MODULAR PROTECTION
>SYSTEMS

SATECH
SAFETY TECHNOLOGY

SATECH the company

> Workplace safety is a major consideration for SATECH and since the business commenced in 2000 its hardware and software products and systems have been designed to meet all relevant **EU Directives** concerning safety at work.

A European market leader in modular protection systems for industrial machinery, the company operates from its 8,000 sq.m. design, development and manufacturing facility at Calco in the province of Lecco in northern Italy.

SATECH's patented assembly systems and software have been developed to go way beyond the simple protection concept. The ability to transform specific customer demands into viable production projects and manufacture them to the highest quality standards has given SATECH a unique advantage in the industry. More and more manufacturing companies are adopting the basic premise that safety is not only everyone's duty but also a major contributing factor where the quality of their own products is concerned. A safe factory is a productive one.

Since SATECH exclusively operates in the industrial sector, its technical department is geared up to meet customers' individual requirements and provide customised protection equipment and systems for different industry sectors. Ongoing technical research and development, coupled to years of experience, enable SATECH to provide the right solution whatever the application.

Constant development of the design of its assembly systems allows SATECH to provide the optimal answer to the most demanding requirements. All solutions, being based on the company's structured modular panel system, are guaranteed to deliver highly cost-effective modular protection installations, even when facing the most complex situations.

Because SATECH technical staff design protection systems using modular products from its huge range — and equally huge stockholdings — at the Calco facility, even urgent and complex orders are delivered quickly and equally speedily assembled on site, thus ensuring the shortest possible lead time before customers' employees enjoy the important benefits of enhanced safety at work and all at an amazingly low cost.

> Index

SATECH

> AUTOCAD
DESIGN

> SATECH has invested substantially in **software for the automatic 3D design of modular guards**. This allows for the optimal selection of modules and the provision of a 3D drawing that is easily understood by assembly personnel.

ADVANTAGES OF AUTOCAD DESIGN

1 **Design Speed:**
Because of its dedicated software, SATECH is able to design complex layouts in a very short time.

2 **Realistic execution:**
The layout is designed directly on the customer's drawing – which immediately highlights any conflicts with the plant layout.

3 **Isometric layout view:**
The installers work from an isometric drawing which avoids any possible confusion as to positioning of the protection components and equipment.
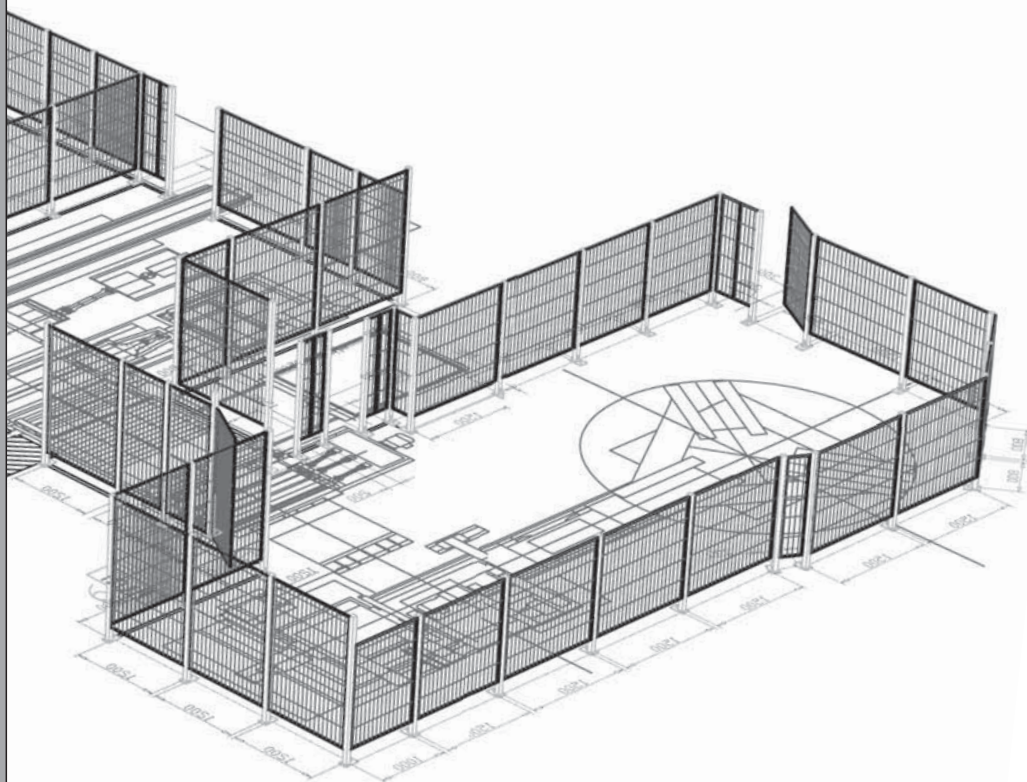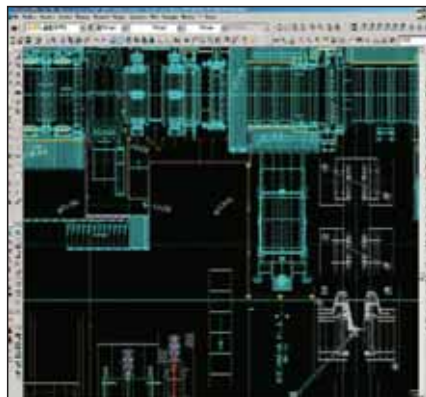
FROM THE CUSTOMER'S NEEDS TO
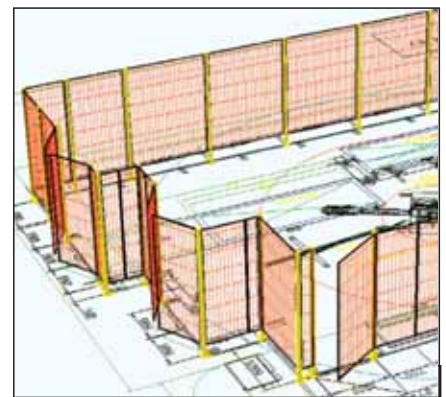## CUSTOMIZED DESIGN
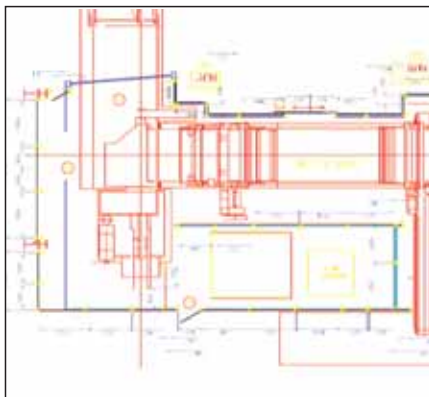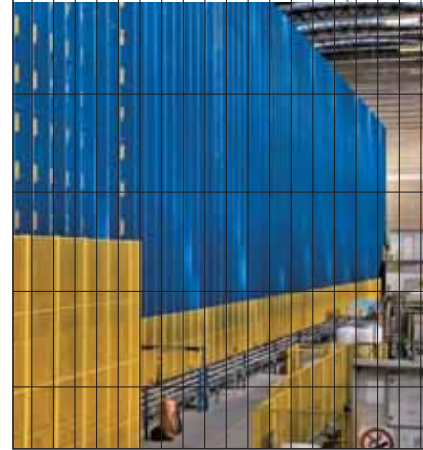
CUSTOMER'S LAYOUT:
The design starts by inputting the DWG or DXF file sent by the customer.

AUTOCAD DESIGN:
Use of AutoCAD allows dialogue with the customer without the need of file conversion.

3D VIEW:
The objective 3D view avoids misinterpretation of the positioning of the protection equipment.

> TOTAL MANAGEMENT OF
WORKFLOW

> Constant development of assembly systems, all based on SATECH's structured **modular panel design**, mean that the company can design the optimal layout of protective guards for even the most complex and exacting conditions, resulting in the most cost-effective solution.

- Design
- Production
- Stock
- Shipping
- Delivery
- Assistance

STOCK

> SATECH maintains a **wide selection of finished components in stock** to allow short lead times for standard products where customers require it. The system also allows for speedy delivery of products in special colours or designs.

PACKING AND SHIPPING

> SATECH has taken great care in the design of protective packaging for products in transit, to ensure they arrive in perfect condition. This has been achieved by an innovative vertical packaging system which minimises packaging materials and maximises space in the delivery vehicle — **keeping shipping costs low and protecting the environment.**

> COLOURS

RAL COLOURS

Panels and uprights are finished using proven, hard-wearing epoxy polyester powder paints, available in standard colours RAL 9005, 1021 and 7035. **SATECH GUARDING CAN ALSO BE PRODUCED IN SPECIAL COLOURS TO MEET INDIVIDUAL CUSTOMER REQUIREMENTS.**

RAL 9005   RAL 1021   RAL 7035   SPECIAL COLOURS
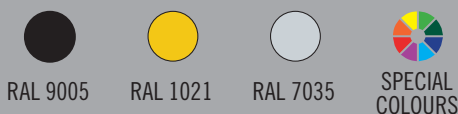
SERVICE
AND AFTER SALES CARE

EQUIPMENT ASSEMBLY & INSTALLATION

> In order to ensure customers receive a comprehensive service from initial design to the final assembly of their guarding system, SATECH supports customer staff through an education programme which includes both theory and practice in the assembly of the main parts such as doors, safety switches and locks. Assembly staff are also given an easy-to-understand 3D plant layout.

ASSEMBLY & INSTALLATION SERVICE

> For those customers not wishing to assemble and install the guarding systems themselves, SATECH provides this service through a network of approved assembly teams. The assembly operatives are trained in SATECH's own technical centre which is equipped with the full range of products for full-scale assembly.

ALL-ROUND SAFETY

> In response to customer requests, SATECH has established **partnerships with a number of consulting and service companies** able to certify industrial plant and machinery to relevant safety standards.
This additional customer support enables SATECH to square the circle and provide an all-encompassing assembly, installation and commissioning package that covers machinery, plant and workplace safety — a truly 360-degree service delivering all relevant certification at a corporate level.

SATECH

> CAPTIVE
FASTENING SYSTEMS

> Following the update of the European machine safety directive 2006/42/CE, SATECH has developed **patented captive fastening systems** for its complete range of products.

ALL SYSTEMS ARE SUPPLIED WITH EITHER A "NON-CAPTIVE" OR "CAPTIVE" FASTENING

> Economic and simple solution

> Absolutely safe and secure fixing

> Compliance with the CE standards on captive state of the fixing elements.

> Quick and easy assembly

APPLICATION
ON OUR SAFETY SYSTEMS

CAPTIVE FASTENING FOR BASIC AND STRONG PROTECTION SYSTEMS

> The captive fastening applied to Basic and Strong systems consists of a clip secured by a special screw and captive nut. The clip can slide along the upright but cannot be separated from it.

CAPTIVE FASTENING FOR GREEN FAST PROTECTION SYSTEM

> A special screw and captive nut clamp the baseplate holding the panels by the use of a specially-designed coupling that maintains the position of the upper mating spring and thus ensures the integrity of the fixing system.

CAPTIVE FASTENING FOR MDF AND BASIC PROTECTION SYSTEM

> SATECH has patented its simple and economic fastening solution that ensures that the connecting screw and nut remain together when disassembling the panel from its upright.

SATECH

> BASIC

PERIMETER PROTECTION SERIES – BASIC

> Protection and accident prevention system consisting of **40x40 uprights and 20x20 panels with 20x20 frames**, connected by screws or **SATECH patented fast assembly clamps**. It is the standard method used in all guards for plant and machinery.

25% TIME SAVED
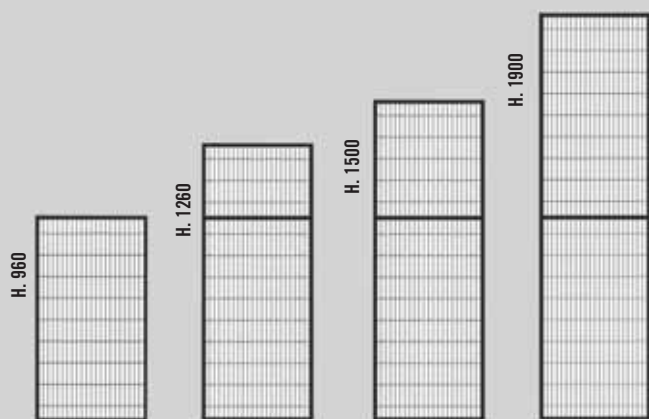compared to traditional system

PATENT

CLIP BASIC

> SATECH has developed a connecting system between panel and upright that achieves remarkable time savings during assembly and height adjustment. It also allows easy reinstallation of the guard after it has been removed for non-routine maintenance.
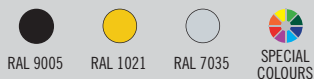**EN ISO 14120 6.4.4.1 b.**

PANELS

Panels Frame: 20 x 20

Mesh: 22 x 100 x 3 mm

Painting: Epoxy polyester powder (indoor use)

COLOURS:

RAL 9005 · RAL 1021 · RAL 7035 · SPECIAL COLOURS

POSTS

Uprights: 40 x 40 x 2

Baseplate: Forged with 3/4 anchor points

Painting: Epoxy polyester powder (indoor use)

COLOURS:

RAL 9005 · RAL 1021 · RAL 7035 · SPECIAL COLOURS

PANELS H.960

Base	Height	Code
200	960	R020096
300	960	R030096
700	960	R070096
800	960	R080096
1000	960	R100096
1200	960	R120096
1500	960	R150096

PANELS H.1260

Base	Height	Code
200	1260	R020126
300	1260	R030126
700	1260	R070126
800	1260	R080126
1000	1260	R100126
1200	1260	R120126
1500	1260	R150126

PANELS H.1500

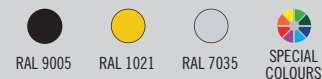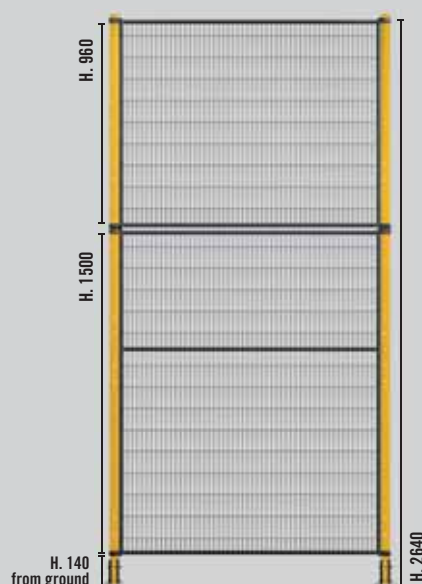| Base	Height	Code
200	1500	R020150
300	1500	R030150
700	1500	R070150
800	1500	R080150
1000	1500	R100150
1200	1500	R120150
1500	1500	R150150

PANELS H.1900

Base	Height	Code
200	1900	R020190
300	1900	R030190
700	1900	R070190
800	1900	R080190
1000	1900	R100190
1200	1900	R120190
1500	1900	R150190

POSTS WITH SCREWS

Height	Code
1120 adjustable	PLR1120
1420 adjustable	PLR1420
1660 adjustable	PLR1660
2060 adjustable	PLR2060
2640 adjustable	PLR2640

POSTS WITH FAST ASSEMBLY CLAMPS

Height	Code
1120 adjustable	P0L1120
1420 adjustable	P0L1420
1660 adjustable	P0L1660
2060 adjustable	P0L2060
2640 adjustable	P0L2640

MODULARITY

Base	Standard Modules
400	200 + 200
500	200 + 300
600	300 + 300
900	700 + 200
1100	800 + 300
1300	1000 + 300
1400	1200 + 200
2000	1000 + 1000
2400	1200 + 1200
3000	1500 + 1500

BASIC H.2640

PLEASE NOTE: PARTIAL PRODUCT CODES ARE SHOWN ABOVE – FOR FURTHER INFORMATION PLEASE CONTACT OUR SALES DEPARTMENT.

SATECH

> STRONG / HEAVY

PERIMETER PROTECTION SERIES – STRONG

> Protection and accident prevention system consisting of **60x60 uprights and 20x20 or 30x30 panels with frames connected by SATECH patented fast assembly clamps**.
This series is used in heavier applications such as industrial robotics or the steel industry.

**ALSO AVAILABLE:
HEAVY-DUTY VERSION***
With 30x30 panel frames

25% TIME SAVED
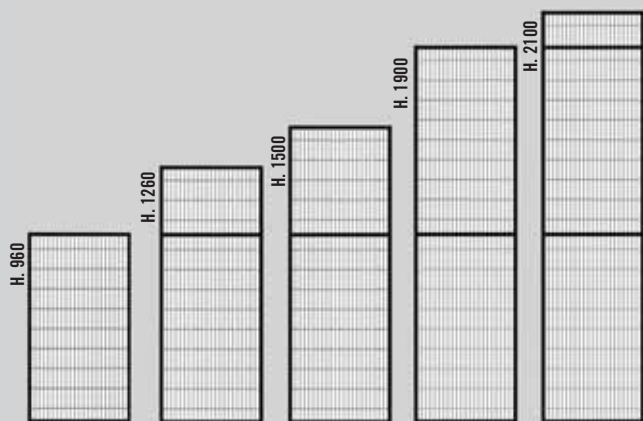compared to traditional system

PATENT

CLIP STRONG / HEAVY

> SATECH has developed a connecting system between panel and upright that achieves remarkable time savings during assembly and height adjustment. It also allows easy reinstallation of the guard after it has been removed for non-routine maintenance.
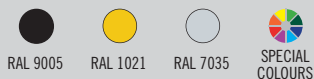**EN ISO 14120 6.4.4.1 b.**

H. 960 | H. 1260 | H. 1500 | H. 1900 | H. 2100

H. 1120 | H. 1420 | H. 1660 | H. 2060 | H. 2260 | H. 2640 | H. 3000

PANELS

Panels Frame: 20 x 20 / 30 x 30

Mesh: 22 x 100 x 3 mm

Painting: Epoxy polyester powder (indoor use)

COLOURS:

RAL 9005 | RAL 1021 | RAL 7035 | SPECIAL COLOURS

POSTS

Uprights: 60 x 60 x 2

Baseplate: Forged with 4 anchor points

Painting: Epoxy polyester powder (indoor use)

COLOURS:

RAL 9005 | RAL 1021 | RAL 7035 | SPECIAL COLOURS

PANELS H.960

Base	Height	Code
200	960	R020096
300	960	R030096
700	960	R070096
800	960	R080096
1000	960	R100096
1200	960	R120096
1500	960	R150096

PANELS H.1260

Base	Height	Code
200	1260	R020126
300	1260	R030126
700	1260	R070126
800	1260	R080126
1000	1260	R100126
1200	1260	R120126
1500	1260	R150126
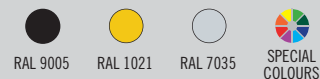
POSTS

Height	Code
1120 adjustable	H0L1120
1420 adjustable	H0L1420
1660 adjustable	H0L1660
2060 adjustable	H0L2060
2260 adjustable	H0L2260
2640 adjustable	H0L2640
3000 adjustable	H0L3000

PANELS H.1500

Base	Height	Code
200	1500	R020150
300	1500	R030150
700	1500	R070150
800	1500	R080150
1000	1500	R100150
1200	1500	R120150
1500	1500	R150150

PANELS H.1900

Base	Height	Code
200	1900	R020190
300	1900	R030190
700	1900	R070190
800	1900	R080190
1000	1900	R100190
1200	1900	R120190
1500	1900	R150190

PANELS H.2100

Base	Height	Code
200	2100	R020210
300	2100	R030210
700	2100	R070210
800	2100	R080210
1000	2100	R100210
1200	2100	R120210
1500	2100	R150210

* In HEAVY series codes substitute the letter R with S
e.g.: Series Strong **R**100190 / Series Heavy **S**100190

MODULARITY ⓘ

Base	Standard Modules
400	200 + 200
500	200 + 300
600	300 + 300
900	700 + 200
1100	800 + 300
1300	1000 + 300
1400	1200 + 200
2000	1000 + 1000
2400	1200 + 1200
3000	1500 + 1500

STRONG H.2260 H.3000

H. 2860 | H. 2100 | H. 2260 | H. 140 | H. 3000 | H. 140

SATECH

> GREEN FAST

PERIMETER PROTECTION SERIES – GREEN FAST

> SATECH **patented protection system without uprights** facilitates extra-fast assembly and features self-supporting panels with **30x30 frames** and baseplates with locking fork and upper flexible coupling. The Green Fast system is **fully compatible with other SATECH systems.**
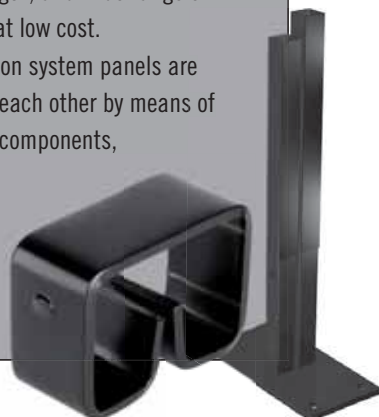
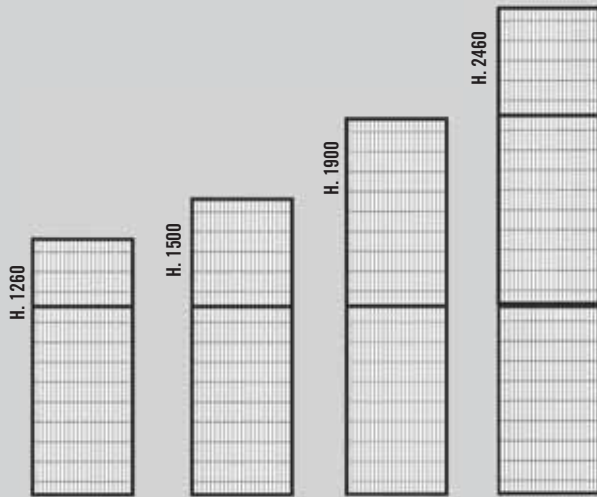**ALSO AVAILABLE:
DP VERSION
With 20x20 panel frames**

70% **70% TIME SAVED**
compared to traditional system

PATENT

GREEN FAST

> The Green Fast protection system has been designed by SATECH to simultaneously achieve easy and fast assembly, strength, and wide range of height adjustment — all at low cost.
In the Green Fast protection system panels are fastened to the floor and each other by means of two patented connection components, upper and lower.
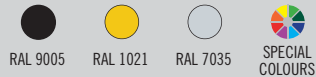
H. 1260 H. 1500 H. 1900 H. 2460

Base with variable angle   Linear Base   Terminal Base

H. 400   H. 400   H. 400

PANELS

Panels Frame: 30 x 30

Mesh: 22 x 100 x 3 mm

Painting: Epoxy polyester powde (indoor use)

COLOURS:

RAL 9005   RAL 1021   RAL 7035   SPECIAL COLOURS

BASEPLATES

Baseplate: Welded with 4 anchor bolts

Painting: Epoxy polyester powder (indoor use)

Doors'uprights: 40 x 40 x 2 / 60 x 60 x 2

COLOURS:

RAL 9005

PANELS H.1260

Base	Height	Code
200	1260	S020126G
300	1260	S030126G
700	1260	S070126G
800	1260	S080126G
1000	1260	S100126G
1200	1260	S120126G
1500	1260	S150126G

PANELS H.1500

Base	Height	Code
200	1500	S020150G
300	1500	S030150G
700	1500	S070150G
800	1500	S080150G
1000	1500	S100150G
1200	1500	S120150G
1500	1500	S150150G

PANELS H.1900

Base	Height	Code
200	1900	S020190G
300	1900	S030190G
700	1900	S070190G
800	1900	S080190G
1000	1900	S100190G
1200	1900	S120190G
1500	1900	S150190G

PANELS H.2460

| Base	Height	Code
200	2460	X020246R3G
300	2460	X030246R3G
700	2460	X070246R3G
800	2460	X080246R3G
1000	2460	X100246R3G
1200	2460	X120246R3G
1500	2460	X150246R3G

BASEPLATES

Type	Code
Terminal Base	PGFTR30
Linear Base	PGFLR30
Base with variable angle	PGFAR30

PROTECTION

Height
1120
1420
1660
2060
2600
3000

MODULARITY

Base	Standard Modules
400	200 + 200
500	200 + 300
600	300 + 300
900	700 + 200
1100	800 + 300
1300	1000 + 300
1400	1200 + 200
2000	1000 + 1000
2400	1200 + 1200
3000	1500 + 1500

GREEN FAST H.2600 H.3000
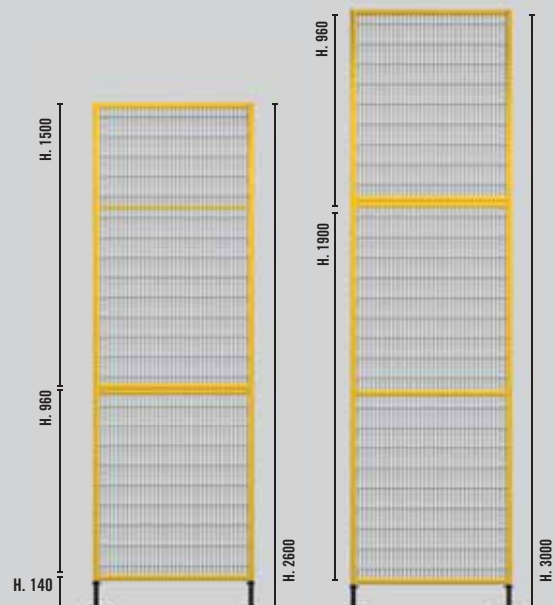
H. 1500   H. 960   H. 1900   H. 960   H. 140   H. 2600   H. 3000

PLEASE NOTE: PARTIAL PRODUCT CODES ARE SHOWN ABOVE – FOR FURTHER INFORMATION PLEASE CONTACT OUR SALES DEPARTMENT.

SATECH

> MDF

PERIMETER PROTECTION SERIES – MDF

> An easy-to-install, **innovative and economical solution,** MDF combines the **40x40 posts with a frameless, specially-shaped mesh pane**l and is designed for **quick and easy** assembly.

40% TIME SAVED
compared to traditional system

> SYSTEM

MDF

> So as to meet all assembly needs, the new generation MDF protection uses two captive connections to join the panels to the posts. A quick connection which includes a patented harmonic spring system positioned on the bolt, and a mounting bracket fitted with hooks which allows a quick and easy assembly by a single operator.
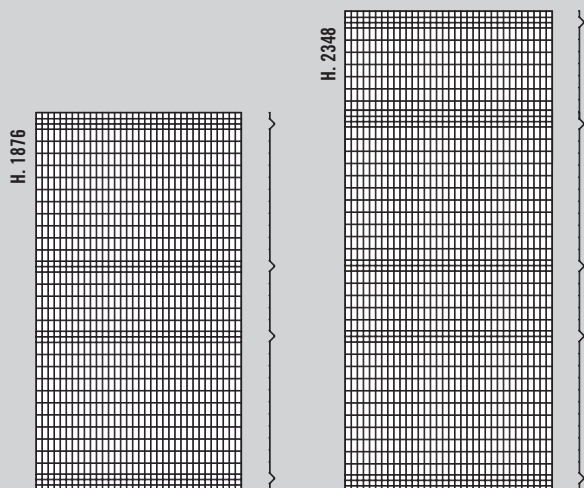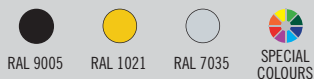
PANELS

Panels: Shaped Mesh

Mesh: 30 x 60 x 3 mm
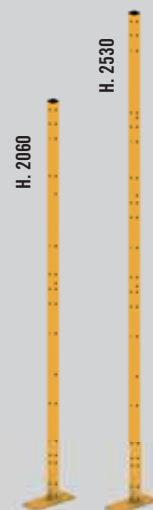
Painting: Epoxy polyester powder (indoor use)

COLOURS:

RAL 9005   RAL 1021   RAL 7035   SPECIAL COLOURS

PANELS H.1876

Base	Height	Code
210	1876	T021187
300	1876	T030187
720	1876	T072187
810	1876	T081187
1020	1876	T102187
1200	1876	T120187
1500	1876	T150187
1980	1876	T198187

PANELS H.2348

Base	Height	Code
210	2348	T021234
300	2348	T030234
720	2348	T072234
810	2348	T081234
1020	2348	T102234
1200	2348	T120234
1500	2348	T150234

POSTS

Uprights: 40 x 40 x 2

Baseplate: Welded or Assembled

Painting: Epoxy polyester powder (indoor use)

COLOURS:

RAL 9005   RAL 1021   RAL 7035   SPECIAL COLOURS
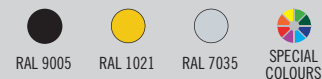
POSTS WELDED BASEPLATE

Height	Code
2060	PL(A)MDU206S
2530	PL(A)MDU253S

POSTS ASSEMBLED BASEPLATE

Height	Code
2060 adjustable	PL(A)MDU206A
2530 adjustable	PL(A)MDU253A

MDF H.2530

H. 140 from ground

H. 2530
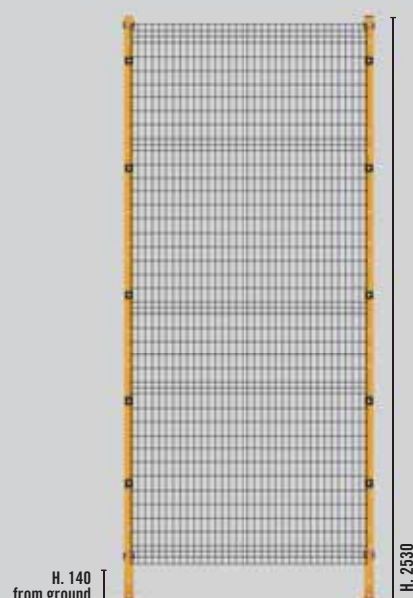
MODULARITY	
Base	**Standard Modules**
420	210 + 210
600	300 + 300
930	720 + 210
1320	1020 + 300
1440	720 + 720
2040	1020 + 1020

PLEASE NOTE: PARTIAL PRODUCT CODES ARE SHOWN ABOVE – FOR FURTHER INFORMATION PLEASE CONTACT OUR SALES DEPARTMENT.

SATECH

> BODY GUARD

FALL PREVENTION SYSTEM SERIES – BODYGUARD

> **Prevents personnel falling from galleries or elevated areas.** This modular system is compact and can be completely disassembled, providing speed of assembly and greater flexibility in use. It is manufactured in compliance with the relevant **ISO international standards**.

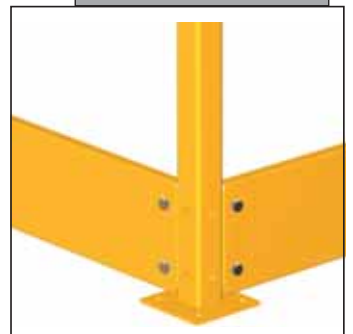| **ANGULAR ASSEMBLY** 40 x 40 tubular uprights and beams	**LINEAR ASSEMBLY** 40 x 40 tubular uprights and beams	**ANCHORAGE** Front anchorage to the gallery by means of screws	**ANCHORAGE** Floor anchorage with base plate

B. 1000

B. 1500

TECHNICAL DATA

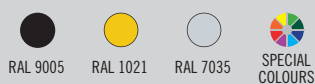**Structure:** 2 horizontal beams and a kick plate

Tubes: 40 x 40 x 2 mm

Assembling brackets: self-centering and self-locking

Floor anchorage: horizontal and vertical

Painting: Epoxy polyester powder
(indoor use)

COLOURS:

RAL 9005   RAL 1021   RAL 7035   SPECIAL COLOURS

FLOOR ANCHORAGE

Base	Code
1000 linear	B100110LTB
1000 angular	B100110ATB
1500 linear	B150110LTB
1500 angular	B150110ATB

FRONT ANCHORAGE

Base	Code
1000 linear	B100110LFB
1000 angular	B100110AFB
1500 linear	B150110LFB
1500 angular	B150110AFB

PLEASE NOTE: PARTIAL PRODUCT CODES ARE SHOWN ABOVE – FOR FURTHER INFORMATION PLEASE CONTACT OUR SALES DEPARTMENT.

SATECH

> PANELS

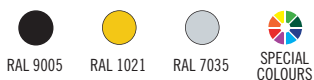## VISIBILITY AND PROTECTION
AGAINST CLIMBING

> Recognising the importance to operators of an uninterrupted view when monitoring production processes (EN ISO 14120-5.2.4, 5.9), SATECH mesh has been designed to achieve compliance with current regulations while providing excellent visibility of the plant and equipment. External vertical wires effectively prevent climbing (EN ISO 14120-5.18), while the mesh dimensions allow the guarding to be installed only 120 mm from the operational area (EN ISO 13857).
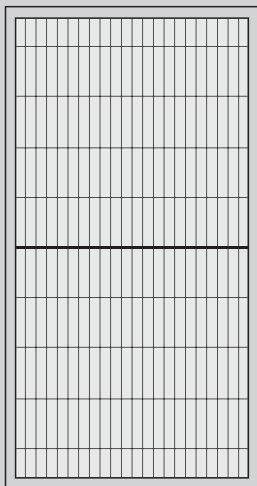
SPECIAL PANELS and COMBINATION OF MATERIALS
SATECH can produce special panels based on the customer's own design to suit any machinery application and plant configuration.
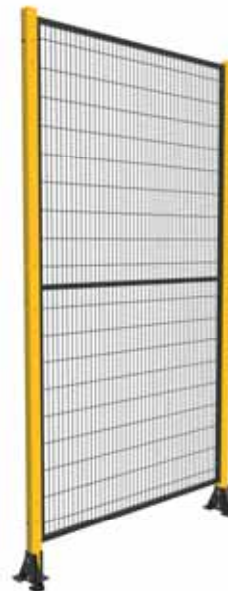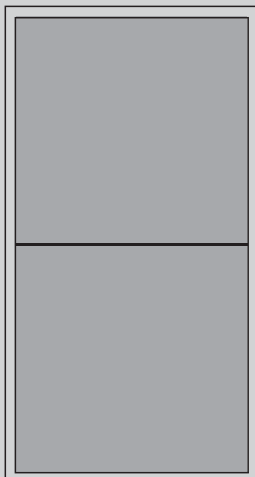
Standard heights: 960, 1260,1500, 1900 mm

Panels frame: 20x20, 30x30 mm

Painting: Epoxy polyester powder (indoor use)

COLOURS:

RAL 9005   RAL 1021   RAL 7035   SPECIAL COLOURS

MESH

22x100 mesh panel
Can be produced with either 20x20 or 30x30 frame.

Compatible with Basic, Strong and Green Fast systems.

SHEET PANEL

Sheet panel
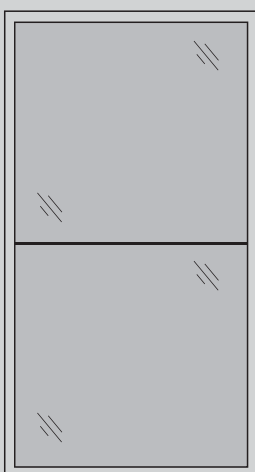Sheet panel, 1.2 mm thick, can be produced with either 20x20 or 30x30 frame.

Self-supporting shaped sheet panel
Shaped sheet panel, 1.2 mm. thick

Compatible with Basic, Strong and Green Fast systems.
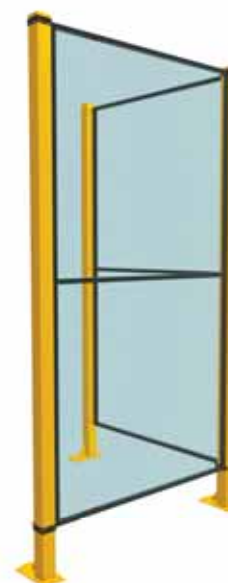
TRANSPARENT SHEET

Panel produced in extremely tough, 4mm thick transparent material. Produced with 30x30 frame.

Compatible with Basic, Strong and Green Fast systems.

SATECH

SHEET METAL + TRANSPARENT SHEET

The tough solution – lower portion of panel in 1.2mm thick steel, upper in extremely tough 4mm-thick polycarbonate material. Produced with 30x30 frames.

Compatible with Basic, Strong and Green Fast systems.

SHEET METAL + MESH

Comprises a 22x100 mesh panel and 1.2 mm thick sheet. Produced with 20x20 frames.

Compatible with Basic, Strong and Green Fast systems.
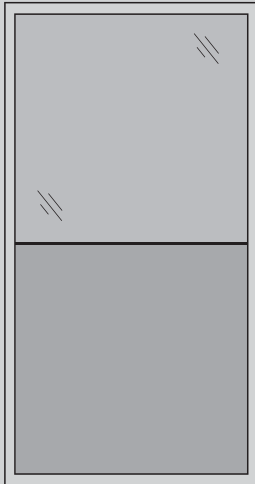

MESH + TRANSPARENT SHEET
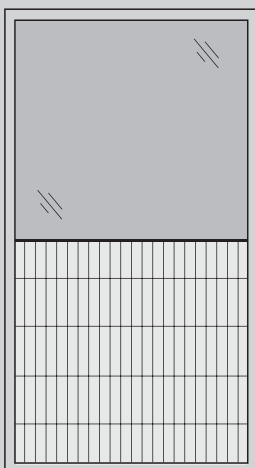
22x100 mesh panel and extremely tough, 4mm-thick polycarbonate material. Produced with 30x30 frame.

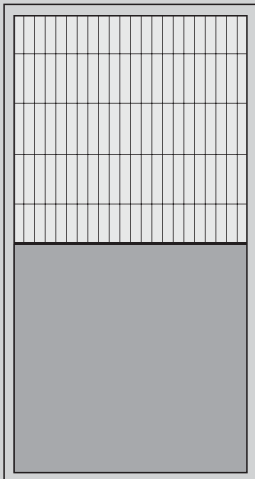**Compatible with Basic, Strong and Green Fast systems.**
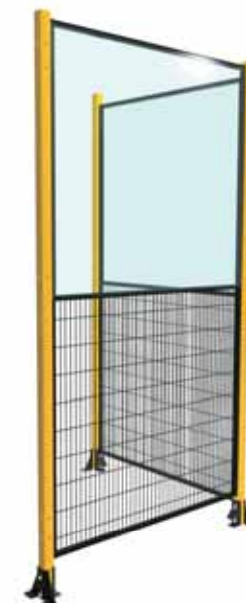
SHEET METAL + VIEWING PORT
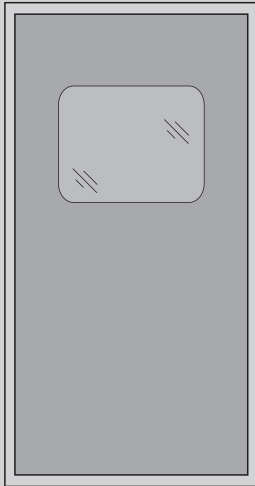
1.2mm-thick sheet panel with viewing port gasket. Can be produced with either 20x20 or 30x30 frame.

Compatible with Basic, Strong and Green Fast systems.

GASKET
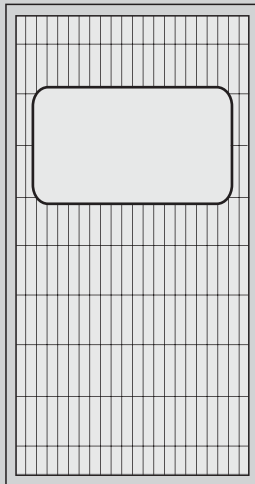
An opening in the panel can be achieved by cutting the mesh wires during assembly. A special **rubber gasket to fit the orifice** is available on request, to provide protection for personnel.

Compatible with all SATECH systems

SHAPED
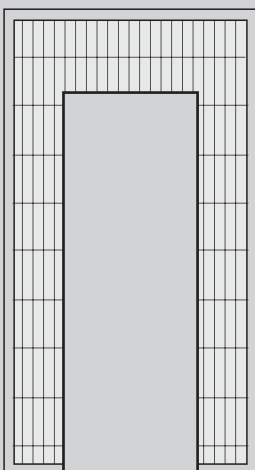
SATECH's special products department produces **shaped panels** to customers' specific requirements. These can be produced with short lead times.

Compatible with all SATECH systems

SATECH

> DOORS

A COMPLETE
AND VERSATILE
RANGE

> The range of SATECH doors
has been developed to meet
customer demands, however
complex, including sliding doors
with openings up to 6 metres,
without upper or lower guides, to
allow the passage of lift trucks. A
comprehensive range of (optional)
accessories allows for varying
safety levels and locking systems,
as well as doors adapted to meet
specific requirements. **More than
350 combinations** are already
available.

SPECIAL DOORS
SATECH produces doors for any
specific customer requirement,
including special dimensions
and electromechanical or
pneumatic operation.

PRECISION SOLUTIONS

> Some machinery needs frequent adjustment while
it is running and this places a special demand on the
machine guards. SATECH can provide special solutions
which allow free access to the machine without removal
of the whole protection structure. Safety is paramount
and these solutions involve the design of a self-balancing
structure and fitting the removable sections with precision
engineered micro-switches.

SINGLE-LEAF

Single-leaf doors
700-1500 mm opening.

AVAILABLE FOR:

Series Basic
Code: ABS040

Series Strong
Code: ABS060

Series Green Fast
Code: ABS0GF

Series Mdf
Code: ABS0MD

Wide range of options available on request (see pag. 27)

DOUBLE-LEAF

Double-leaf doors
1400-3000 mm opening.

AVAILABLE FOR:

Series Basic
Code: ABD040

Series Strong
Code: ABD060

Series Green Fast
Code: ABD0GF

Series Mdf
Code: ABD0MD

Wide range of options available on request (see pag. 27)
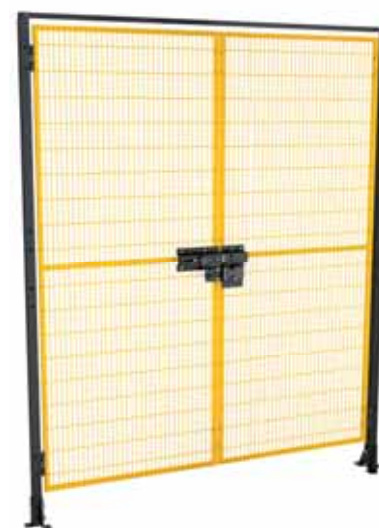
FOLDING DOORS

Folding Doors.
1400-3000 mm opening.

AVAILABLE FOR:

Series Basic
Code: ABL040

Series Strong
Code: ABL040

Series Green Fast
Code: ABL040

Series Mdf
Code: ABL040

Wide range of options available on request (see pag. 27)

PLEASE NOTE: PARTIAL PRODUCT CODES ARE SHOWN ABOVE – FOR FURTHER INFORMATION PLEASE CONTACT OUR SALES DEPARTMENT.

SATECH

SLIDING DOORS WITH LOWER GUIDE

Sliding doors with lower guide
700-3000 mm opening.

AVAILABLE FOR:

Series Basic
Code: AST040

Series Strong
Code: AST060

Series Green Fast
Code: AST0GF

Series Mdf
Code: AST0MD

Wide range of options available
on request (see pag. 27)

SLIDING DOORS WITH UPPER GUIDE

Single sliding doors
700-3000 mm opening.

AVAILABLE FOR:

Series Basic
Code: ASS040

Series Strong
Code: ASS060

Series Green Fast
Code: ASS0GF

Series Mdf
Code: ASS0MD

Wide range of options available
on request (see pag. 27)

OPPOSING SLIDING DOORS WITH UPPER GUIDE

Opposing sliding doors with upper guide
1400-3000 mm opening.

AVAILABLE FOR:
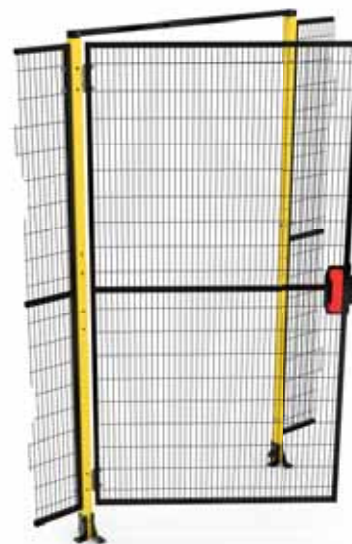
Series Basic
Code: ASSC040

Series Strong
Code: ASSC060

Series Green Fast
Code: ASSC0GF

Series Mdf
Code: ASSC0MD

Wide range of options available
on request (see pag. 27)

SINGLE SLIDING DOORS WITH TELESCOPIC GUIDE

Single sliding doors with Satech's telescopic guide
700-1500 mm opening.

AVAILABLE FOR:

Series Basic
Code: ASTE040

Series Strong
Code: ASTE060

Series Green Fast
Code: ASTE0GF

Wide range of options available on request (see pag. 27)

OPPOSING SLIDING DOORS WITH TELESCOPIC GUIDE

Opposing sliding doors with telescopic guide
1400-3000 mm opening.

AVAILABLE FOR:

Series Basic
Code: ASTEC040

Series Strong
Code: ASTEC060

Series Green Fast
Code: ASTEC0GF

Wide range of options available on request (see pag. 27)

SLIDING DOORS WITHOUT GUIDE

Sliding doors without guide

1500-6000 mm opening.

(for openings exceeding 3000 is recommended the addition of a lower guide)

Wide range of options available on request (see pag. 27)

Compatible with all SATECH assembly systems

Motorization available on request

AVAILABLE FOR:

Series Strong
Code: ASG060

PLEASE NOTE: PARTIAL PRODUCT CODES ARE SHOWN ABOVE – FOR FURTHER INFORMATION PLEASE CONTACT OUR SALES DEPARTMENT.

SATECH

DOUBLE OPPOSING SLIDING DOORS

Double opposign sliding doors with upper guide
700-3000 mm opening.

AVAILABLE FOR:

Series Basic
Code: ASS040 AL

Series Strong
Code: ASS060 AL

Series Green Fast
Code: ASS0GF AL

Series Mdf
Code: ASS0MD AL

Wide range of options available
on request (see pag. 27)

SPECIAL AUTOMATIC

Standard solutions are provided with electromechanical
motors and mechanical or electronic adjustment of movement
parameters. Pneumatic operation, including vertical, can be
supplied on request.

Compatible with all SATECH
assembly systems

SPECIAL TELESCOPIC

SATECH designs and produces special doors with
multiple functions which can be supplied in the following
combinations:
> With panels sliding on linear guides.
> With folding panels.
> With leaf elements in sliding doors with linear guides.
> With combined movement of sliding and leaf doors.

Compatible with Basic, Strong
and Green Fast systems.

SPECIAL VERTICAL

Robotised cells in industrial automation often dictate tight perimeters for the protection guards, with vertical movement of the door panels. SATECH's original door design featured vertical operation to optimise the use of factory space — assuring customers of maximum safety and functionality.

Compatible with all SATECH assembly systems

SPECIAL LARGE OPENINGS

SATECH's technical department has considerable experience in developing special solutions to allow large openings and has produced combined sliding/hinged doors with openings of **more than 10 metres**. Easy and reliable operation in service is guaranteed by the use of extremely durable components. .

Compatible with all SATECH assembly systems

OPTIONAL EQUIPMENT:

- Ergonomic handle
- Pairs of hinges or pivot pins
- Upper crosspiece
- Upper crosspiece with ledge
- Magnetic locking system
- Ground supporting wheel
- Ground stop
- Panic lock
- Key lock
- 3rd level lock

- 4th level lock
- Bolt with padlock
- Universal brackets for safety microswitches
- Hinged safety microswitch
- Clutch safety microswitch
- Galvanized steel upper guide
- Steel trolleys with threaded connection
- Lower slideways

- Upper slideways
- Galvanized lower guide
- Steel wheels with V-groove
- SATECH telescopic guide
- Tyred wheel
- Electric motorization

PLEASE NOTE: PARTIAL PRODUCT CODES ARE SHOWN ABOVE – FOR FURTHER INFORMATION PLEASE CONTACT OUR SALES DEPARTMENT.

SATECH

> LOCKS AND ACCESSORIES

SATECH RANGE OF LOCKS AND ACCESSORIES

> The SATECH range of locks and accessories range is really huge. These pages show only the main devices and accessories.

**NEW GENERATION
4th LEVEL LOCK**

Technical specifications:
Lock with sliding multifunction mechanical clutch, command handle, multifunction anti-panic handle (mechanical release – simultaneous electrical), category 4 interlocked micro system. This lock allows both mechanical and electrical emergency release with a single operation. It does not require additional safety switches for category 4 protection.
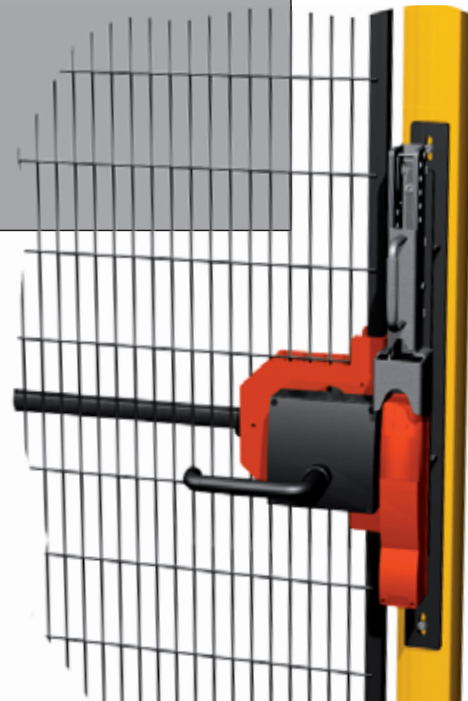
4th LEVEL AZM200

> ±5 mm tolerance for operating sensors.
> Complies with EN ISO 13849-1, IEC 61508,IEC 60947-5-3
> Suitable for applications up to category 4 – up to SIL 3 – PL up to "e"
> Simple assembling with few screws.
> Can be unlocked from inside – simple intuitive operation.

Code: MISCHAZM2004

Compatible with all SATECH assembly systems

SCHMERSAL AZM415

4th-level Schmersal system complete with SATECH standard ergonomic external handle
> Inner handle for emergency unlocking
> Electric emergency release of 4th category by means of a simple redundant microswitch.
   Certificated to: EN ISO 13849-1 B10d : 2.000.000

Code: MISCHAZM415

Compatible with all SATECH assembly systems
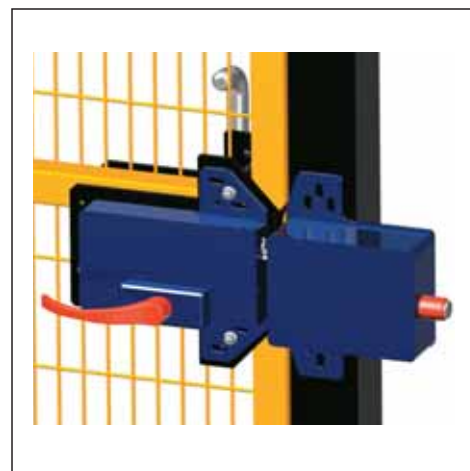
3rd / 4th LEVEL

Locking system designed for personnel safety
> Anti-panic emergency unlocking from inside.
> In-built microswitch.
> Key lock in open position to prevent accidental closure.
> Dual control mechanical lock.

Code: LOCK3LSAC

Compatible with all SATECH assembly systems

ANTIPANIC

System perfectly integrated with Satech standard panels
> Compact execution.
> Limited access from outside.
> Fast and safe opening from inside.
> Lock with universal dedicated cylinder.

Code: LOCKSABSUNI

Compatible with all SATECH assembly systems

PLEASE NOTE: PARTIAL PRODUCT CODES ARE SHOWN ABOVE – FOR FURTHER INFORMATION PLEASE CONTACT OUR SALES DEPARTMENT.

SATECH

KEY LOCK

Key-operated lock in SATECH standard panels prevents access to unauthorised personnel.
> Compact execution.
> Limited access from outside.
> Lock with universal dedicated cylinder.
These closing devices are only to be used to allow access to an area where it is possible to exit through an unlocked door.

Code: LOCKSB4655

Compatible with all SATECH assembly systems

BOLT

System for Satech double-leaf doors and opposing sliding doors.
> Simple mechanical operation.
> Universal safety switch protects the actuator.
> Precise actuator operation.

These closing devices are only to be used to allow access to an area where it is possible to exit through an unlocked door.

Code: LOCK4255

Compatible with all SATECH assembly systems

HINGE MICROSWITCH

Safety system featuring a **microswitch fitted directly to the hinges of leaf doors**. This system is **easy to install, very sensitive and safe** – and its position means it is protected from accidental impact damage.

Compatible with all SATECH assembly systems

Code: MIEUCHERNM

CABLE DUCT SUPPORT

The particular **cable duct support** allows the **immediate direct anchoring of the cable duct to the upright (Basic or Strong)** without special brackets. The system offers:
- fast insert into the upright.
- anchoring to the cable duct with screws for standard brackets – supplied with the ducts.

Compatible with all SATECH assembly systems

Code: VSUPPORTO40 / 60
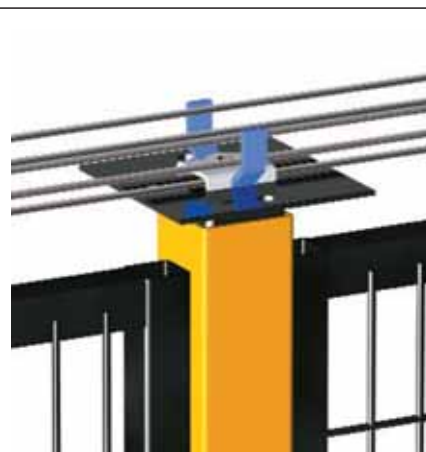
UNIVERSAL BRACKETS FOR MICRO SWITCHES

> SATECH has designed and produced a universal supporting system for safety microswitches which allow **easy and fast assembly of the most common safety microswitches to all standard doors**. This avoids the cost of adjusting the supports to fit models from other manufacturers.

Code: MSTAUNI4060

Compatible with all SATECH assembly systems

SUPPORT STRUTS

In case of horizontal dynamic loads due to large doors or complex protection system layout, the uprights of the **Basic and Strong Series** can be strengthened with support struts to provide convenient and effective stabilisation.

Code: VCOMCONT40 / 60

Compatible with Basic and Strong systems.

DOORS WITH MICROSWITCHES

Where there is a requirement to take samples on line, e.g. for statistical control purposes, SATECH offers **built-in openings** in standard panels, allowing a simple and totally safe operation. Design is based on SATECH's tried and tested standard systems, thereby assuring safety and easy operation. 400x400 and 600x600 are available.

Code: ASPORT40 / 60 MIC

Compatible with all SATECH assembly systems

KICK PLATE

The specially shaped kick plate provides for **extremely fast and stable assembly of each module and panel type of SATECH's protection modular systems**. The robust structure prevents the outlet (or inlet) of potentially dangerous materials through the usually free space between panel and floor.

Code: V BAT 144 140 / 200

Compatible with all SATECH assembly systems

PLEASE NOTE: PARTIAL PRODUCT CODES ARE SHOWN ABOVE – FOR FURTHER INFORMATION PLEASE CONTACT OUR SALES DEPARTMENT.

SATECH

CUTTING KIT

These systems provide for **quick and easy adaptation of SATECH standard panels in unforeseen assembly situations**; also to allow for any re-configuration of the layout that may be required in the future.

Code: VTAGLIO20 / 30 NP

Compatible with Basic, Strong, and Green Fast systems.

ADJUSTABLE BASEPLATES

These accessories are the solution to sloping or uneven floors. They allow **easy adjustment of the uprights** to cater for varying requirements – e.g. when the system is installed on a floor which has an inbuilt incline to facilitate the collection of liquids.

Code: VCOMPIERLR40 / 60

Compatible with Basic, Strong, and MDF systems.

VARIABLE ANGLE JOINT

This accessory is used during installation **when the angle between panels and uprights varies from 90°.**

Code: GDEF40 / 60

Compatible with Basic and Strong systems.
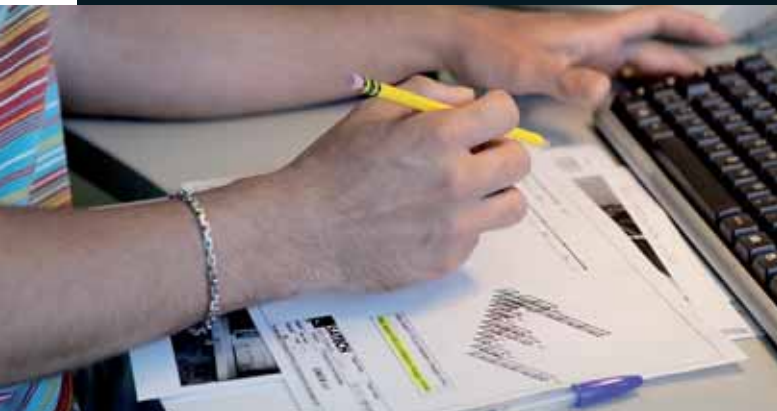
REINFORCED LINEAR JOINT

This practical and speedily-installed accessory gives improved horizontal rigidity when joining two panels without the provision of the upright.

Code: GLRRINF20 / 30 NG

Compatible with Basic, Strong, and Green Fast systems.

PLEASE NOTE: PARTIAL PRODUCT CODES ARE SHOWN ABOVE – FOR FURTHER INFORMATION PLEASE CONTACT OUR SALES DEPARTMENT.

EN STANDARDS FOR **SAFETY IN WORKING ENVIRONMENTS**

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.

ISO 14122-3 Permanent means of access to machinery. Ladder, step ladder, safety rails.

EN ISO 12100-1 Basic concepts, general design principles.

EN ISO 13857 Safety distances to prevent the contact of dangerous areas with upper and lower limbs.
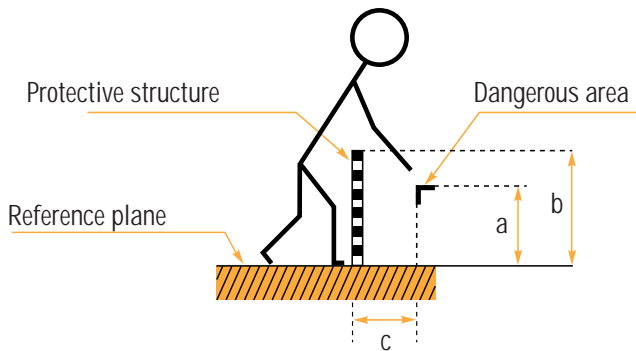
EN 349 - ISO 13854 Minimum gaps to avoid crushing parts of the human body.

EN ISO 10218-2 Industrial handling robots. Safety.

EN ISO 14119 Interlocking devices designed for guards. Design and selection concepts.

2006/42/CE Machinery Directive.

> EN ISO 13857, 4.2.2:
Reaching over protective structures

Protective structure
Dangerous area
Reference plane

a
b
c

a: height of hazard zone
b: height of protective structure
c: horizontal distance to hazard zone

Height of dangerous zone a	Height of the protection structure b									
	1000	1200	1400	1600	1800	2000	2200	2400	2500	2700
	Horizontal distance of the dangerous area 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	-	-	-	-	-	-	-	-

> EN ISO 13857, 4.2.4.1:
Reaching through regular openings

> Table 4 gives Sr for regular openings for persons of 14 years of age and above. 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 > 120mm, safety distances in accordance with 4.2.2 shall be used.

Dimensions in millimetres

Part of body	Illustration	Opening	Safety distance, s_r		
			Slot	Square	Round
Fingertip		$e \leq 4$	≥ 2	≥ 2	≥ 2
		$4 < e \leq 6$	≥ 10	≥ 5	≥ 5
Finger up to knuckle joint		$6 < e \leq 8$	≥ 20	≥ 15	≥ 5
		$8 < e \leq 10$	≥ 80	≥ 25	≥ 20
Hand		$10 < e \leq 12$	≥ 100	≥ 80	≥ 80
		$12 < e \leq 20$	**≥ 120**	≥ 120	≥ 120
		$20 < e \leq 30$	$\geq 850^{a}$	≥ 120	≥ 120
Arm up to junction with shoulder		$30 < e \leq 40$	≥ 850	≥ 200	≥ 120
		$40 < e \leq 120$	≥ 850	≥ 850	≥ 850

The bold lines within the table delineate that part of the body restricted by the opening size.
a) If the lenght of the slot opening is ≤ 65mm, the thumb will act as a stop and the safety distance can be reduced to 200mm.

> In general, safety distances should be determined using Tables 1 to 6 for the upper limbs. Where it is not foreseeable that the upper limbs can have access to the opening then it is permissible to use the values given in Table 7 to determine safety distances for the lower limbs. The dimension e, of openings, corresponds to the side of a square opening, the diameter of a round opening or the narrowest dimension of a slot opening. The values given in Table 7 are independent of whether clothing or footwear is being worn and are applicable for persons of 14 years of age and above. For reaching through openings of irregular shape, see 4.2.4.3.

Dimensions in millimetres

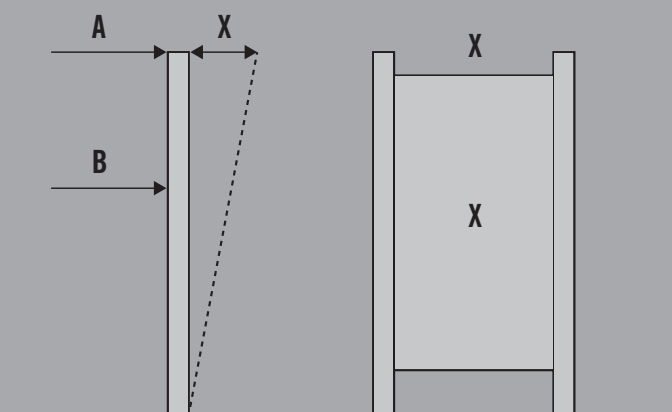| Part of lower limb	Illustration	Opening	Safety distance, s_r	
			Slot	Square or round
Toe tip		$e \leq 5$	0	0
		$5 < e \leq 15$	≥ 10	0
Toe		$15 < e \leq 35$	$\geq 80^a$	≥ 25
Foot		$35 < e \leq 60$	≥ 180	≥ 80
		$60 < e \leq 80$	$\geq 650^b$	≥ 180
Leg (toe tip to knee)		$80 < e \leq 95$	$\geq 1\,100^c$	$\geq 650^b$
Leg (toe tip to crotch)		$95 < e \leq 180$	$\geq 1\,100^c$	$\geq 1\,100^c$
		$180 < e \leq 240$	**Not ammissible**	$\geq 1\,100^c$

a) If the lenght to the slot opening is ≤75mm, the distance can be reduced to ≥50mm.
b) The value corresponds to leg (toe tip to knee).
c) The value corresponds to leg (toe tip to crotch).
Note: Slot openings with e>180mm and square or round openings with e>240mm will allow access for the whole body (see also Clause 1, final paragraph).

RESISTANCE TEST TO HORIZONTAL IMPACTS:

A	Horizontal force at the panel upper end
B	Horizontal force in the middle of the panel
X	Deformation less than 40 mm

Fixing to the ground with anchors for reinforced concrete M8

> **Resistance of 40 x 40 posts - panel H1900 - frame 20:**
  A: <= 300 N   B: <= 500 N

> **Resistance of 60 x 60 posts - panel H1900 - frame 20:**
  A: <= 500 N   B: <= 800 N

> **Resistance of 80 x 80 posts - panel H1900 - frame 20:**
  A: <= 1000 N   B: <= 1500 N

Technical resistance specifications of SATECH components

> *Posts and mesh or sheet panels*
Material: low-carbon steel
Ultimate tensile stress: >= 380 N/mm2
Yield point: >= 210 N/mm2

> *Transparent panels*
Material: polycarbonate
Caracteristics: trasparency and impact strenght

SATECH