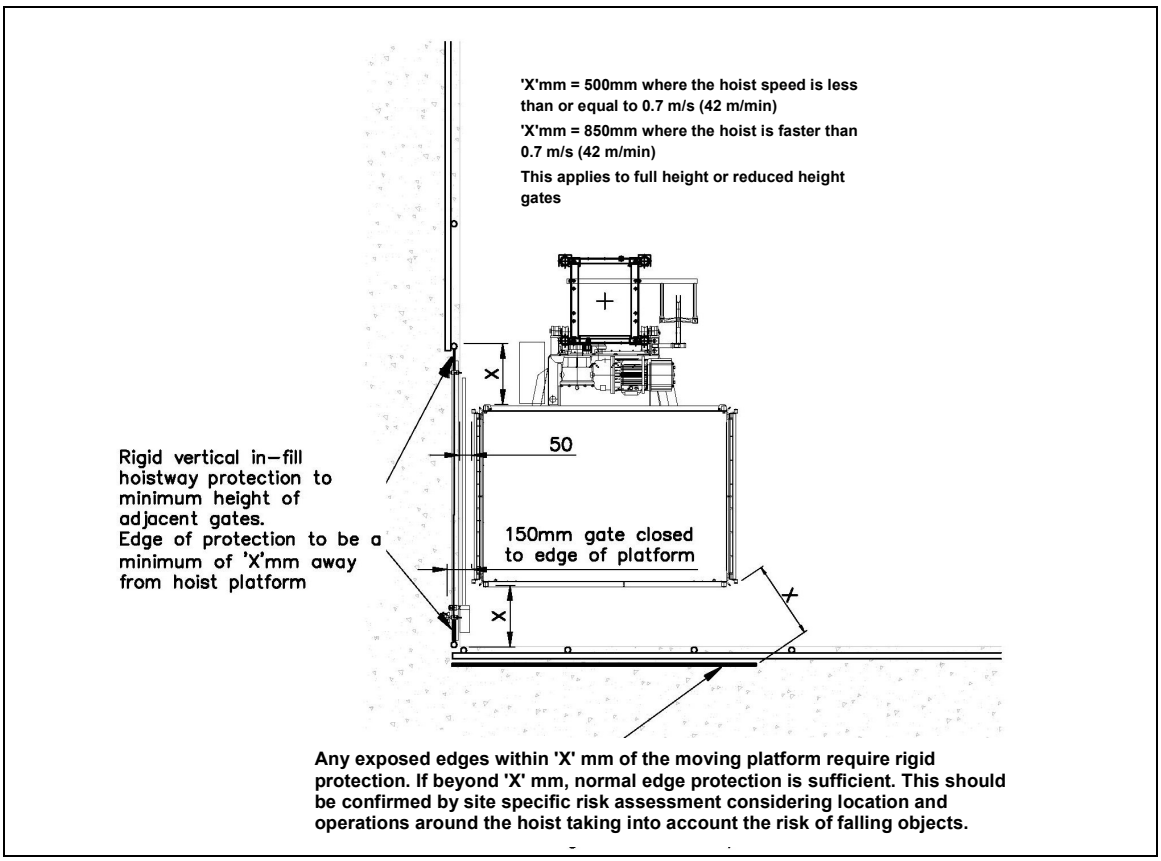


Figure 12 - Typical Goods Hoist Landing Detail & Hoistway Protection with Full Height Gates

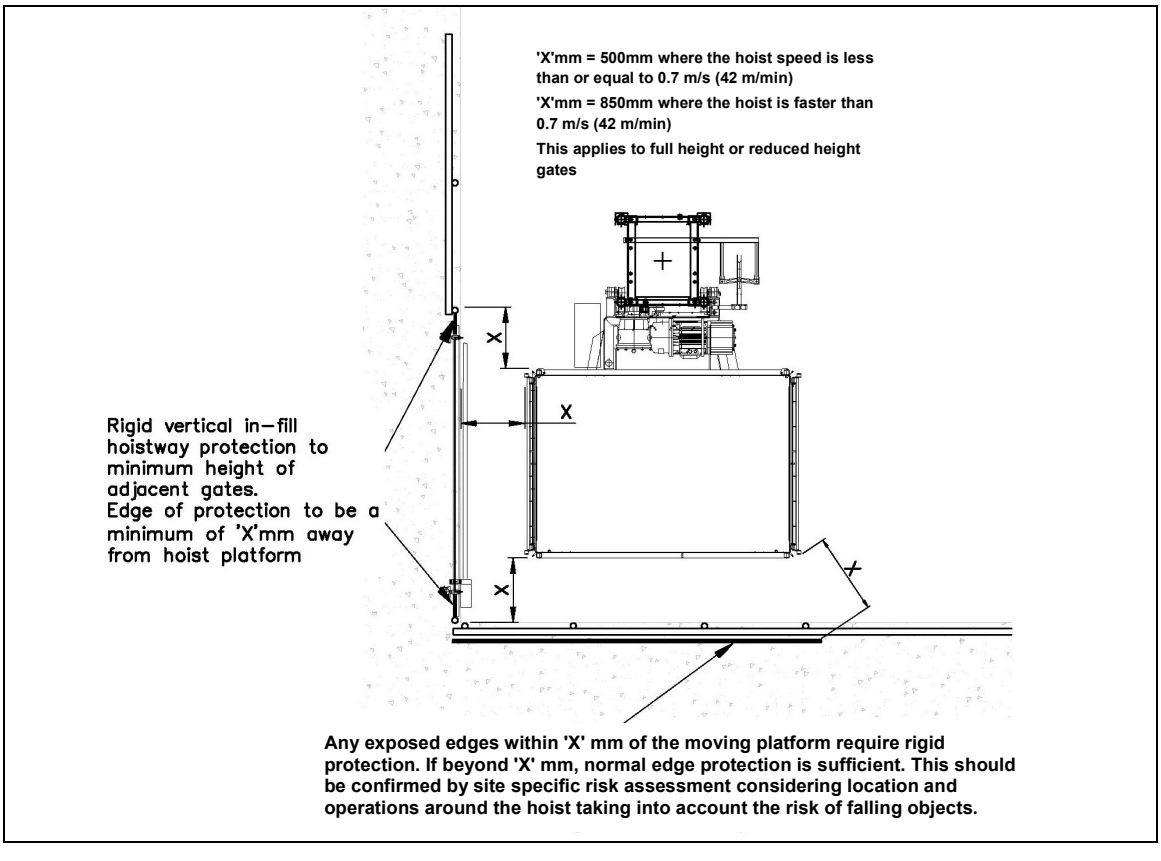
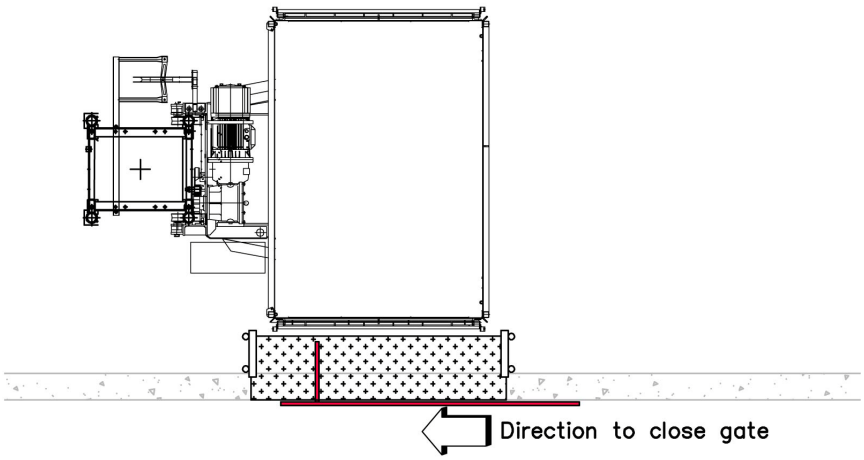
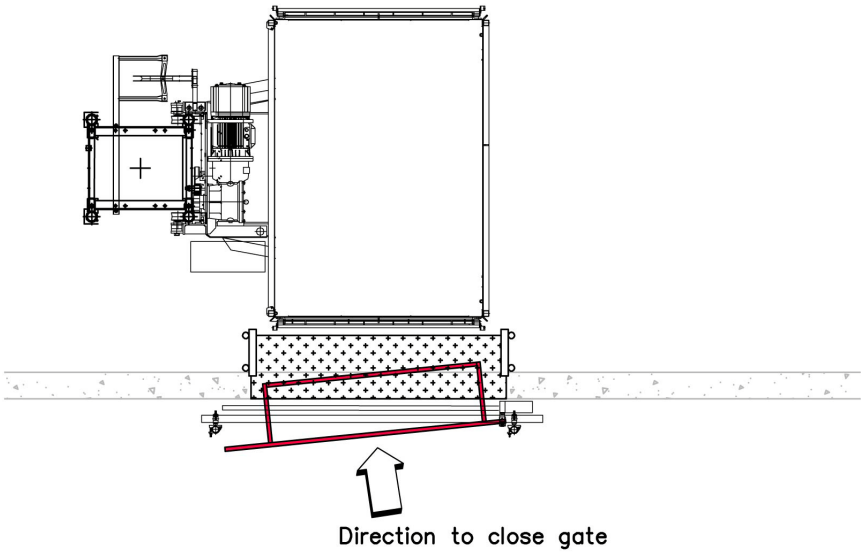


Figure 13 - Typical Goods Hoist Landing Detail & Hoistway Protection with Reduced Height Gates



Where a risk assessment has shown it possible for someone to stand between the landing gate and hoist platform, it is necessary to fit a sweeper to prevent the gate shutting until personnel have cleared the hatched zone.

A sliding gate with a 'sweeper'.



Where a risk assessment has shown it possible for someone to stand between the landing gate and hoist platform, it is necessary to fit a sweeper to prevent the gate shutting until personnel have cleared the hatched zone.

A swinging gate with a 'sweeper'.

Figure 14 - Typical "Sweepers" To Prevent Personnel Remaining on Hoist Side of Landing Gate When Gate is Closed

Annex A - Further Information and Guidance

Standards

BS EN 12158-1:2000, *Builders hoists for goods. Hoists with accessible platforms*

BS EN 12158-1:2000 + A1:2010, *Builders hoists for goods. Hoists with accessible platforms*

BS EN 12158-2:2000, *Builders hoists for goods. Inclined hoists with non-accessible load carrying devices*

BS EN 12158-2:2000 + A1:2010, *Builders hoists for goods. Inclined hoists with non-accessible load carrying devices*

BS EN 12159:2000, *Builders hoists for goods and materials with vertically guided cages*

BS EN 12159:2000 +A1:2009, *Builders hoists for goods and materials with vertically guided cages*

EN 60204-1:2006*, Safety of machinery — Electrical equipment of machines — Part 1: General requirements*

EN 60204-32:2008*, Safety of machinery — Electrical equipment of machines — Part 32: Requirements for hoisting machines*

BS EN ISO 13857:2008*, Safety of machinery - Safety distances to prevent hazard zones being reached by upper and lower limbs*

Legislation and Other Publications

Health and Safety at Work etc. Act 1974. London: The Stationery Office.

The Lifting Operations and Lifting Equipment Regulations 1998 (LOLER).

Provision and Use of Work Equipment Regulations 1998 (PUWER).

L113 *Safe use of lifting equipment,* HSE Books.

L22 *Safe use of work equipment,* HSE Books.

The Management of Health and Safety at Work Regulations 1999 as amended (MHSWR).

Work at Height Regulations 2005 (WAHR).

The Supply of Machinery (Safety) Regulations 2008 (SM(S)R).

The Construction (Design and Management) Regulations 2007 (CDM).

HSE Leaflet INDG218 – Guide to Risk Assessment;

HSE Leaflet INDG163 – Five Steps to Risk Assessment.

Useful Websites

Construction Plant-hire Association	www.cpa.uk.net
Construction Skills	www.cskills.org
Health and Safety Executive	www.hse.gov.uk
Safety Assessment Federation	www.safed.co.uk
Strategic Forum for Construction	www.strategicforum.org.uk
UK Contractors Group	www.ukcg.org.uk

Annex B - Working Group Membership

CPA Construction Hoist Interest Group – *Safeguarding Requirements for Landing Gates of Goods-only Construction Hoists – Best Practice Guide Working Group*

Chairman:

G Gedling	Hoist-It Ltd

Members:

A Bolton	Alimak Hek
V Cole	HSE Specialist Inspector
J Douce	Hoist Hire Ltd
G Fisher	Kier Plant
K Hancock	Geda – Dechentreiter GmbH
C Hook	Sir Robert McAlpine
R Hughes	Imer Direct
H Steele	Construction Plant-hire Association
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I Watson	Lend Lease

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