



The UK's leading Machine Safety Specialists

Procter offer unrivalled machine safety expertise. We deliver compliant and more productive industrial workplaces and keep your people safe.

A complete solution From concept to installation

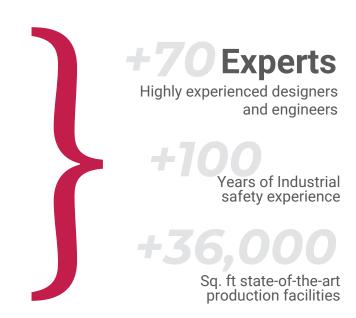
Procter are one of the largest, oldest and experienced machine guarding specialists in the UK

Our experts have unrivalled industry experience and knowledge of the latest safety standards, and can design and manufacture EVERY type of guarding - standard and bespoke – and offer complimentary automation solutions where required.

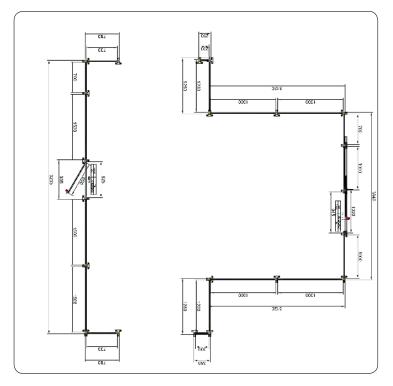
For over 100 years, we have designed and implemented solutions that have made industrial workplaces **safer and more productive.**

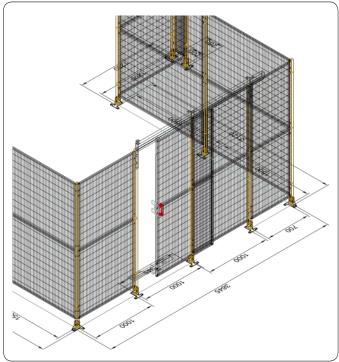
During this time we have operated in EVERY possible industrial sector where potentially hazardous machinery is present, overcoming some of the most complex machine safety challenges.

So from an initial risk assessment to final certification, **you'll be safe with us.**





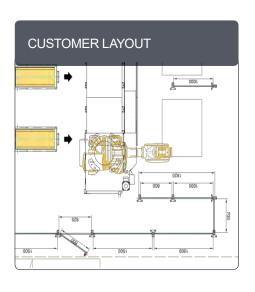


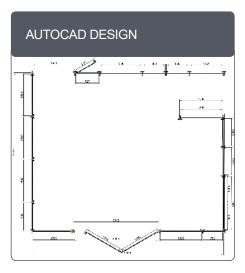


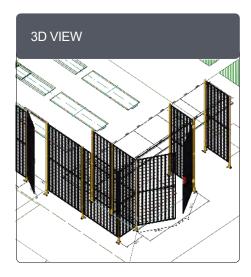
Autocad® and Inventor DesignSolutions tailor-made for you

Our technical department is geared to meet the individual requirements of the clients and provides for customised protection solutions for all the industry sectors.

A customised Autocad® design application allows us to get maximum optimisation choosing the modular components used in the layouts. Our designs are saved in STEP and PDF-3D format, ensuring a full compatibility with your IT standards.







Framed panels

Safe, practical, resistant

Satech framed modular mesh panels are designed according to EN ISO 14120 and meet Risk Assessment safety requirements. Available with 20 mm frame, they can be assembled with 3 different assembly options.





Easy to handle

Robust and light

With a structure that's **lightweight** yet robust, the Satech framed panel can be easily handled by just one person.

Ready to use

Plug and play versatility

The frame comes **pre-drilled** to allow assembly with Nuts and Bolts and the installation of brackets, locks and accessories.

7 standard widths, infinite possibilities The combination of our 7 standard panels joined together allows to create all the intermediate widths in 100 mm increments. 7 standard widths:

The Satech Modular Framed Panel

7 standard widths and 2 standard heights





Visibility EN ISO 14120-5.9

The vertical mesh shape ensures excellent machinery visibility

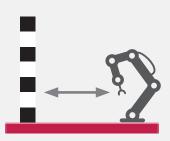


Anti-climbing EN ISO 14120-5.18

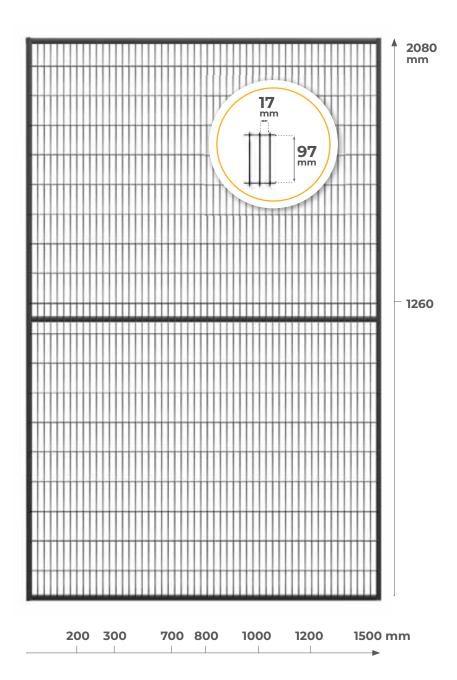
The horizontal wires welded on the inside prevent climbing

Less distance, more space saved

The **17x97 mm** mesh slot allows to install the Guard only **120 mm** from hazard (EN ISO **13857**), reducing the **amount of space** occupied by the safety perimeter.



120 mm



Safe and resistant

20 mm frame

The 20 mm **square section tubes** and 3 mm wire mesh make the Satech panel rigid and resistant, while **welds at wires intersection** prevent the risk of resonance.



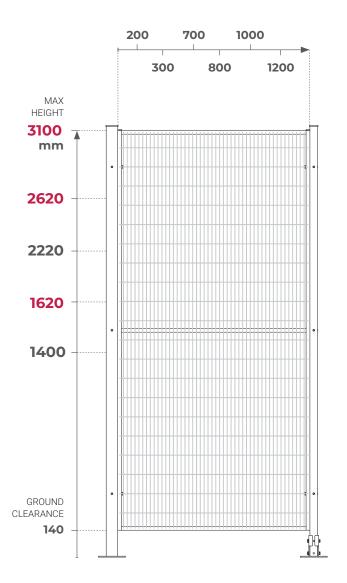


ImpactGuard

Robustness and Durability

The sturdiest and most durable Perimeter Guard.

FRAME mm Post mm 60

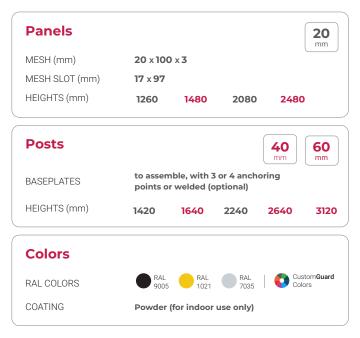


Robust

ImpactGuard is the solid and durable Perimeter Guard Solution. The assembly with captive retained screws and the baseplates make for a sturdy structure, able to absorb impacts from the inside up to 2200 J.

Versatile

Available with 40- or 60 mm posts, ImpactGuard is compatible with all Satech panels, accessories, and doors. Designed to be long-lasting, this System is ideal for heavy duty applications, e.g. in the steel industry.





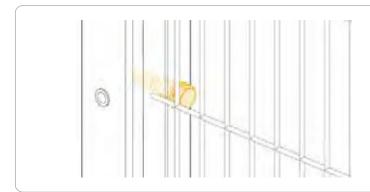
Simple, universal, durable in all conditions.

Two options for posts and for the frame, full compatibility with all Satech products and maximum personalization: ImpactGuard ensures unmatched solidity, whichever its configuration might be.

New posts

The posts are compatible with all Satech panels, both framed and frameless. Available with 40 or 60 mm sections, they feature adjustable 3-anchoring point baseplates designed to provide stability and resistance to accidental impacts.

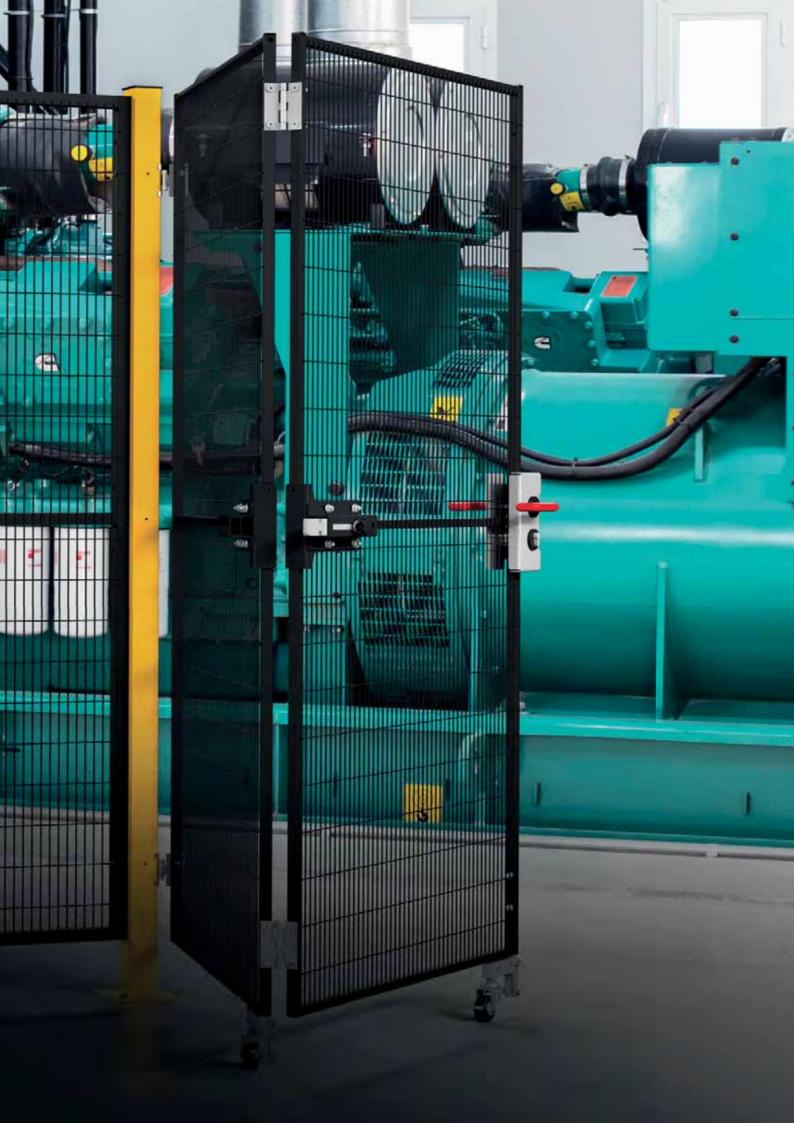




Impact-proof Assembly

The new ImpactGuard captive fastening (2006/42/EC Machinery Directive) features a reduced number of components that optimizes assembly time while ensuring excellent impact resistance (Impact Test, EN ISO 14120).

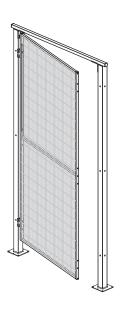


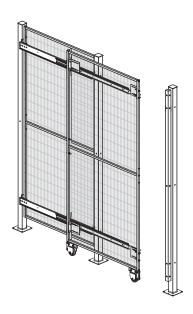


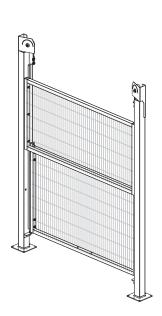
Standard Doors

A complete and versatile range of openings

We provide a wide range of Standard Doors Solutions for your Safety Perimeter. 5 types of movement, openings from 700 to 11,000 mm, 3 different posts sections and a variety of panel options. **Upon request, Satech doors can be supplied pre-assembled, ready for installation.**







Simple and functional

Customisable with several panel options

Simple, solid and durable, Satech doors are built with our modular components and are easy to assemble. They can be made with any type of framed panel option.

Hinged, linear, vertical or hybrid?

The right door for your need

Our Standard doors - hinged, folding, with guides, linear, vertical or hybrid to optimise the opening width - are designed to enable machinery access to people, goods, pallet trucks and various types of heavy loads.



PEOPLE





HEAVY LOADS

Locking systems suitable for any Performance Level (PLr)

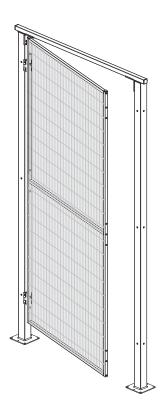
Each Satech door can be completed with a wide range of locks, from simple magnet locks to mechanical ones and interlocks, according to the Performance Level required (PLr). We also design and manufacture brackets for your own locks.

Hinged Door

Pedestrian Gate







Simple door for man passage equipped with hinges that guide the movement of the panel. It can be ordered **pre-assembled** with an interlock.





VERSIONS AVAILABLE

Single leaf

*Double leaf

OPENINGS

700 to 3000* mm

IDEAL FOR





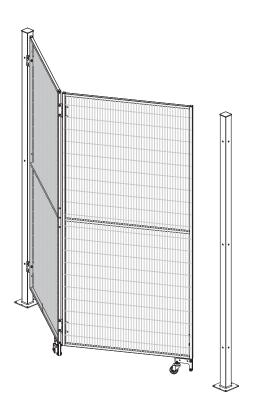
Folding Door Space saving





60

Door designed to save space when opened. The two panels fold over each other to reduce the space occupied, while the swivel wheel provides stability throughout the movement.







VERSIONS AVAILABLE

Single

*Double

OPENINGS

1400 to 6000* mm

IDEAL FOR



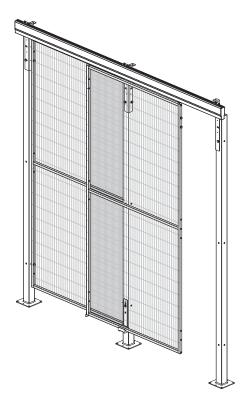




Sliding Door Upper Guide



60



Sliding door suspended by means of an upper guide to allow the passage of loads on the ground. The lower end of the door is guided by nylon sliding pads.





VERSIONS AVAILABLE

Single

Alternate

*Opposed

OPENINGS

700 to 3000* mm

IDEAL FOR



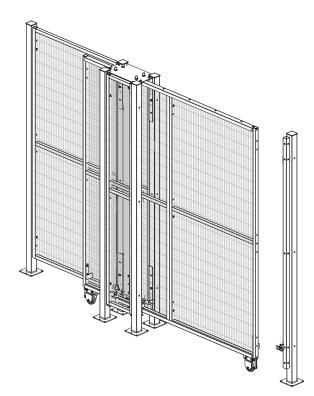


Sliding Door Trackless Sliding Gate





60



Sliding doors with a low-friction telescopic guide for panel stability and smooth sliding. Also available in the multi-stage version, designed for large openings.





VERSIONS AVAILABLE



Single

Opposed

OPENINGS

700 to 3000 mm

IDEAL FOR





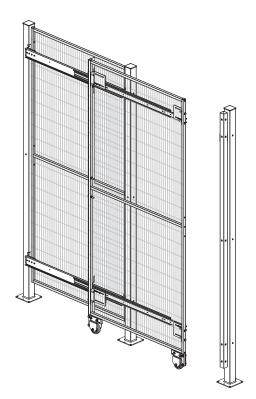


Sliding Door

Bespoke







Sliding doors with a low-friction telescopic guide for panel stability and smooth sliding. Also available in the multistage version, designed for large openings.





VERSIONS AVAILABLE

✓ Single

✓ Opposed

✓ *Multistage

OPENINGS

700 to 8700* mm

IDEAL FOR





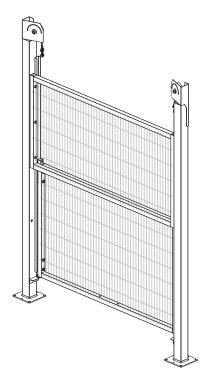


Vertical Door

Bespoke



Door equipped with a counterweight that allows the control the opening and closing movement. The reduced number of components makes for an easy and quick assembly.







Manual



OPENINGS

up to 1500 mm

IDEAL FOR



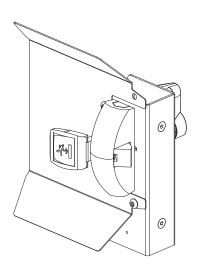


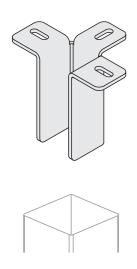


Accessories and Brackets

Personalization and functionality

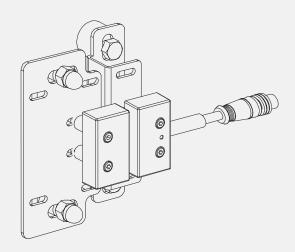
A complete range of accessories and assembly complements designed for the completion and personalization of your Perimeter Guard. On top of that, a choice of over 90 brackets for Safety Switches, Locks and Interlocks compatible with systems from leading manufacturers.





Brackets

for Safety Switches and Locking Systems





More than 60 types of brackets for **type 2** (key) and **type 4** (magnet) **Safety Switches**. Compatible with products from leading manufacturers such as Allen Bradley, Bernstein, Leuze, Omron, Pilz, Pizzato, Schmersal, Sick, Siemens, Telemecanique-Schneider, etc. Our catalog of **brackets for locking systems and safety interlocks** features more than 30 standard models, designed for products by Allen Bradley, Dold, Euchner, Fortress, Guard Master, Omron, Pilz, Pizzato, Rockwell, Schmersal, Siemens, Sick, Telemecanique-Schneider, etc.
Custom**Guard** brackets, on the other hand, are custom designed for any type of Safety Switch, lock and interlock.

VERSIONS AVAILABLE

All major brands

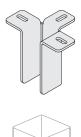
CustomGuard (custom design)

COMPATIBILITY

Hinged doors, folding doors, sliding doors (linear and vertical opening movement)

Cable Duct

Support



Fast-coupling cable duct support to fasten the cable duct directly to the post. Ergonomically shaped with no sharp edges for improved safety.

VERSIONS AVAILABLE

✓ 40 x 40 mm

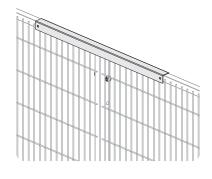
√ 60 x 60 mm

COMPATIBILITY



POST mm

Reinforced linear **Junction**



Joins two panels without using a central post, e.g. in the presence of obstructions (cables, pipes, etc.), optimizing assembly and material costs.

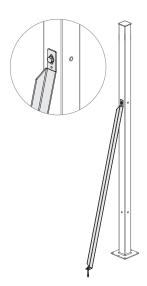
VERSIONS AVAILABLE

✓ 20 x 20 mm

COMPATIBILITY

FRAME mm

Stabilizing **Post support strut**



The support strut helps reinforcing posts subjected to significant horizontal dynamic loads as well as the ones that are placed in critical layout positions.

VERSIONS AVAILABLE

40 x 40 mm

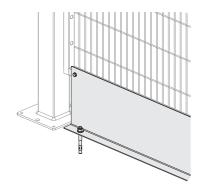
COMPATIBILITY





Ground

Kick Plate



Made of 2 mm metal sheet, it fills the gap between the panel and the floor to contain the ejection of residues (waste, scraps...) from production processes.

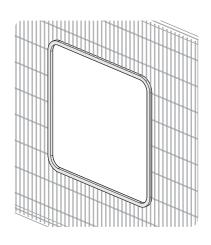
VERSIONS AVAILABLE

For framed panels

COMPATIBILITY

FRAME mm

Rubber **Profile**



A gasket made from a steel-reinforced rubber profile for the finishing of panel cutout shapes made on-site.

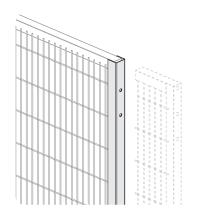
VERSIONS AVAILABLE

✓ Universal - different sizes available

COMPATIBILITY

FRAME mm

Cutting Kit for framed panels



Kit for the resizing and trimming of framed panels. It consists of a cut-to-size tube, a U-profile and self-drilling screws.

VERSIONS AVAILABLE

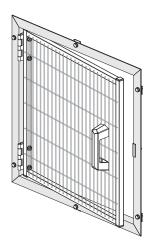
✓ 20 x 20 mm

✓ Different sizes available

COMPATIBILITY

FRAME mm

Insert with door



Openings with inserts for inspections or sampling operations for statistical process control. It can be coupled with Safety Switches or interlocks.

VERSIONS AVAILABLE

✓ 400 x 400 mm

√ 600 x 600 mm

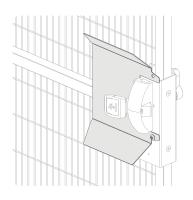
COMPATIBILITY

FRAME mm

FRAME mm

Anti-effraction plate

for panic locks



Specifically designed for panic locks, it prevents the access to the emergency release from outside the safety perimeter.

VERSIONS AVAILABLE

Universal

COMPATIBILITY

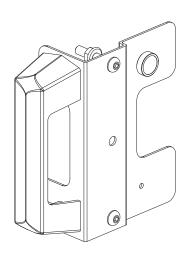
FRAME mm

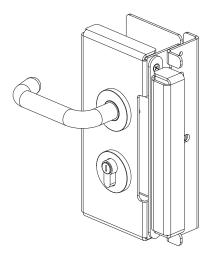


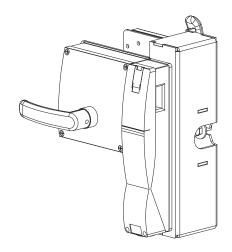
Locking Systems

Safe Access at any Level

Satech doors can be completed by over **150 models of locks** with different mechanisms, so as to reach the **Performance Level required (PLr)** for control systems.







GET TO KNOW MORE

Which lock is right for you?

Control Systems and Performance Level Required

The EN ISO 13849-1 Standard defines the requirements to design and construct control systems and their parts for the safety of machinery. Among these, locks installed on the Guards are part of control systems.

Determining the safety functions performed by control systems is an important step for risk reduction. Each safety function is associated to a **Required Performance Level (PLr)**, i.e. the Performance Level to be reached in order to achieve the required

Locking Solutions available

risk reduction for each safety function. Performance Levels are determined by the following: **severity of injury**, **frequency and/or exposure to a hazard** and the **possibility of avoiding hazard or limiting harm**.

The greater the amount of risk reduction required, the higher the PLr must be. It is for this reason that **different locks fulfill different safety needs**.

	REQUIRED PERFORMANCE LEVEL (PLr)		В	С	D	E
--	----------------------------------	--	---	---	---	---

Low risk High Risk

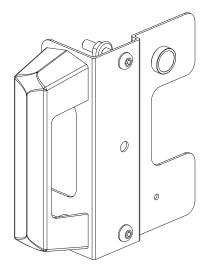
IMPORTANT

Risk assessment as well as the determination of safety functions and performance levels are the sole responsibility of the customer. Satech is limited to the sale of products and assumes no responsibility if the locking system purchased covers a Performance Level that is not appropriate for the corresponding control system.

Proper risk assessment conducted by experienced and qualified professionals will tell you which locking system is the right choice for you.

Magnet Lock

Ergonomics and safety



Lock consisting of a plate with a high-visibility ergonomic handle and a supermagnet that secures the door in place. Ideal when there is **no risk** involved.





VERSIONS AVAILABLE

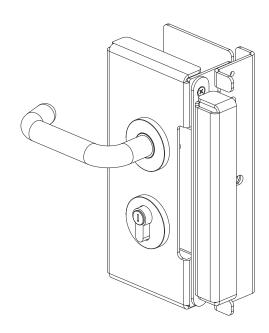
Magnet

MAX. PLr

Not applicable

Mechanical Locks

Versatility and functionality



Locks suitable for situations where **the risk is low**, e.g. for the partitioning of areas. They provide perfect integration with brackets and Safety Switches.



VERSIONS AVAILABLE

✓ With key

✓ With panic handle

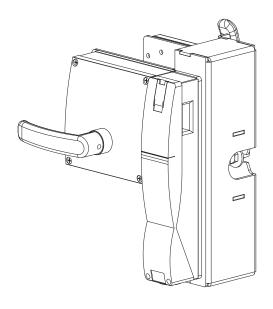


MAX. PLr

Not applicable

Interlocked Locks

Maximum protection of operators and processes



Device connected to the machine control system. When in open position, it stops the machine from working. Suitable in the presence of high risk.



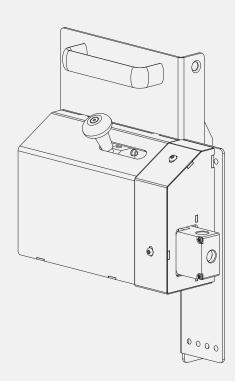


VERSIONS AVAILABLE

Interlocks from leading manufacturers (Schmersal, Euchner, Pizzato, Pilz...)



D-Fence**Lock** Durability and reliability



The Satech D-FenceLock with integrated Safety Switch features a Safety Switch or an interlock, panic release and holdopen device to prevent accidental lockups.





VERSIONS AVAILABLE

✓ D-FenceLock 3

✓ D-Fence**Lock** 4

MAX. PLr

D-Fence**Lock** 3

D-Fence**Lock** 4



Bespoke Guards Your personalised Solution

We provide solutions with different levels of customization: colours, finishes, shapes, dimensions, as well as custom-made products such as brackets for accessories or Safety Switches and automated openings. Need adaptations, cuts or cutouts? Our **Bespoke Guard** Department will do that for you.

Colour

An endless choice of hues

Thanks to our three-cabin automated powder coating line we are able to manufacture **panels**, **posts and accessories in any RAL colour**, either with a smooth or pebbled finish. We will also provie you recommendations about the Guard colour that best fits your Machinery in accordance with the requirements set by Safety Standards (**EN ISO 14120 - 5.9**).

Anti-corrosion Finishes

Galvanising and Triplex System

Our Guards can be completed with **hot-dip galvanising**, a process that extends their life by protecting the steel from corrosion and weathering. To ensure even greater durability, our TRIPLEX System completes the **rustproofing** provided by hot-dip galvanising with a **powder coating surface finish**.







Pre-assembly Service

Pre-assembly of doors, locking systems, panels, electrical pre-wiring and verification tests

By requesting our pre-assembly service, we will take care of assembling doors, panels, locks, handles, Safety Switches and on-board electronics of your Guards at our facility.

The components will be delivered to you **ready to be installed**, saving the installers of your Perimeter Guard a **significant amount of time**.













On-site installationService

All the assistance you need for the installation of your Perimeter Guards

Our assembly teams are available anywhere in the world to assemble your Guards. The operators are experienced professionals trained at our manufacturing facility in Wales, a facility equipped with the whole range of our products to practice full-scale assembly.

Maintenance and Compliance

We know that your machines and equipment are vital to your production. So is the safety of your workers. By eliminating risks before they lead to injury, you can protect your people and maximise your productivity.







Working environment **safety**? An important matter.

EU and international directives establish the obligation to protect machinery with fences complying with specific construction and safety distance requirements. **Without these Guards, it is not possible for machinery to operate.**

For example, perimeter Guarding must:

Be designed and built so as to prevent climbing (EN ISO 14120-5.18)

Ensure adequate viewing of production processes (EN ISO 14120-5.2.4)

Be equipped with retained fasteners when disassembled (EN ISO 14120-5.19).

Be placed at a specific distance from the danger zone (EN ISO 13857)



EN ISO 14120

General requirements for the design and construction of fixed and movable Guards - excerpts

5.2.5.3 - Operating force

Movable Guards or removable sections of Guards shall be designed to permit ease of operation. The observance of ergonomic principles (...) contributes to increasing safety by reducing stress and physical effort of the operator.

5.3.9 - Removal

Demountable fixed parts of Guards shall only be removable with the use of a tool. Fixed Guards shall be designed to prevent easy removal.

5.4.2 - Impact

Guards shall, as far as practicable, be designed and the material selected to withstand and contain reasonably foreseeable impacts and ejections.

5.23 - Appearance

Guards shall be designed so that they do not add adverse physiological and psychological effects.

5.16 - Noise reduction Where

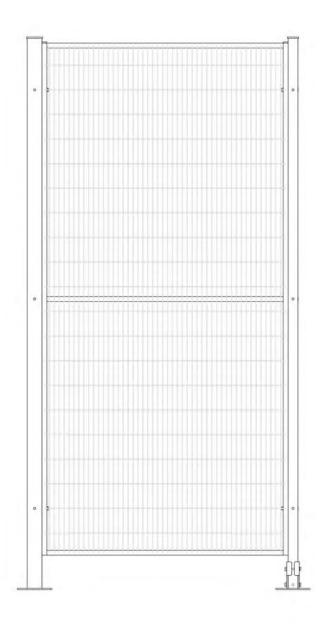
necessary, materials shall be selected to provide noise and vibration reduction and (...) minimise effects of resonance which can transmit or amplify noise.

5.4.3 - Rigidity

(...) Guard frames (...) and infill materials shall be selected and arranged to provide a rigid and stable structure and to resist deformation

5.9 - Machine viewing

Where viewing of machine operation is required through the Guard, materials shall be selected with suitable properties. If (...) wire mesh is used, this should be of adequate open area and suitable colour to permit viewing. Viewing will be enhanced if the perforate material is darker than the area observed.



Safety distances

of Machine Guards

Reaching over protective structures

EN ISO 13857, 4.2.2

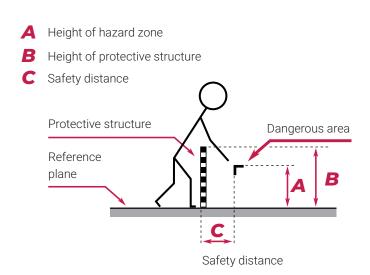


Table	2						(dimens	sions ii	n mm
	B 1000	1200	1400	1600	1800	2000	2200	2400	2500	2700
A			Horizo	ontal di	stance	to haza	ard zon	e C		
2700	-	-	-	-	-	-	-	-	-	-
2600	900	800	700	600	600	500	400	300	100	-
2400	1100	1000	900	800	700	600	400	300	100	-
2200	1300	1200	1000	900	800	600	400	300	-	-
2000	1400	1300	1100	900	800	600	400	-	-	-
1800	1500	1400	1100	900	800	600	-	-	-	-
1600	1500	1400	1100	900	800	500	-	-	-	-
1400	1500	1400	1100	900	800	-	-	-	-	-
1200	1500	1400	1100	900	700	-	-	-	-	-
1000	1500	1400	1000	800	-	-	-	-	-	-
800	1500	1300	900	600	-	-	-	-	-	-
600	1400	1300	800	-	-	-	-	-	-	-
400	1400	1200	400	-	-	-	-	-	-	-
200	1200	900	-	-	-	-	-	-	-	-
0	1100	500	-	-	-	-	-	-	-	-

Reaching through regular openings

EN ISO 13857, 4.2.4.1



The dimension of the opening "e" corresponds to the side of a square opening, the diameter of a round opening and the narrowest dimension of a slot opening.

For openings larger than 120 mm, safety distances in accordance with point 4.2.2 shall be used.

If the length of the slot opening is ≤ **65 mm**, the thumb acts as a stop and the safety distance for protective structures can be reduced to **200 mm**, resulting in **great space saving**.

Table 4 dimensions in mm

Part of body	Part of body Illustration		Slot	Safety distance Sr Square	Round
	_Sr	e ≤ 4	≥2	≥2	≥2
Fingertip	e	4 < e ≤ 6	≥ 10	≥5	
	Sr I	6 < e ≤ 8	≥ 20	≥ 15	≥ 5
Finger up to knuckle joint	e	8 < e ≤ 10	≥ 80	≥ 25	≥ 20
		10 < e ≤ 12	≥ 100	≥ 80	≥ 80
Hand	Sr ,	12 < e ≤ 20	≥ 120	≥ 120	≥ 120
	e	20 < e ≤ 30	≥ 850 •	≥ 120	≥ 80 ≥ 120 ≥ 120
	Sr	30 < e ≤ 40	≥ 850	≥ 200	≥ 120
Arm up to junction with shoulder	e	40 < e ≤ 120	≥ 850	≥ 850	≥ 850

dimensions in mm

Safety distances to prevent access by lower limbs EN ISO 13857, 4.3

Table 7

When it is not possible to foresee upper limb access through the opening, it is possible to use the values given in this Table to determine safety distances for the lower limbs.

"e" refers to the same types of opening as in chapter 4.2.4.1.

If the narrower slot width is ≤ 75 mm, distance can be reduced to ≥ 50 mm.

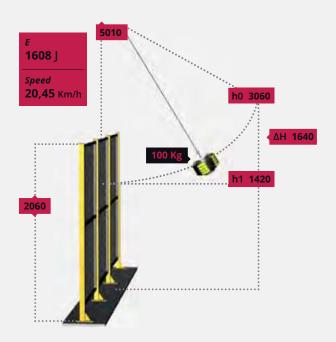
Slot openings with e > 180 mm as well as square or round openings with e > 240 mm allow access with the whole body.

Table /		diriensions		
Part of lower limb	Illustration	Opening	Safety dis Slot Se	tance Sr quare or round
Toe tip	Sr e	e ≤ 5	0	0
roc up	1/1/1/4	5 < e ≤ 15	≥ 10	0
Toe		15 < e ≤ 35	≥ 80 •	≥ 25
	Sr	35 < e ≤ 60	≥ 180	≥ 80
Foot		60 < e ≤ 80	≥ 650	≥ 180
Leg (toe tip to knee)	Sr e	80 < e ≤ 95	≥1100	≥ 650
	/ / e	95 < e ≤ 180	≥ 1100	≥ 1100
Leg (toe tip to crotch)	Sr	180 < e ≤ 240	not admissible ••	• ≥1100

EN ISO 14120

Impact Test

In our dedicated **Test Center** Satech Solutions are subjected to severe **dynamic resistance tests from the inside outwards** according to the procedure contained in the EN ISO 14120 Standard (Hard body / Pendulum Test).





Mass release height from the ground (mass load center): **h0** = 3,060 m Mass impact height from the ground (mass load center): **h1** = 1,420 m

 $\Delta H = h0 - h1 = 3,06 - 1,42 = 1,64 m$

BS EN Standards for safety in

working environments

BS EN ISO 14120

General requirements for the design and manufacture of fixed and movable guards.

5.2.4 - Viewing

Where viewing of the process is required, guards shall be designed and constructed to offer adequate viewing.

5.9 - Machine viewing

Where viewing of machine operation is required through the guard, materials shall be selected with suitable properties (...) or wire mesh is used, this should be of adequate open area and suitable colour to permit viewing. Viewing will be enhanced if the perforate material is darker than the area observed.

BS EN ISO 12100

Basic concepts, general design principles.

BS EN ISO 13857

Safety distances to prevent the contact of dangerous areas with upper and lower limbs. EN 349 Minimum distances to avoid squashing of body parts.

BS EN 349 - ISO 13854

Minimum gaps to avoid crushing parts of the human body.

BS EN ISO 10218-2

Robots in industrial environments. Safety.

BS EN ISO 14119

Interlocking devices designed for guards. Design and selection concepts.

EN ISO 13849

Safety of machinery - Safety-related parts of control systems

BS EN 60204-1:2018

'Safety of machinery - Electrical equipment of machines - Part 1: General requirements'

2006/42/CE

Machinery Directive.

AISI 304L Stainless Steel Solutions

BlueGuard Perimeter Protection

Blue**Guard** is the frameless Satech Solution for the Agro-food, Chemical and Pharmaceutical industries. Made of passivated **AISI 304L** Stainless Steel and food technopolymer, its open design allows for a high degree of sanitization.

Hygienic Design

in 4 steps



REDUCED CONTACT SURFACES

minimized metal-to-metal contact



OPEN DESIGN AND INCLINED SURFACES

allows for full cleaning inspection and prevents the accumulation of dust and residue



FLOOR SPACERS

to avoid liquids pooling and ease cleaning of surrounding areas



TIG WELDING

maximum cavity reduction to ensure complete sealing of each joint

Maximum Safety

Food material

To avoid any potential contamination, Blue**Guard** components are all made of high-quality, passivated **AISI 304L Stainless Steel** to prevent oxidation. Fastenings come with food contact approved **DOMAMID® 6G30FC** inserts.

Maximum Hygiene

Resistant to frequent washing

BlueGuard's open structure allows to be fully washed. Each component is designed to withstand aggressive agents, ensuring long-term durability of this Guard.

EC©LAB

Tested on 2000+ wash cycles

Blue**Guard** has been subjected to strict endurance tests for more than **2000 wash cycles** (6 years of use) with the following ECOLAB® detergents:

TOPAZ AC5 P3-TOPAX 66
P3-TOPAX 990 TOPAZ HD3
TOPACTIVE DES TOPAZ MD3



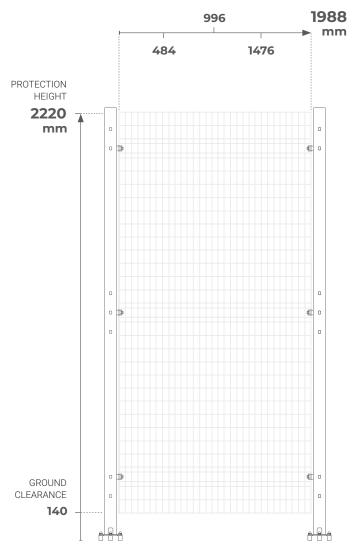


BlueGuard hygienic fencing Safety and Hygiene

The Stainless Steel Perimeter Guard







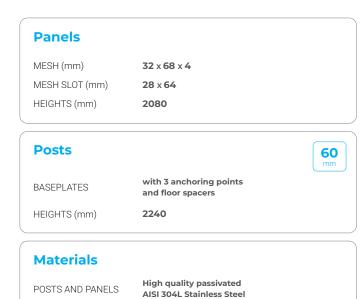
Hygienic and Safe

TECHNOPOLYMER

Blue**Guard** combines the **safety** and **versatility of** Satech Perimeter Guards with the **high hygienic standards** required in the **Agro-food, Chemical and Pharmaceutical** industries.

Adaptable and Inspectable

Blue**Guard** is a frameless Perimeter Guard that can be **adapted directly on-site** to **save valuable time**. The open, U-shaped posts and the floor spacers make **washing** and **inspections very easy to perform**.



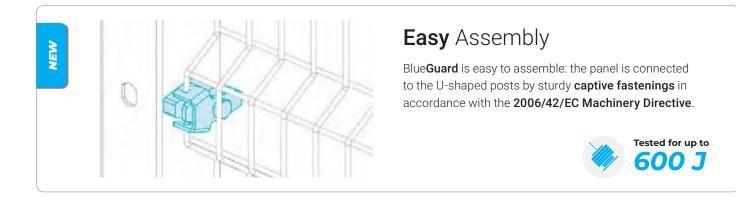
DOMAMID® 6G30FC for food



Doors and Accessories



Access to Stainless Steel perimeters is provided by hinged and sliding doors, with single or double opening. Doors and accessories of Blue**Guard** Perimeter Guards are designed and manufactured in strict accordance with Hygienic Design guidelines.



Proud to work with































































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Need a quotation?

If you're looking for a **free, no-obligation quote**, just go to

www.machinesafety.co.uk

