



Protection Guarding

Protec Srl – Società Unipersonale

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 **Protec**

a brand of  **Fulgard**

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The highest level of production quality, meticulous attention to detail and fast delivery are what set Protec apart on both a national and international level.

Protec was founded in 1996 with the aim of protecting people from the risk of accidents at work through safety systems that comply with current regulations.

Today, as part of the Fulgard Group, Protec is working to expand its product range in the plant building market, with customised guarding systems.



If it's about safety at work, it's about us at Fulgard.

Fulgard offers complete solutions, with each division working in synergy and sharing the same vision, a personalised approach and a commitment to the best possible product performance. Strengthened by the expertise of all the companies that are part of the Group, Fulgard guarantees a customised service for the management of safety, the environment and quality.

From fire safety to machine safety, up to training: each project is studied in detail and calibrated to every need. So that every professional can feel safe and protected in their work environment.

SERVICES

Fire Prevention & Security

Training & Consulting

Medicine

Machine Protection

Services

Working on the front line since 1996 to protect people from the risk of accidents on automatic machines and systems.

This is thanks to state-of-the-art security systems that comply with current regulations, with customized protection guarding systems.

HOW WE CAN HELP YOU

Simplified order management

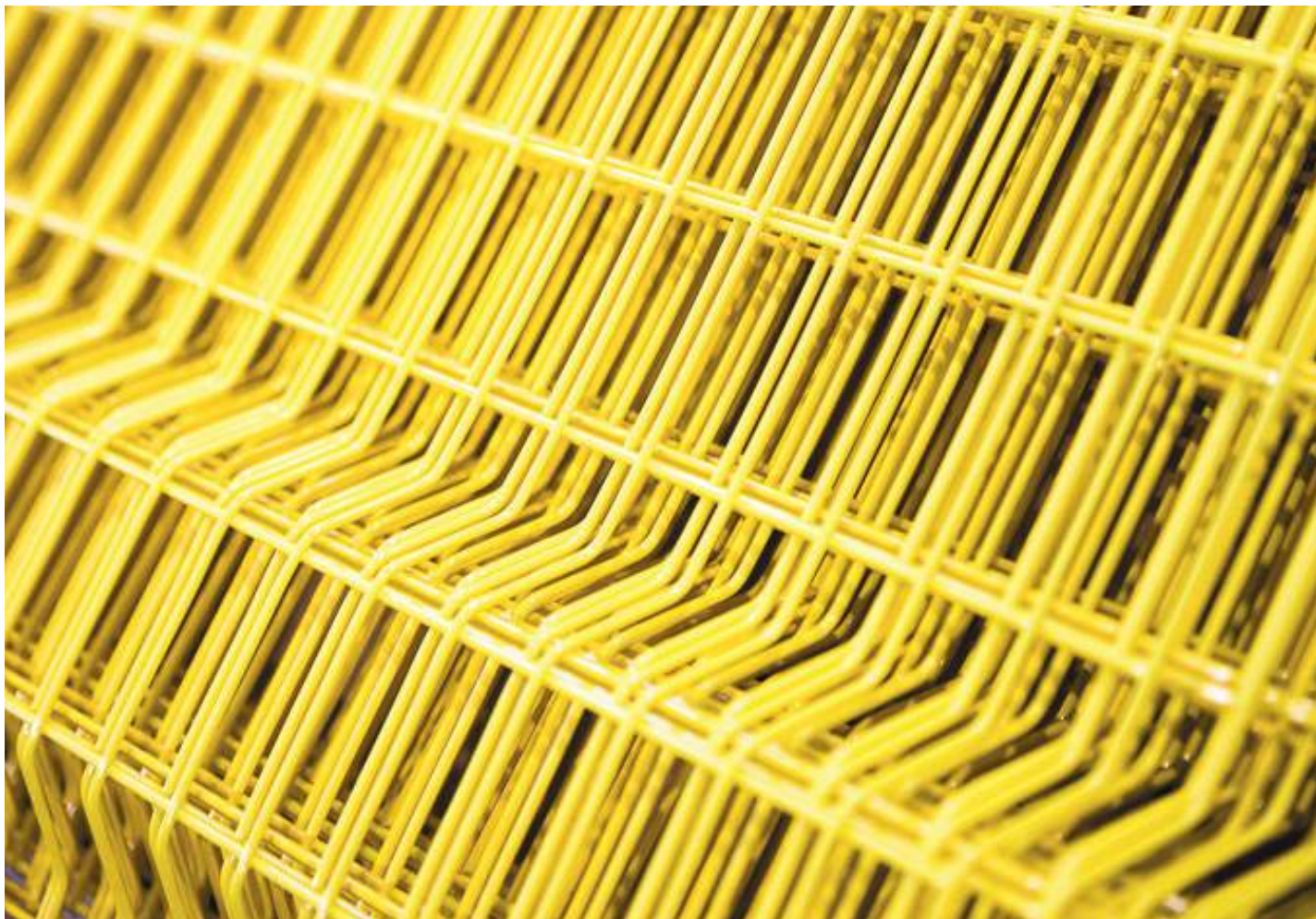
Monitoring and managing orders online is quick and easy using the secure client area of our web site. In addition, by logging in, you can download Order Confirmations, Delivery Notes and Invoices, ensuring complete and up-to-date control over your transactions.

Dedicated software

ProteCAD, Protec's AutoCAD-based® software, enables automatic 3D product design, offering clear visualisation and complete customisation to meet every need. To access the program you just need to log in to our client area.

Sales assistance

Our sales assistance service guarantees complete support and is always available. Each technical agent is ready to answer questions, and to offer advice and guidance in the choice of products, ensuring a tailor-made shopping experience that lives up to expectations.



Product customisation

We offer a customisation service for panels and posts. Every detail is taken care of with precision, allowing materials, sizes and finishes to be adapted to create unique and functional solutions.

Immediate availability

We can guarantee a wide assortment of finished material in stock (in RAL1003 yellow and scratch-resistant black), to meet requests with fast delivery times and respond to projects that require ready-to-use, but high-quality solutions.





Safe and efficient packaging

Our wooden packaging is designed to ensure the integrity of products during transport, while optimising costs. We also offer packaging that complies with the ISPM-15 standard, ensuring optimal protection and conforming to international regulations for transport.

Tailor-made installation

We offer a complete on-site pre-assembly and installation service to ensure quick and precise installation. However, for those who prefer to proceed with the assembly themselves, we provide detailed instructions.

Instruction manual

Our instruction manual is an indispensable tool designed to support both technical offices and mechanical fitters, providing simple and clear user guidelines for the kits and ensuring correct and trouble-free installation. You can easily download the instruction manual by accessing our online client area and, to ensure full support, a copy of the manual is also provided with every order, so that clear information that is always available.

Techno System

The Techno safety system available in the Ø3mm and Ø4mm wire version has been created to offer all those who have to delimit hazardous areas, a low-cost and easy-to-install steel solution.

This product was born as a self-supporting panel, with a mesh designed to improve the view of the segregated machinery. The visibility of the segregated area is a strong point of this product; the combination of mesh and black colouring significantly improves the vision of the danger zone. Scratch resistance is guaranteed by a special black paint.

Affordable

The cost is low because it is made of self-supporting mesh.

Modular

The Techno system was created with the precise intention of being interchangeable with other systems: hybrid structures can be created by mixing a framed guarding system together with Techno, one adjacent to the other. This way, the robustness of one system and the flexibility of the other are exploited.

In fact, the doors themselves are made with the Novatek series.

Visibility

The innovative 32x67 Ø3mm mesh system improves the view of the machinery within the segregated area.

Adjustable on site

This system has the great advantage of being adjustable on site using very few tools.

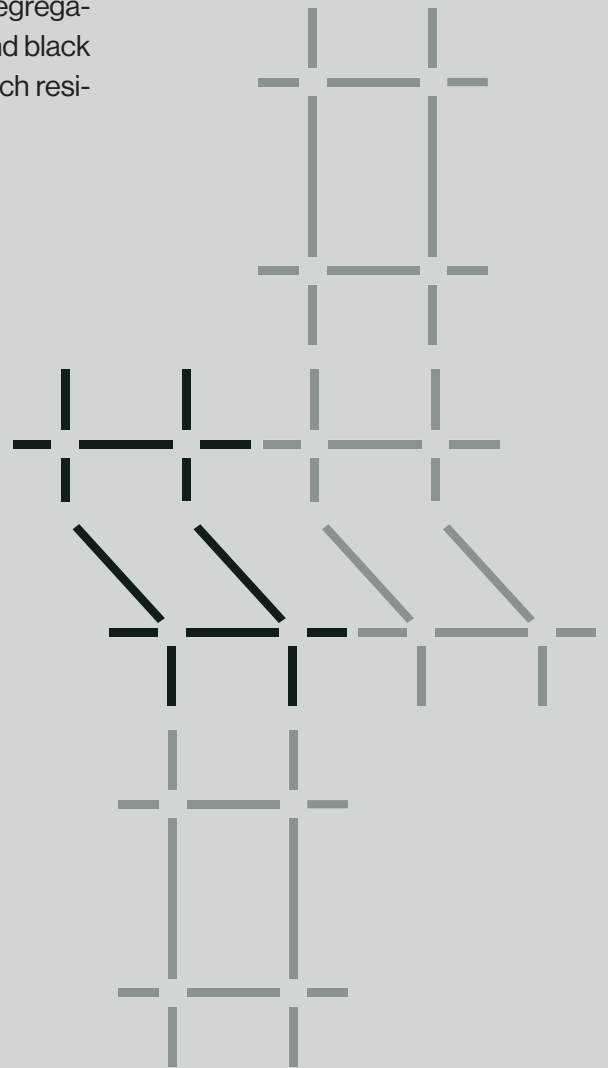
Resistant

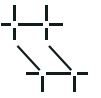
The Techno system has passed the resistance test and complies with the EN ISO 14120.

Anti-climbing

The Techno system has been designed to make climbing difficult.

The vertical wires of the 32x67 Ø3mm mesh are welded externally prevent climbing. The position and inclination of the mesh wires make it difficult for a shoe to grip onto them.





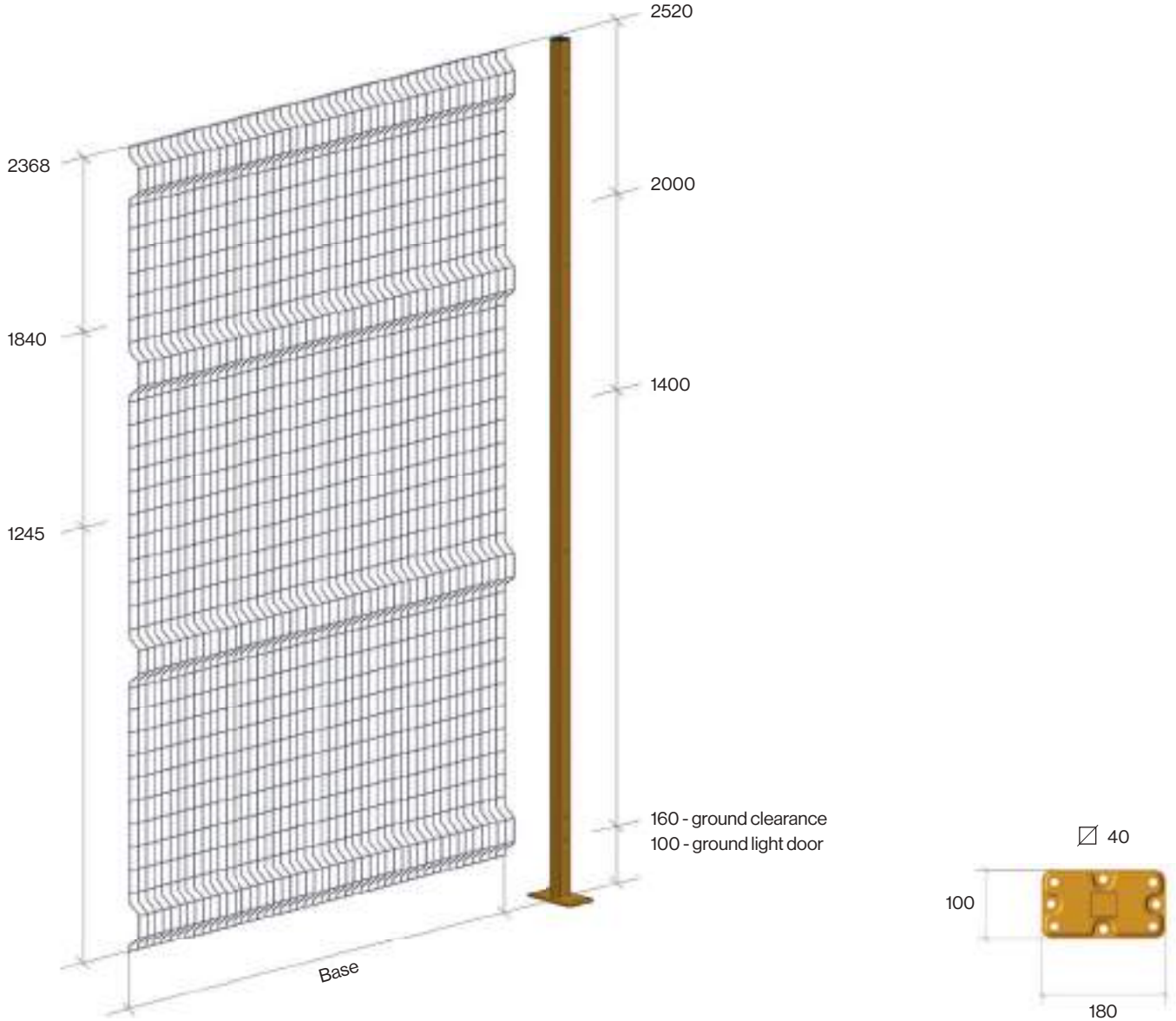
Example of applications of the Techno system for the delimitation of areas with hazardous machinery.



Techno Ø3 system

The Techno Ø3 system is composed of Ø3mm wire self-supporting mesh panels, is available in different heights and in combination with the 40 \square posts offers versatile, low-cost and quick to assemble solutions. In addition, scratch resistance is guaranteed by a special black paint.

The posts have a welded plate to increase impact resistance and to allow the system to be fixed to the floor without having to move it from the desired position.





Panels Options

Base	H 1240	H 1840	H 2368
259	-	X	X
419	-	X	X
707	-	X	X
1027	X	X	X
1219	-	X	X
1507	X	X	X
2019	-	X	

Posts Options

Section	H 1400	H 2000	H 2520
\square 40	X	X	X

Colour Options

-  RAL 1003
-  RAL 9005 anti-scratch
-  Customised option

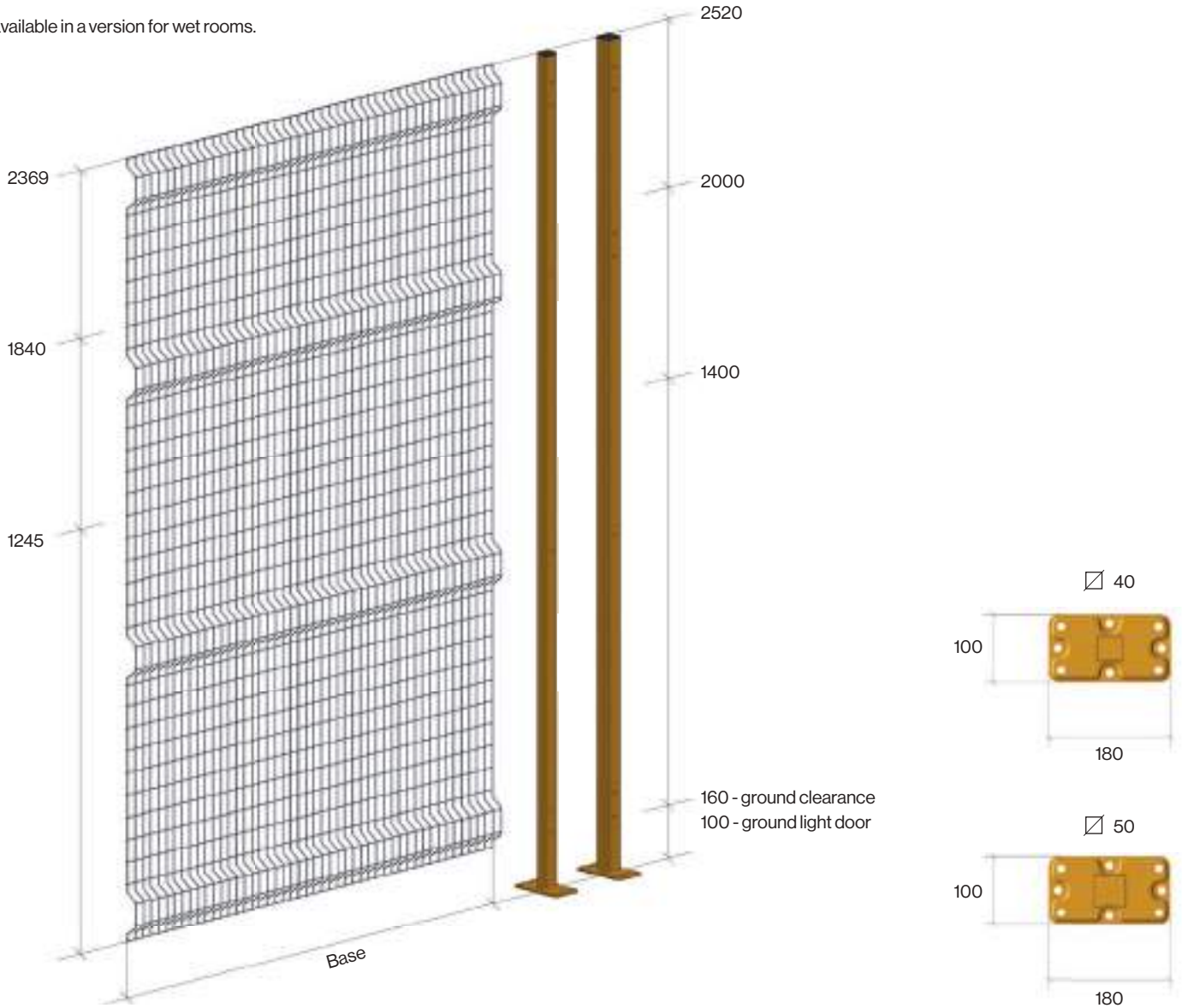


Techno Ø4 system

The Techno Ø4 system is composed of Ø4mm wire self-supporting mesh panels, is available in different heights and in combination with the 40 \square or 50 \square posts offers versatile solutions, robust and quick to assemble. In addition, scratch resistance is guaranteed by a special black paint.

The posts have a welded plate to increase impact resistance and to allow the system to be fixed to the floor without having to move it from the desired position.

Also available in a version for wet rooms.






Panels Options

Base	H 1240	H 1840	H 2369
260	-	X	X
420	-	X	X
708	-	X	X
1028	X	X	X
1220	-	X	X
1508	X	X	X
2020	-	X	X
2500	X	X	-

Posts Options

Section	H 1400	H 2000	H 2520
\square 40	X	X	X
\square 50	X	X	X

Colour Options

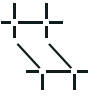
-  RAL 1003
-  RAL 9005 anti-scratch
-  Customised option



Example of application of the Techno system for the delimitation of areas with the handling of loads at high heights.

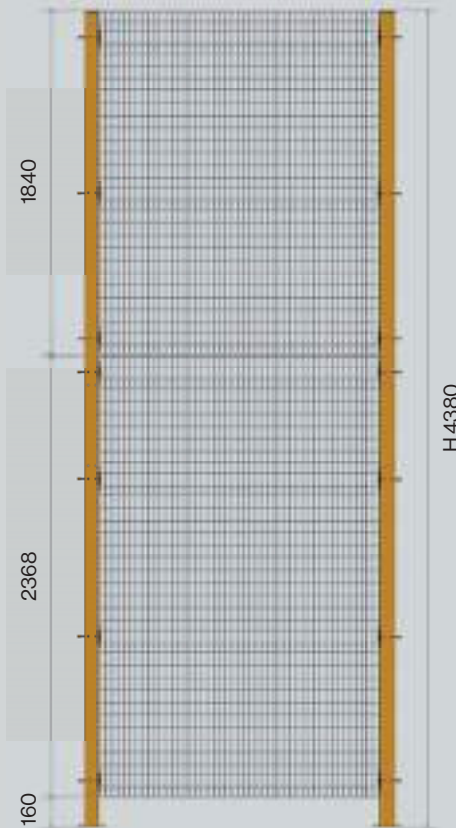
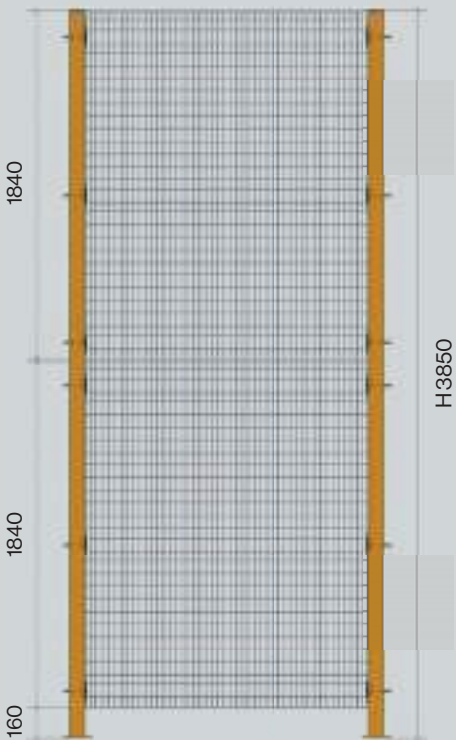
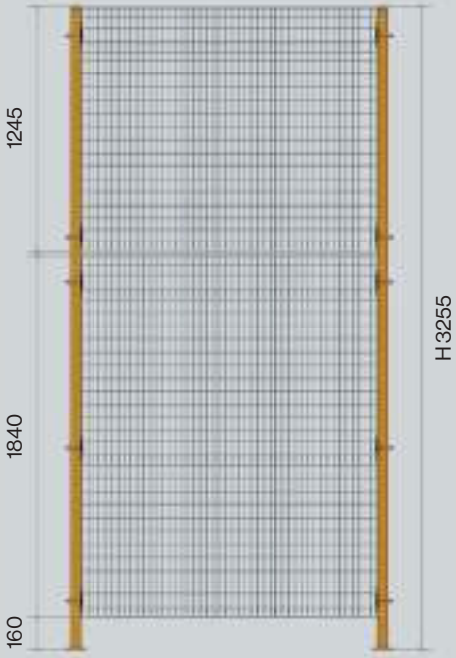
Modularity of the Techno system

The Techno safety system allows you to create higher protections, thanks to the use of special posts. This makes the Techno system extremely versatile, allowing the barriers to be adapted to the specific needs of each working environment.



Possible combinations

The diagrams show the height combinations of the Techno system.



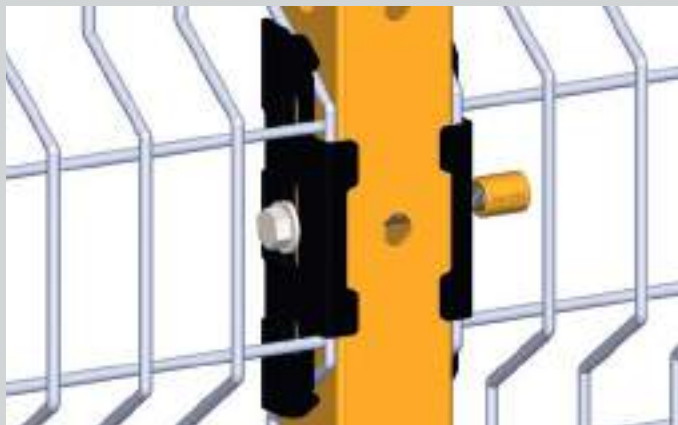
Techno Overlay

Section	H3255	H3850	H 4380
Ø40	-	-	-
Ø50	X	-	-
Ø80	-	X	X

Accessories

Captive screw kit

Patented system, compliant with current standards, is easy to install and is always supplied.



Convex corner kit

This accessory allows you to make convex 90° angles.



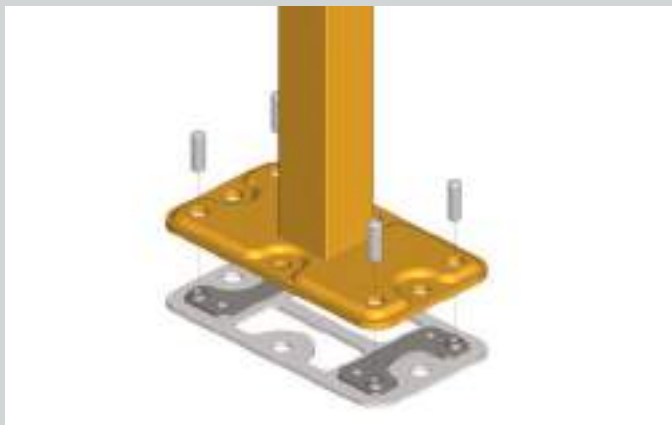
1 fold panel fixing kit

This accessory allows you to fix the panel to the posts after shortening it following a horizontal cut.



Leveling kit

This kit allows you to level and level the posts. Ideal for adjusting door posts.



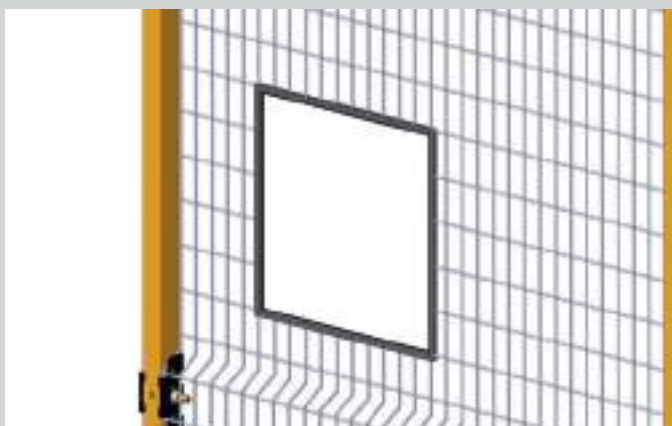
Panel inclination kit

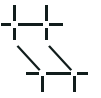
This accessory allows you to make inclinations from 30° to 180°.



Rubber profile

This accessory helps protect against sharp edges.





Quick Techno kit

The Quick Techno kit is a tool designed solely and exclusively to reduce assembly times. In fact with this kit, consisting of three brackets, installation by a single operator is even possible.

The system complies with current regulations.

A basic requirement for fixed guards is that they must be fastened using systems that can only be opened with the use of tools and, as far as possible, must not be able to remain in place without their fastening mechanism.

At the end of the operations, therefore, the kit must be removed.

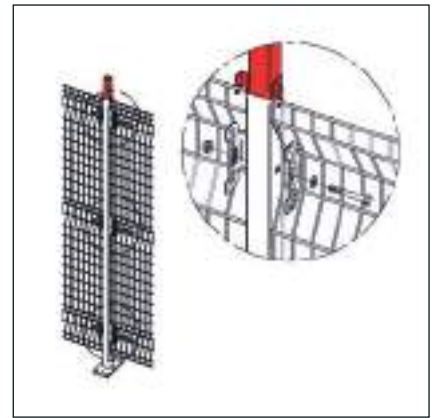
Step 01



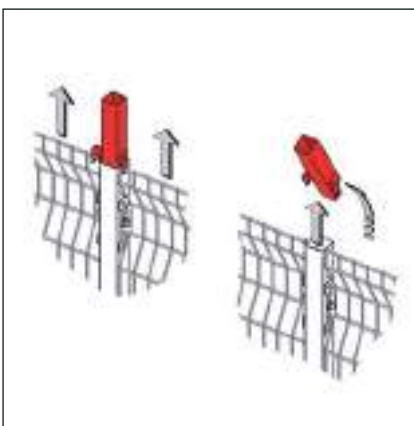
Step 02



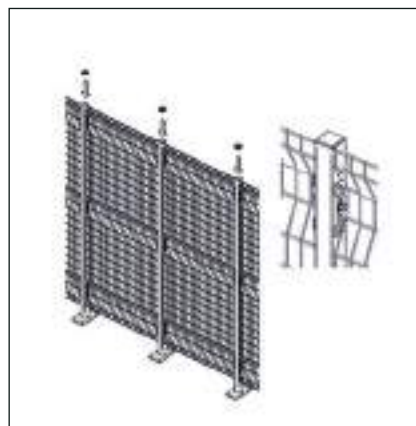
Step 03



Step 04



Step 05



Watch the video



Novatek System

The Novatek system was created to offer a low-cost, aesthetically-pleasing steel solution which is simple to install and robust; ideal for all those who need to demarcate hazardous areas.

The visibility of the segregated area is a strong point of this product; the combination of mesh and black colouring significantly improves the vision of the danger zone. Scratch resistance is guaranteed by a special black paint.

Affordable

The price/quality ratio makes this product unique and very competitive in the market.

Modular

Each component has been designed to be modular. In fact the panels themselves act both as fixed elements and, through the use of kits, as a hinged or sliding door.

Visibility

The innovative system of the 32x67 Ø3mm mesh combined with the black colour of the panel improves the visibility of the machinery within the segregated area.

Adjustable on site

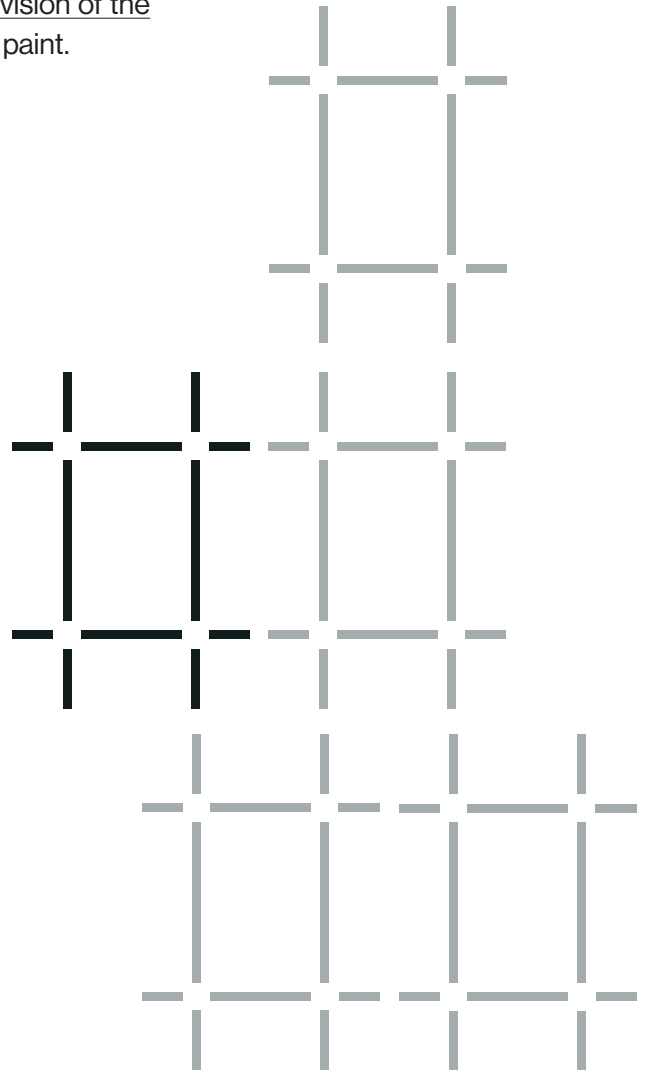
With the Novatek panel cutting kit it will be possible to modify and adapt the panels on site without having to re-weld and repaint the panel.

Resistant

The Novatek system has passed the resistance test and complies with EN ISO 14120.

Anti-climbing

The vertical wires of the 32x67 Ø3mm mesh welded externally prevent climbing.





Example of applications of the Novatek system for the demarcation of areas with hazardous machinery.

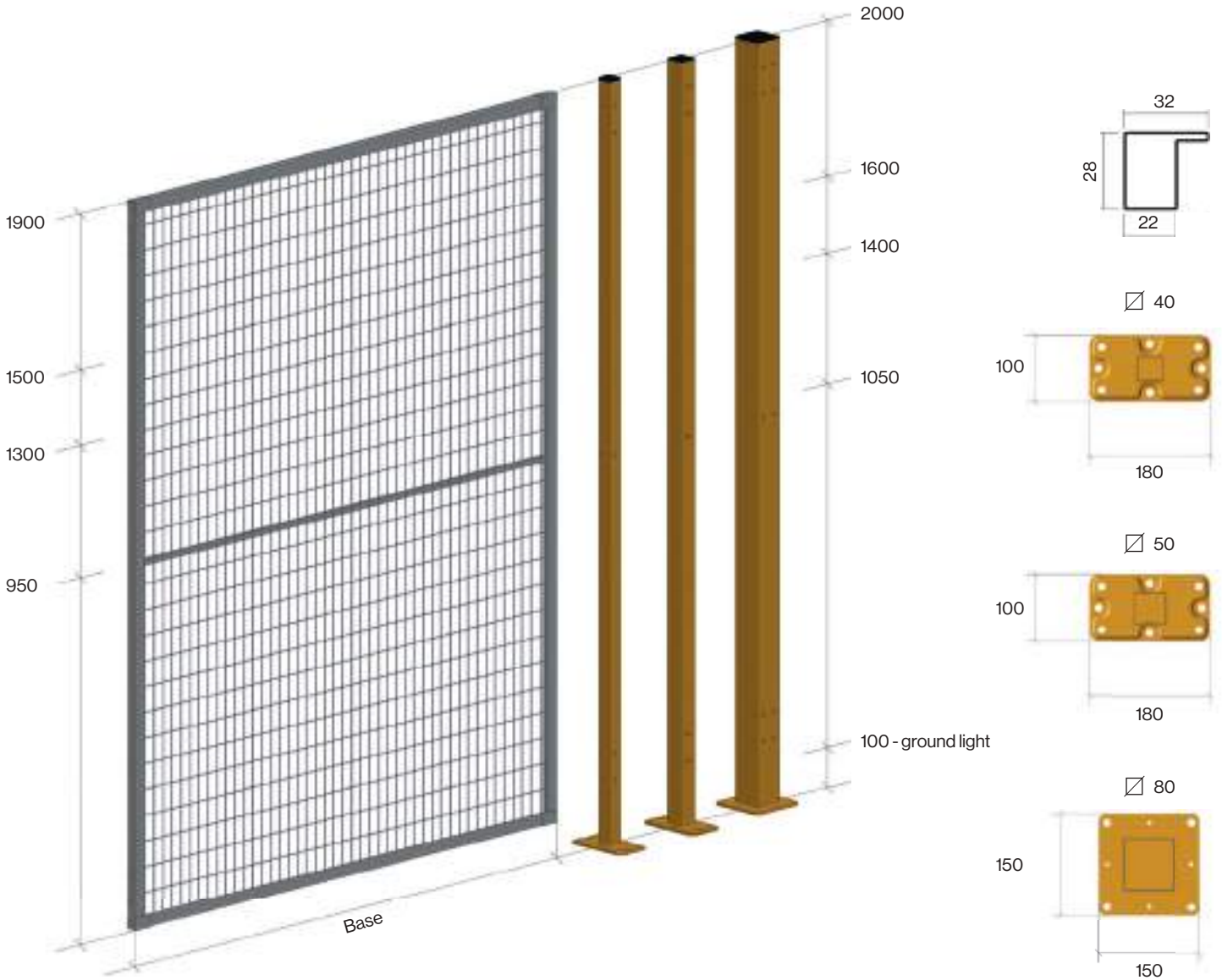


Novatek system

The Novatek system consists of panels with frame and Ø3mm wire mesh, is available in different heights and in combination with the 40 \square or 50 \square or 80 \square posts offers versatile, robust and quick to assemble solutions.

The panel has the mesh welded internally to the profile which gives it greater elegance and rigidity and prevents it from snagging. The posts have a welded plate to increase impact resistance and to allow the system to be fixed to the floor without having to move it from the desired position.

Choose the solution that perfectly suits your requirements.






Panels Options

Base	H 950	H 1300	H 1500	H 1900
250	X	X	X	X
400	X	X	X	X
700	X	X	X	X
1000	X	X	X	X
1200	X	X	X	X
1500	X	X	X	X

Posts Options

Section	H 1050	H 1400	H 1600	H 2000
40 \square	X	X	X	X
50 \square	-	-	-	X
80 \square	-	-	-	X

Colour Options

-  RAL 1003
-  RAL 9005 anti-scratch
-  Custom option



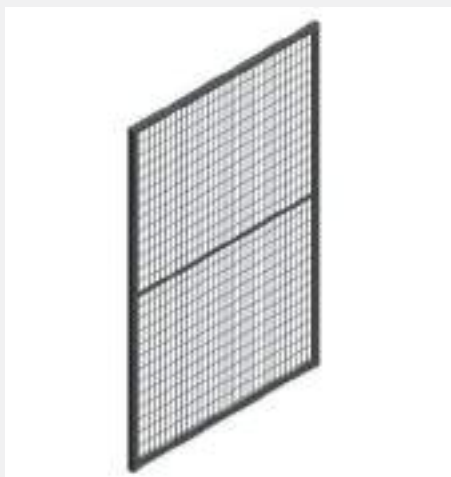
Infills

Infills have become increasingly necessary, which is why we offer a wide range of possibilities detailed below.

Network

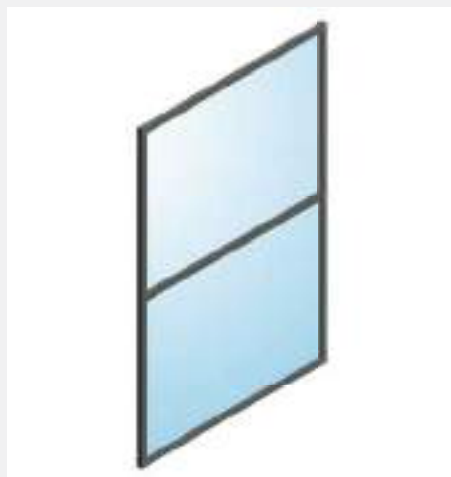
Mesh panel with special infill, ideal for reducing the safety distance from the danger zone.

TEC mesh with mesh 15x105 Ø3mm
RT mesh with mesh 11x60 Ø3mm



Polycarbonate

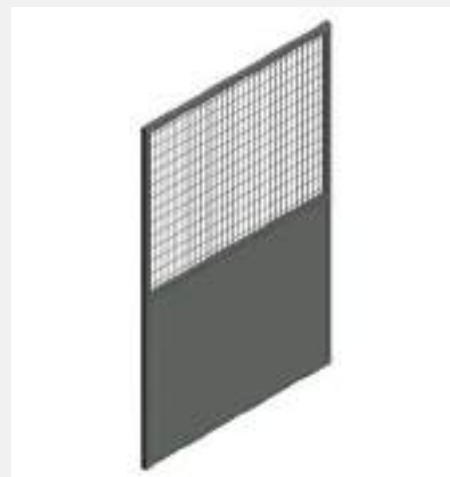
4mm thick polycarbonate with fixing by glazing bead, ideal for ensuring visibility of the segregated area.



Mesh + Metal sheet

Application that allows you to protect against chip projection.

Top: 32x67 Ø3mm mesh or TEC or RT
Bottom: metal sheet



Metal sheet

Ideal for welding islands, this system effectively prevents glare from escaping and offers protection from lubricating liquid and chips.

Solid sheet metal for the Novatek or Ecotek version



Polycarbonate + metal sheet

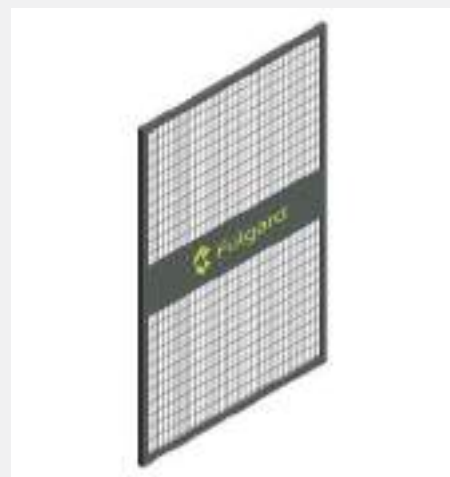
Ideal for machine tools, impact-resistant polycarbonate with glazing beads provides visibility and protection from liquids and chips.

Upper part: polycarbonate th. 4mm
Bottom: sheet metal



Panels with a logo

It is possible to make panels with a custom logo, which is ideal for those who want to make their corporate brand stand out.





Example of application of the Novatek system for the delimitation of areas with handling of loads at high heights.

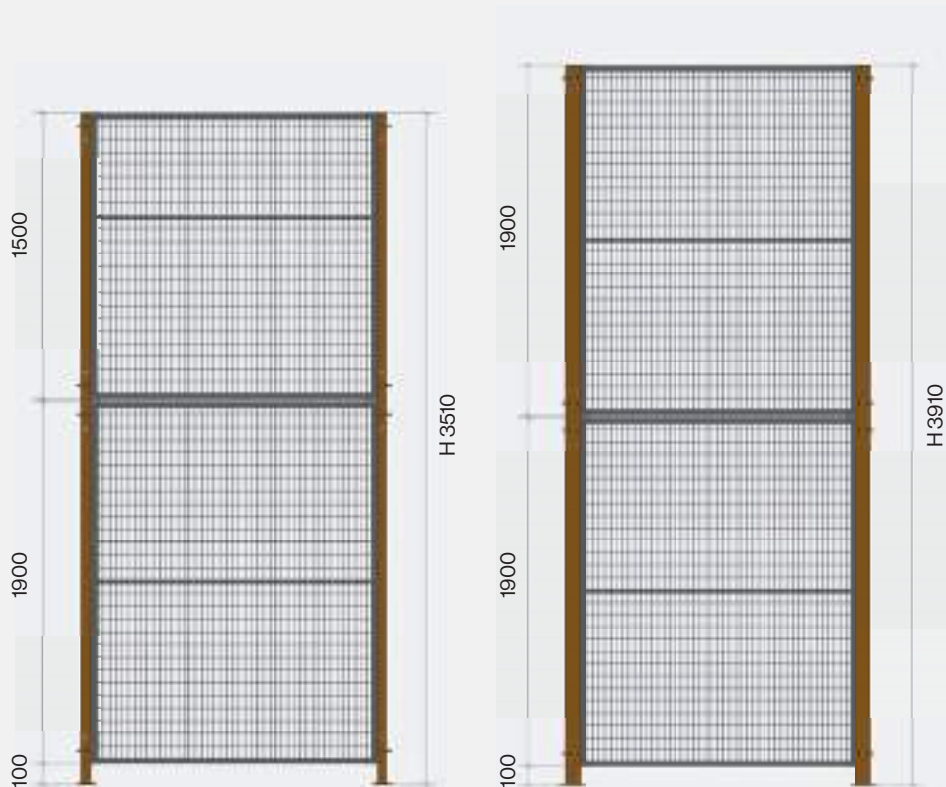
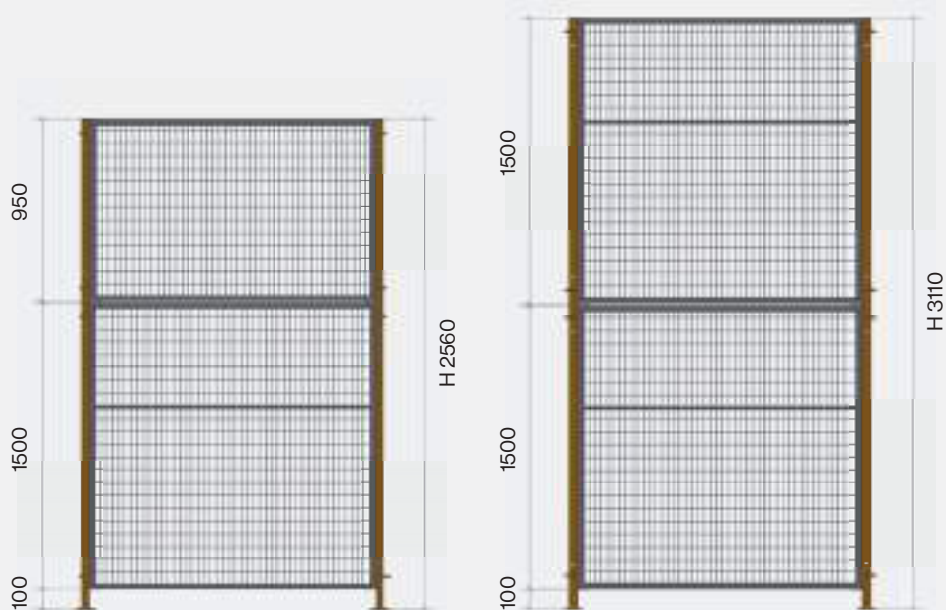
Height modularity of the Novatek and Ecotek systems

The Novatek and Ecotek safety systems allow you to create taller guarding, due to the use of special posts. This makes the systems extremely versatile, allowing the barriers to be adapted to the specific needs of each working environment.



Possible combinations

The diagrams show the height combinations of the Novatek system.



Novatek Overlay

Section	H 2560	H 3110	H 3510	H 3910
∅ 40	X	-	-	-
∅ 50	X	X	X	-
∅ 80	-	X	X	X

Ecotek Overlay

Section	H 2560	H 3110	H 3510	H 3910
∅ 50	-	X	-	-
∅ 80	-	X	-	X

Accessories

Intermediate support foot

Ideal for long distances, this foot can replace the standard post, offering impact resistance and cost savings.



Panel joining kit

This kit allows you to join two panels together to create non-standard panels, ideal for sliding doors on the ground or panels that are longer than normal.



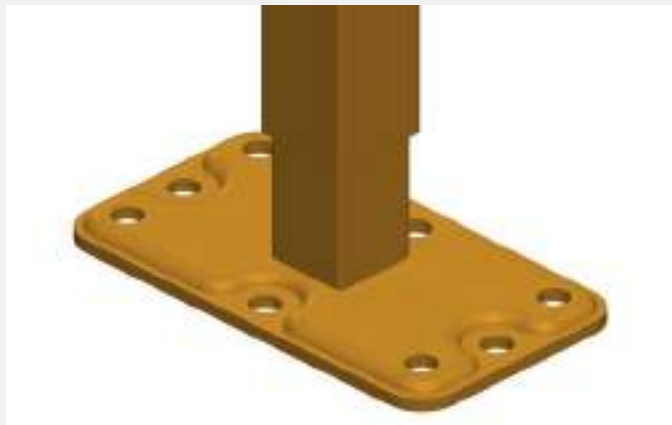
Extension kit

Using two special screws, this kit allows you to very easily extend the panel from +30 to +120mm.



Height-adjustable post

This post allows, under unfavorable floor conditions with uneven floor, an easy regulation. Available in $\varnothing 40$.



On-site panel cutting kit

With the Novatek panel cutting kit, it is possible to modify and adapt the framed panels on site without having to re-weld and repaint them.



Ground infill

This accessory allows you to close the ground light.





Novatek Quick kit

The Novatek Quick kit is a tool designed to reduce assembly times. In fact with this kit, consisting of three brackets, installation by a single operator is even possible.

The system complies with current regulations.

A basic requirement for fixed guards is that they must be fastened using systems that can only be opened with the use of tools and, as far as possible, must not be able to remain in place without their fastening mechanism.

At the end of the operations, therefore, the kit must be removed.

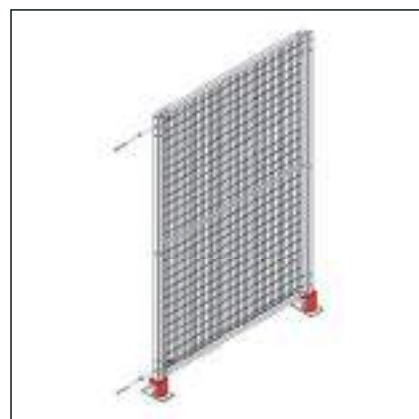
Step 01



Step 02



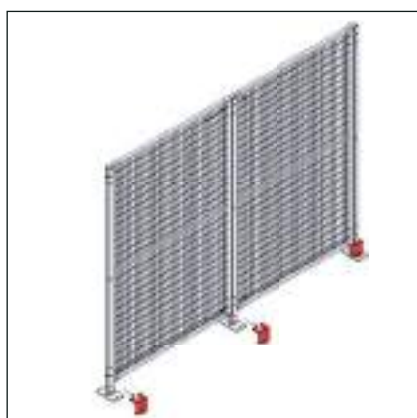
Step 03



Step 04



Step 05



Watch the video



Ecotek System

The Ecotek system was created with the specific aim of creating a low-cost, easy-to-install and robust frame panel; ideal for all those who need to demarcate dangerous areas.

The visibility of the segregated area is a strong point of this product; the combination of mesh and black colouring significantly improves the vision of the danger zone. Scratch resistance is guaranteed by a special black paint.

Affordable

The cost is low compared with the same Novatek system because it is made with a 10x25mm tubular system.

Modular

Each component has been designed to be modular. In fact all Protec systems use the same network.

The doors themselves are made with the Novatek series.

Visibility

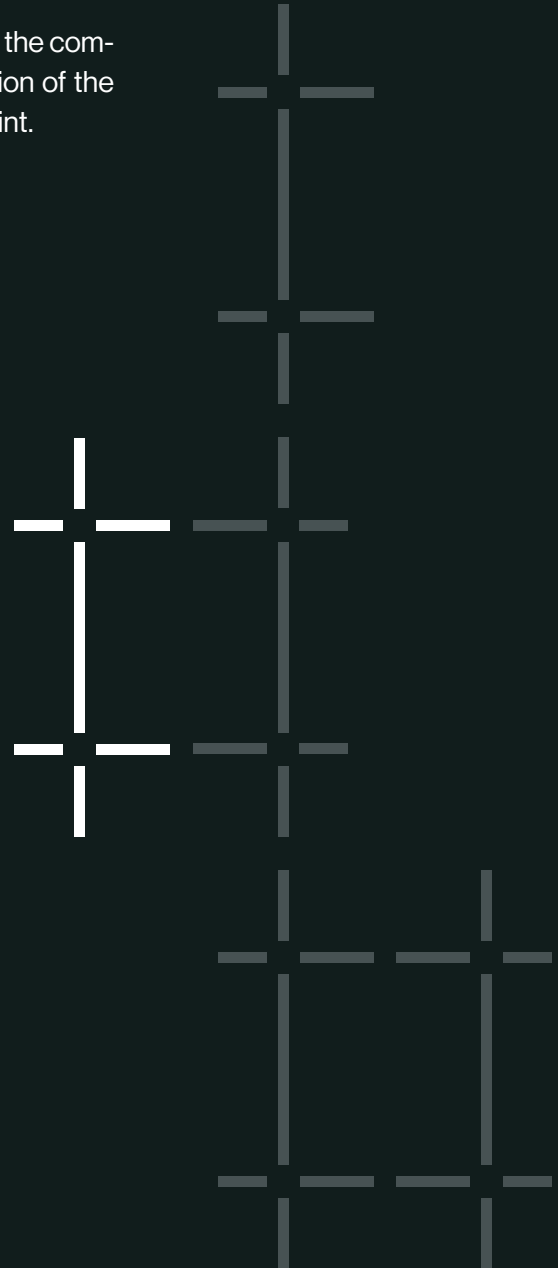
The innovative system of the 32x67 Ø3mm mesh combined with the black colour of the panel improves the visibility of the machinery within the segregated area.

Resistant

The Ecotek system has passed the resistance test and complies with EN ISO 14120.

Anti-climbing

The vertical wires of the 32x67 Ø3mm mesh are externally welded and therefore prevent climbing.



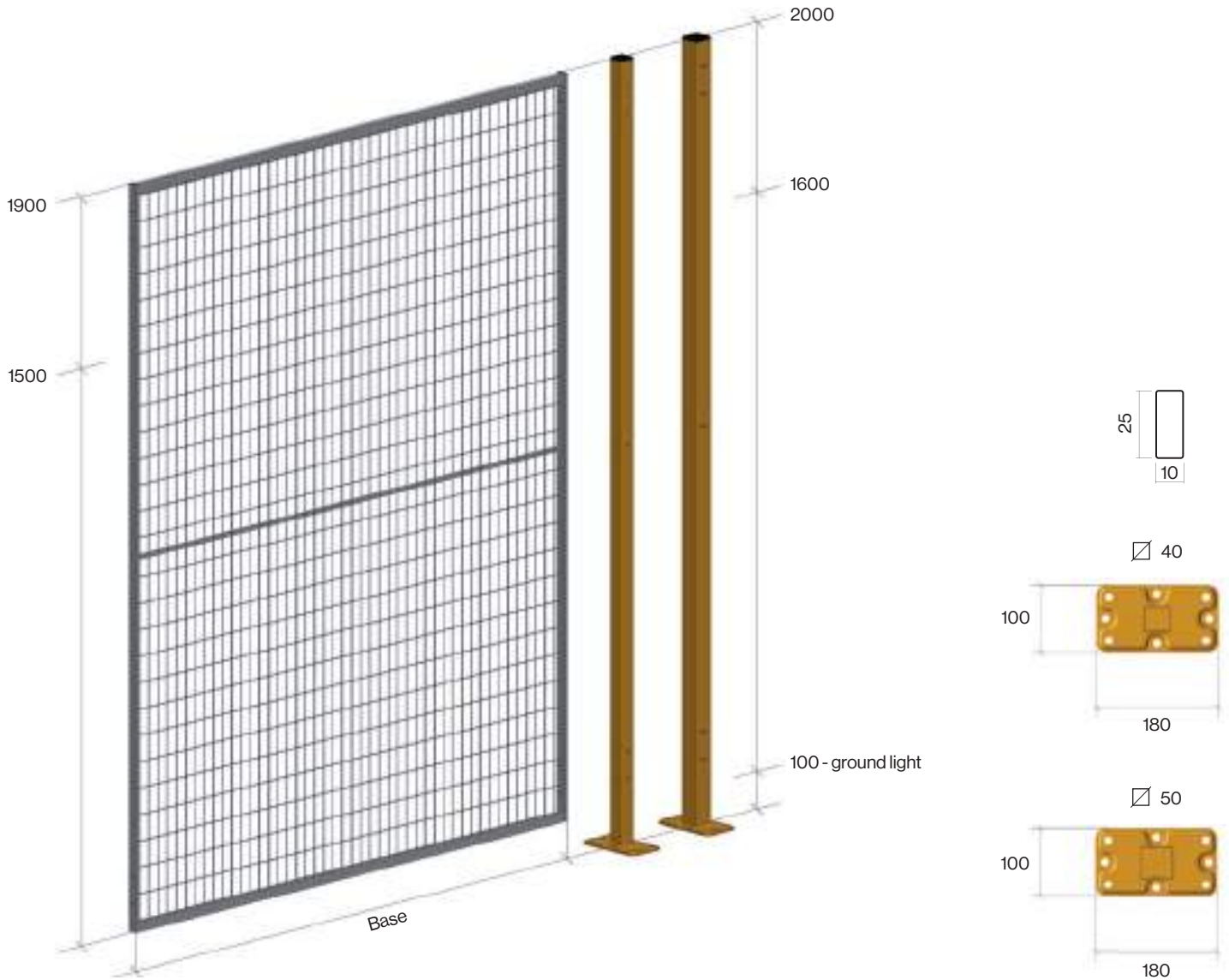


Ecotek system

The Ecotek system is composed of panels with Ø3mm frame and wire mesh, is available in different heights and in combination with the 40 x 40 posts offers versatile, robust and quick-to-assemble solutions. The panel has the mesh welded inside the profile which prevents it from getting caught.

The posts have a welded plate to increase impact resistance and to allow the system to be fixed to the floor without having to move it from the desired position.

Choose the solution that fits your setup perfectly.






Panels Options

Base	H 1500	H 1900
250	X	X
410	X	X
700	X	X
1020	X	X
1210	X	X
1500	X	X

Posts Options

Section	H 1600	H 2000
Ø40	X	X
Ø50	-	X

Colour Options

-  RAL 1003
-  RAL 9005 anti-scratch
-  Custom option

The solution best suited to you

Cost-effective

Techno System Ø3 mm



The cost is low because it is made of self-supporting mesh.

Techno System Ø4 mm



The cost is low because it is made of self-supporting mesh.

Novatek System



The price/quality ratio makes this product unique and very competitive in the market.

Ecotek System



The cost is low compared with the same Novatek system because it is made with 10x25 tubulars.

Modularity



Interchangeable with other frame systems.
The doors are made with the Novatek series.

Adjustable on site.



Interchangeable with other frame systems.
The doors are made with the Novatek series

Adjustable on site.



Interchangeable with other frameless systems.
The panels act both as fixed elements and, through the use of kits, as a hinged or sliding door.

Can be modified on site with cutting kit or extension kit.



Interchangeable with other frameless systems.
The doors are made with the Novatek series.

No special panels are made.

Visibility



The innovative system of the 32x67 Ø3 wire mesh combined with the black colour of the panel improves the visibility of the machine within the segregated area.



The innovative system of the 32x67 Ø3 wire mesh combined with the black colour of the panel improves the visibility of the machine within the segregated area.



The innovative system of the 32x67 Ø3 wire mesh combined with the black colour of the panel improves the visibility of the machine within the segregated area.



The innovative system of the 32x67 Ø3 wire mesh combined with the black color of the panel improves the visibility of the machine within the segregated area.

Resistance

Test reports available in the client area.



Test reports are available online in our client area. The Techno system has passed the endurance test. The system complies with EN ISO 14120.

Panel B=1500 resistance 800J - post 40
Panel B=2000 resistance 280J - post 40



The Techno system has passed the endurance test. The system complies with EN ISO 14120.

Panel B=1500 resistance 1300J - post 40
Panel B=2500 resistance 650J - post 40
Panel B=2000 resistance 2000J - post 50
Panel B=2500 resistance 1600J - post 50



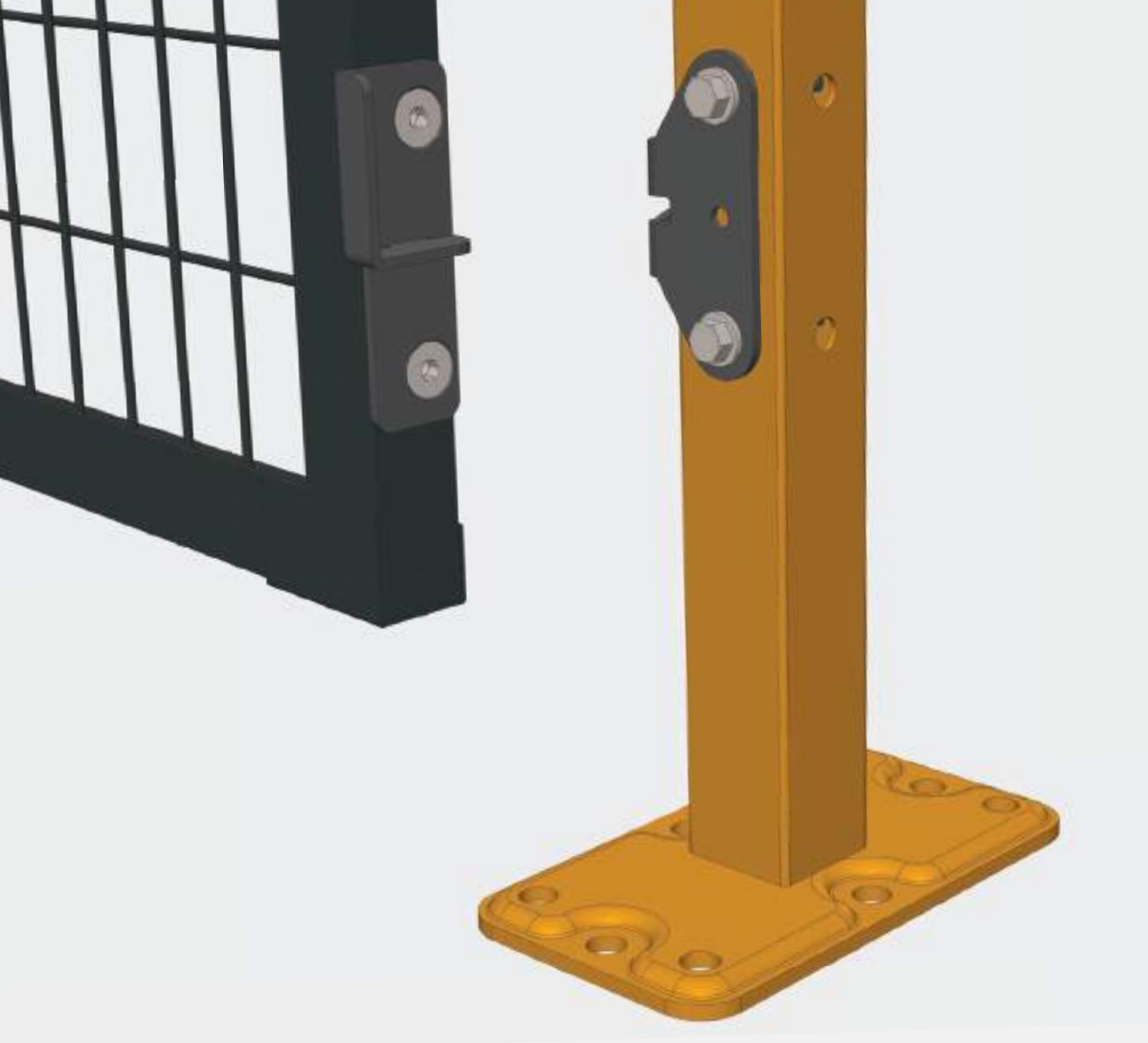
The Novatek system has passed the resistance test and complies with the EN ISO 14120 standard. See the test report online in our client area.

Panel B=1500 resistance 1300J - post 40
Panel B=1500 resistance 2000J - post 50
Panel B=1500 resistance 2500J - post 80



The Ecotek system has passed the resistance test and complies with the EN ISO 14120 standard.

Panel B=1500 resistance 1300J - post 40
Panel B=1500 resistance 2000J - post 50



Openings

Guarding system openings can be completed and customised with a wide choice of opening solutions, offering different types of doors according to specific operational needs.

Whether it's to ensure safe access, optimise space or facilitate passage, our doors integrate seamlessly with our guarding systems, ensuring versatility and safety in any work environment. Choose the type of opening that better suits your needs.

Swing door

It is available in a single or double version.

It acts as a panic alarm using a magnet system and also enables operators to evacuate the segregated area by pushing the door panel.

∅40 or ∅50 posts

Light available from 735 to 3050 with the use of standard panels.

Single door light = B (700, 1000, 1200, 1500) + 35

Double door light = B (1400, 2000, 2400, 3000) + 50

More light on request.



Folding door

It is available in a single double version.

The folding door allows to pack all panel together when opened.

Also available with a top rail.

∅50 posts

Single door light up to 3000

Double door light up to 6000

More light on request.





Suspended sliding door

It is available in a single or double version.

The upper part of the door is guided by a monorail and trolleys, while in the lower part a polypropylene profile ensures the smoothness of the panel.

∅40 or ∅50 posts

Light available from 865 to 2820 with the use of standard panels.

Single door light = B (1000, 1200, 1500) - 135

Double door light = B (1400, 2000, 2400, 3000) - 175

More light on request.



Sliding suspended folding door

Allows the door to be opened by folding it on one side only.

The upper part of the door is guided by a monorail and trolleys, while in the lower part a polypropylene profile ensures the smoothness of the panel.

∅50 posts

Light up to 2850 with the use of standard panels.

Sliding door on the ground

It is available in a single or double version.

The door is guided on the ground by a rail and at the top by a roller system.
 \varnothing 40 or \varnothing 50 or \varnothing 80 posts

Light available from 792 to 2665 with the use of standard panels.

Single door light = B (1000, 1200, 1500) - 210

Double door light = B (1400, 2000, 2400, 3000) - 335

More light on request.

Option with rubber wheel

It allows you to have the opening light free of clutter.



Sliding door on the ground without ground guide

It is available in a single or double version.

The door is guided by a roller system.
 \varnothing 50 posts

Single door light up to 1800

Double door light up to 3500

More light on request.





Freestanding door

It is available in a single or double version.

The door leaves no top or bottom static elements, when opened.

∅80 posts

Light available from 725 to 3425 with the use of standard panels.

More light on request.



Telescopic door

It is available in a single or double version.

The door has no upper and lower dimensions, and by means of folding guides it also reduces the side dimensions.

∅40 or ∅50 or ∅80 posts

Single door light up to 4500

Double door light up to 9000

More light on request.

Vertical sliding door

The vertical sliding door with manual movement uses a system of pulleys, linear guides and counterweights.



Automatic doors

We can offer both pneumatic and motorized drive system.



	Motorised	Pneumatic door
Sliding door	X	X
Suspended sliding door	X	X
Vertical sliding door	X	X

Locks and Microswitches

Panic lock for swing doors

The panic lock for swing doors satisfies the need to lock the door and at the same time to give the operator the opportunity to exit in case of accidental closing.



Key lock for swing or sliding doors

The lock allows the door to be closed with a key and thus prevents access by unauthorised personnel.

It is designed for the use of up to three padlocks to prevent operators from being accidentally trapped.



Trapped key lock

This is a device that allows you to increase the degree of security of the system. It prevents the restart of the machine against the will of those inside the segregated area using a non-duplicable coded key system.



Multi Lock

The lock, which can be applied to swing doors, controls access to hazardous areas as part of an integrated system. Equipped with an internal anti-imprisonment lever, it guarantees emergency exit. Designed for the use of up to three padlocks to prevent operators from being accidentally trapped.



Micro kit for swing door

The Pizzato FR2096-L16M1 1NO+2NC safety microswitch has a customised pin that acts directly on the hinge; once positioned and pinned, it becomes integral with the hinge itself.



Cable duct

This accessory allows the use of cable ducts. It can be anchored on the upright or on the panel.



Brackets for anchoring

The most frequently used safety microswitches, such as Pizzato, Euchner, Schmersal, etc., are available.



Custom-made brackets for microswitches or electric locks

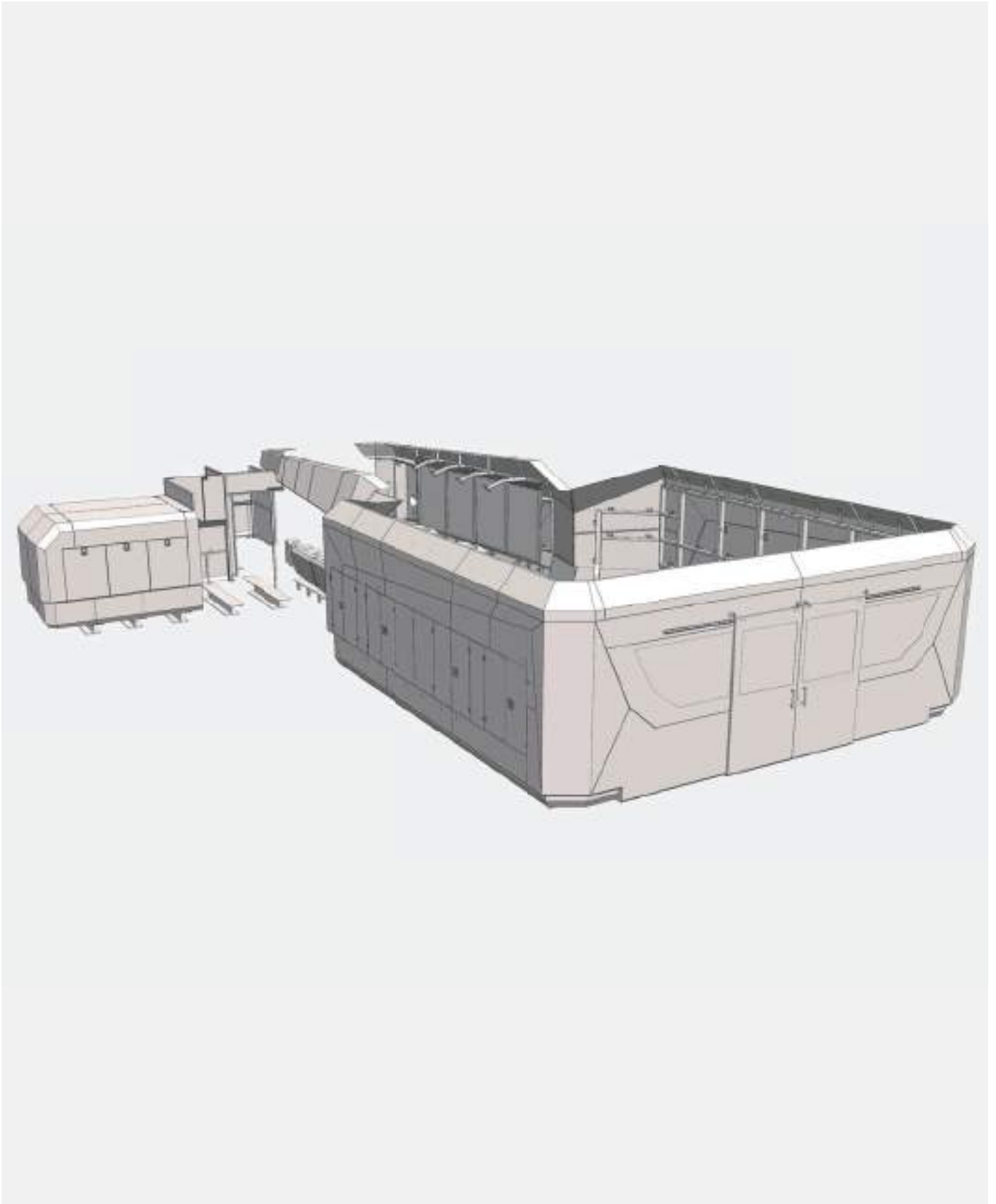
Our technical department is able to design custom-made brackets for your microswitches or electric locks.



Sheet Metal

Sheet metal guards are created to offer all manufacturers of industrial plants a customised and well-designed solution that prevents the escape of high pressure liquids and processing waste from the segregated area.





The design of the cabins takes place in collaboration with the customer, and our technical department is able to recommend the most suitable solution and to create the design in three dimensions.

Example of application of a cabin with double front opening.



Example of application of a watertight containment protection for chips.



Sheet Metal Panels

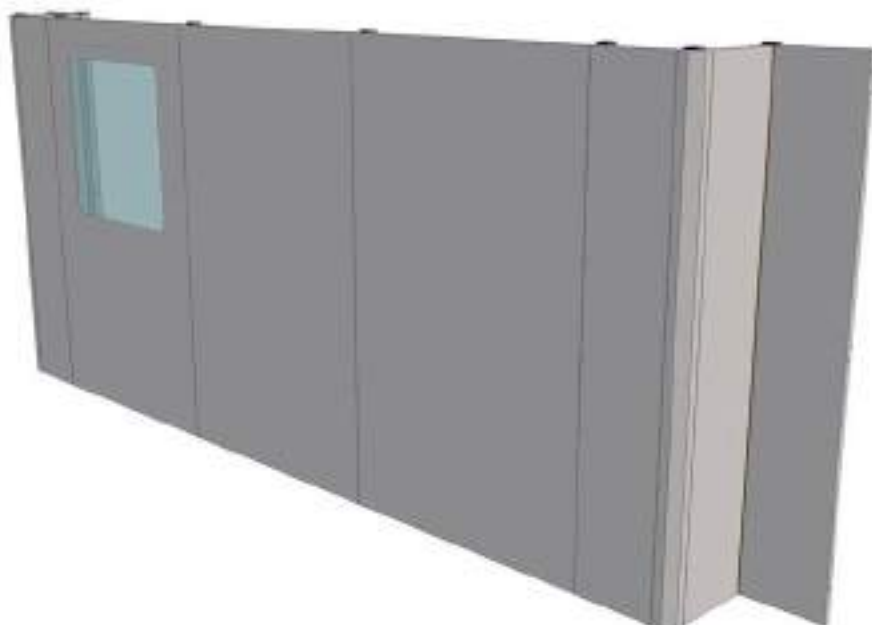
The sheet metal guarding system was created to offer all manufacturers and users of machine tools and welding islands a steel solution with low costs, which is aesthetically pleasing, simple to install and robust.

Available in the standard or aesthetic version.
The panels can be equipped with portholes for inspection.

Standard Version



Aesthetic Version



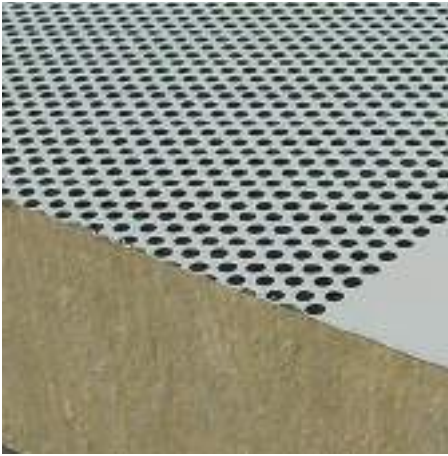


Soundproofing Cabins

We are able to solve problems related to noise pollution while complying with current regulations, ensuring safety and performance.

Our strength is the construction of turnkey systems for the monitoring and reduction of industrial noise produced by machines during operation. The cabins, in addition to ensuring noise reduction, protect the operator from projections of material from machinery.

The cabins can be equipped with manual or pneumatic opening doors, and windows or inspection portholes with anodised aluminum profiles.



The components used for the construction of the cabins always offer the best performance in terms of sound insulation/absorption, mechanical resistance and environmental impact.

Our sound-absorbing panels consist of external supports in pre-painted galvanised steel, with a perforated internal wall. The insulation is made by means of an insulating layer of high-density mineral fibres.

This particular system achieves a remarkable level of soundproofing.

All panels have a useful pitch of 1000 mm, and the available thicknesses are 50, 80 and 100 mm.

Below are the noise reduction data tested at a height of 1 metre and at a distance of 1 metre from the wall in a completely closed version, divided by thickness:

50mm = 24 dB(A) Leq

80mm = 29 dB(A) Leq

100mm = 31 dB(A) Leq



Parapets

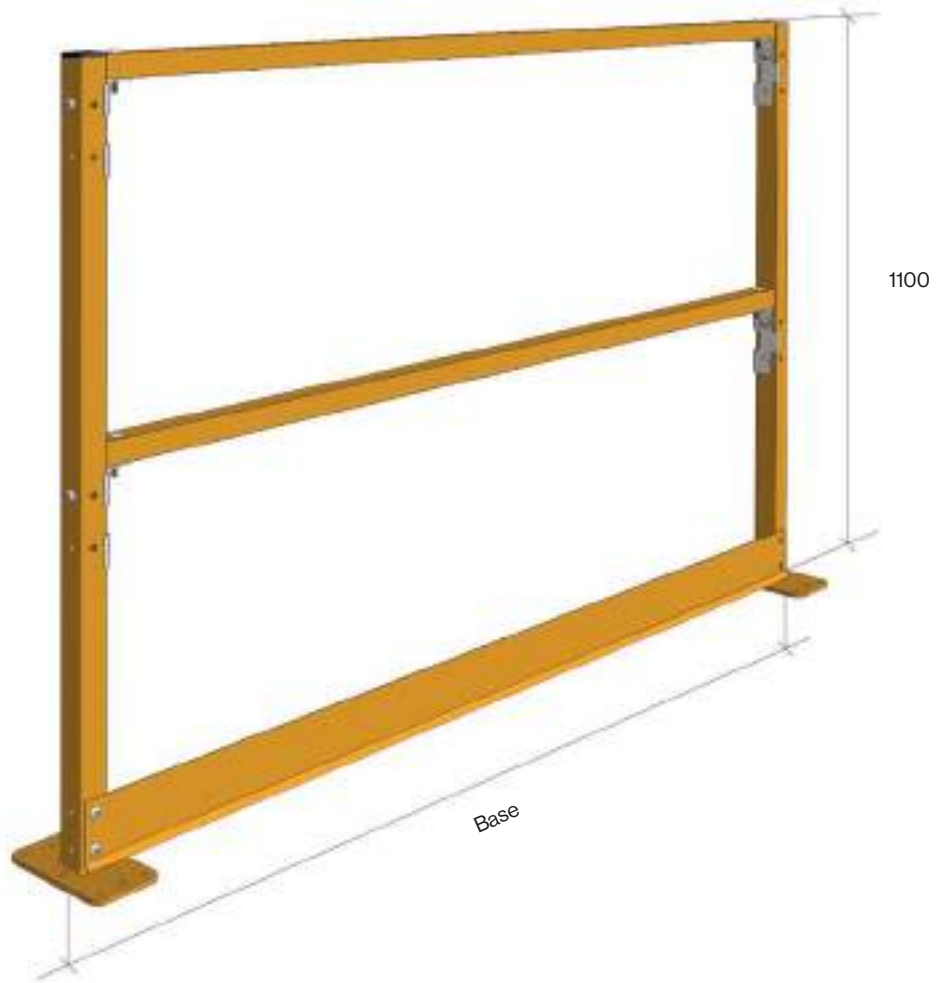
The fields of application are vast, from demarcating walkway areas within companies, to fall prevention in mezzanines, to use on machinery with walkable roofs.

Our parapet is compliant with the EN ISO 14122-3 standard; it is modular, quick to install, very robust and easy to adapt on site.



With only four components, the system allows you to make straight and angular sections.

The parapet is composed of uprights that can be with or without a ground plate, horizontal tubes, stop plate at the foot and support brackets.



Options Available

Parapet available with base 1000 or 1500.

Colour Options



RAL 1003



RAL 9005 anti-scratch



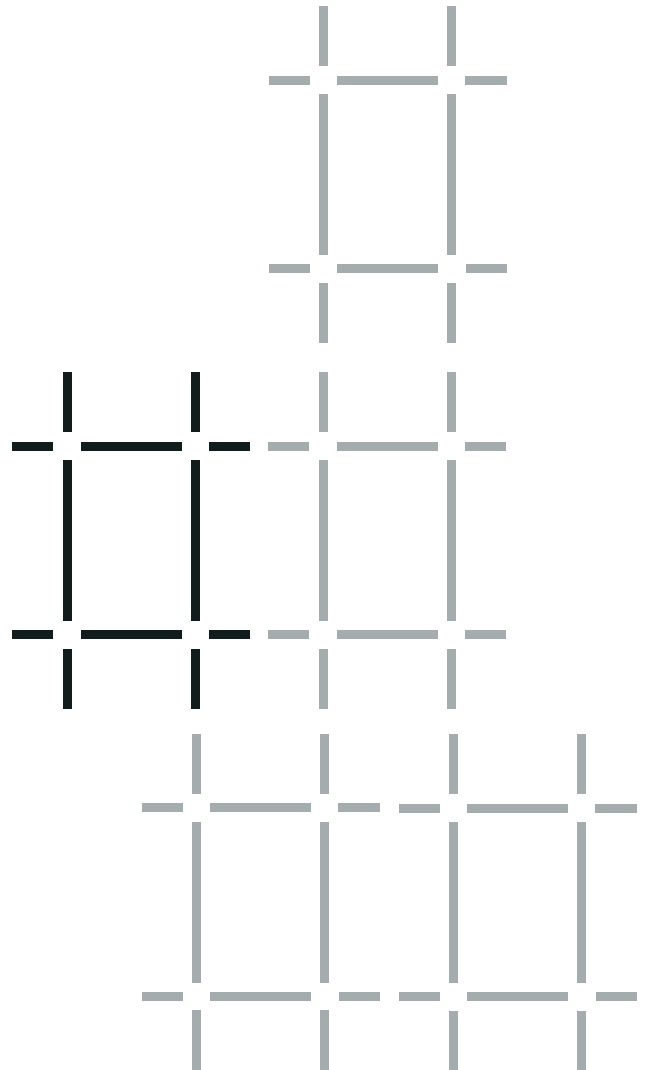
Custom option

Screen System

Screen system is a shelving fall guarding system, designed to prevent falling objects.

It uses Novatek panels which, joined by a special bracket, make it quick to assemble and robust.

For the main Novatek panel sizes check page 20.



Quick assembly

The anchoring bracket allows quick installation, thanks to the multiple adjustment options.

Modular

With the multiple sizes of Novatek panels we can cover every size of shelving.




Adjustable on site

With the Novatek panel cutting kit it is possible to modify and adapt the panels on site without having to re-weld and repaint the panel.



Example of applications of the Screen system of an automatic warehouse developed by Automha SpA.

Colour Options

-  RAL 1003
-  RAL 9005 anti-scratch
-  Custom option

Techno Inox System

The Ø3mm wire Techno Inox safety system has been created to offer all those who have to demarcate hazardous areas, providing a low-cost and easy-to-install AISI 304 stainless steel solution.

This product was born as a self-supporting panel, with a mesh designed to improve the vision of the segregated machinery. The visibility of the segregated area is a key strength of this product.

Affordable

The cost is low because it is made of self-supporting mesh.

Visibility

The innovative 32x67 Ø3mm mesh system improves the view of the machinery within the segregated area.

Adjustable on site

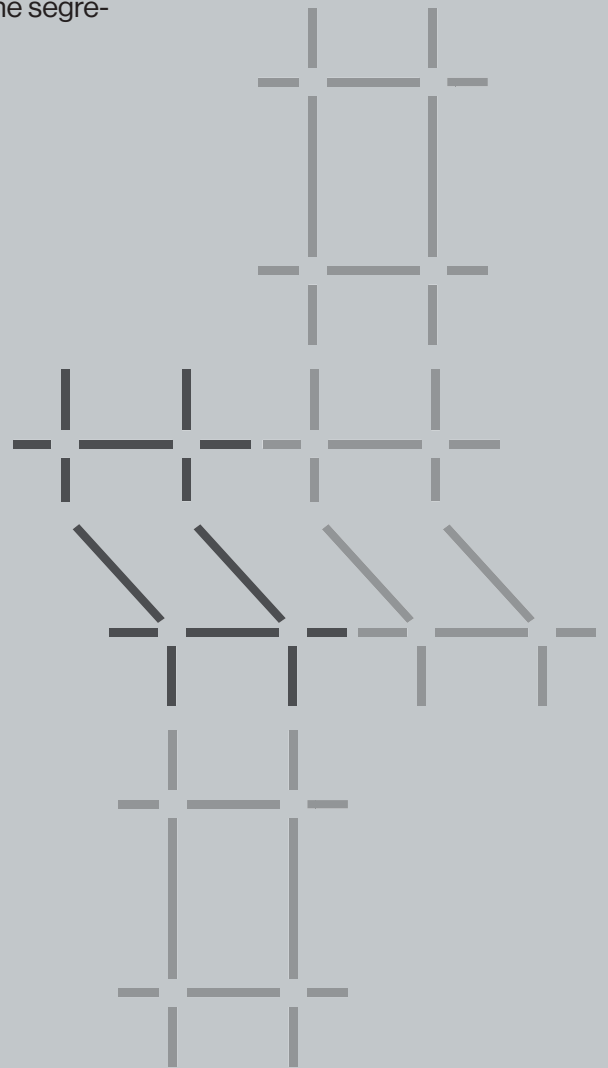
This system has the great advantage of being adjustable on site using very few tools.

Resistant

The Techno Inox system has passed the resistance test and complies with the EN ISO 14120.

Anti-climbing

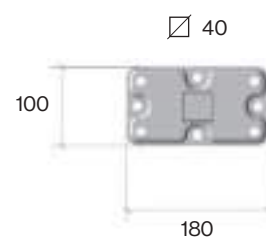
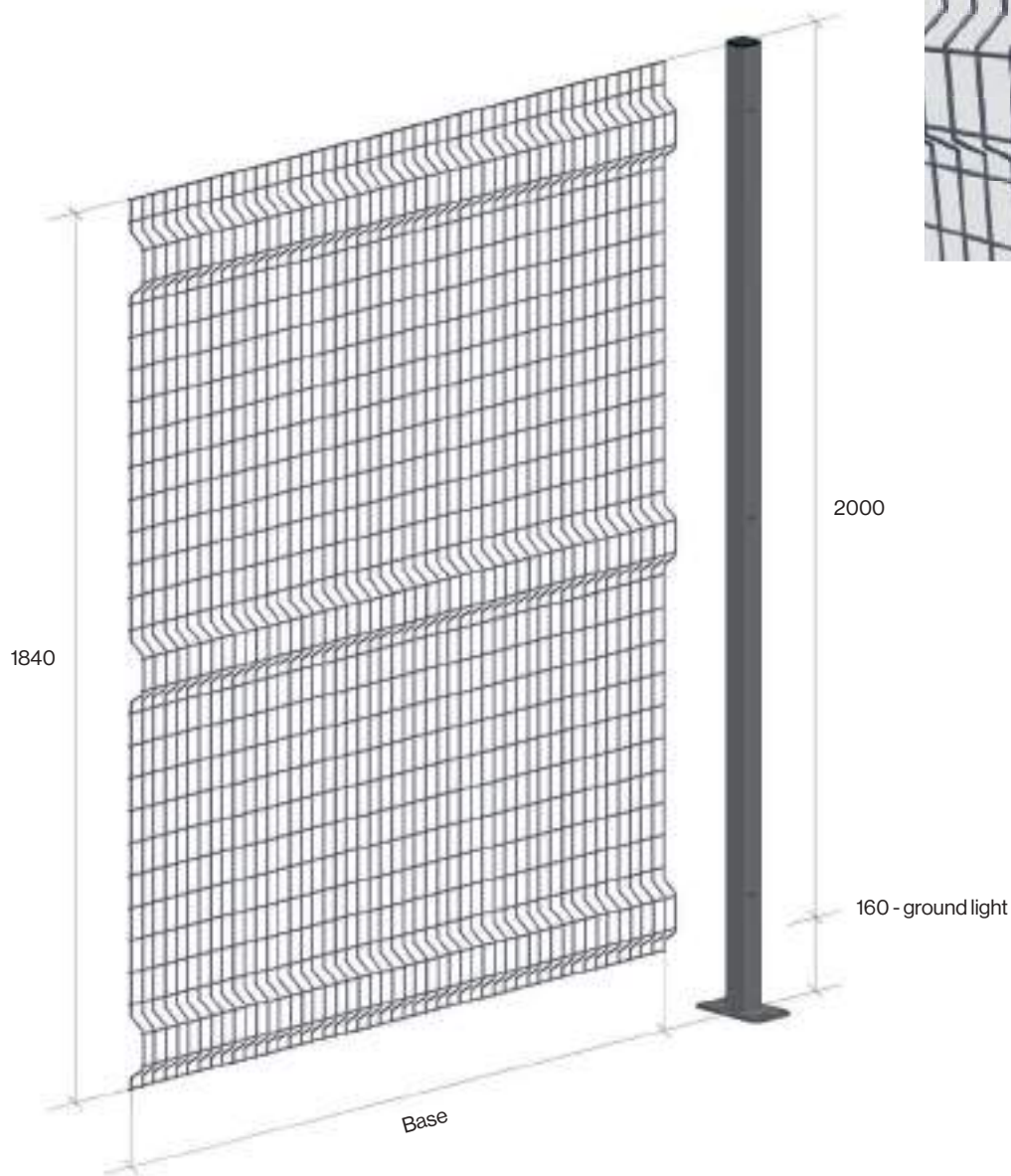
The Techno Inox system has been designed to make climbing difficult. The vertical wires of the 32x67 Ø3mm mesh welded externally prevent climbing. The position and inclination of the mesh wires make it difficult for a shoe to grip onto them.



Example of applications of the Techno Inox system for the demarcation of areas with hazardous machinery in the food environment.



Techno Inox Ø3 system



Panel Options

Base	H 1840
1507	X

Posts Options

Section	H 2000
∅40	X

Accessories



Swing door

It is available in a single or double version.

It acts as a panic alarm using a magnet system and also enables operators to evacuate the segregated area by pushing the door panel.

∅50 posts

Light available from 735 to 2050 with the use of standard panels.

Single door light = B (700, 1000) + 35

Double door light = B (2000) + 50

More light on request.



Suspended sliding door

It is available in a single or double version.

The suspended sliding door is supplied pre-assembled. All the profiles have been designed to facilitate the outflow of water, in fact there are no flat surfaces.

∅50 posts

Light available from 890 to 1830 with the use of standard panels.

Single door light = B (1000, 1500) - 110

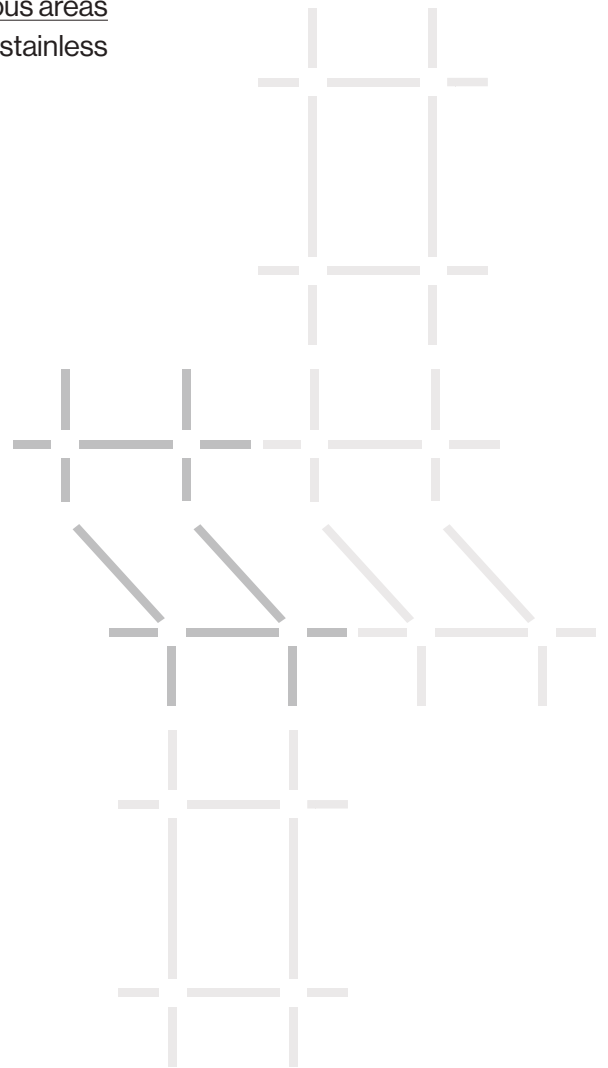
Double door light = B (2000) - 140

More light on request.

Food Inox System

The Food Inox safety system in AISI 304 stainless steel is composed of self-supporting Ø4mm mesh panels and 50mm section posts with a U-shaped profile which is raised from the ground to facilitate cleaning. The two components are assembled using a special bracket.

The system is mainly used by those who have to demarcate hazardous areas in agri-food and pharmaceutical environments or where the use of a stainless steel product is required.



Affordable

The cost is low because it is made of a self-supporting network.

Visibility

The innovative 32x67 Ø3mm mesh system improves the view of the machinery within the segregated area.

Adjustable on site

This system has the great advantage of being adjustable on site using very few tools.

Resistant

The Food Inox system has passed the resistance test and complies with the EN ISO 14120.

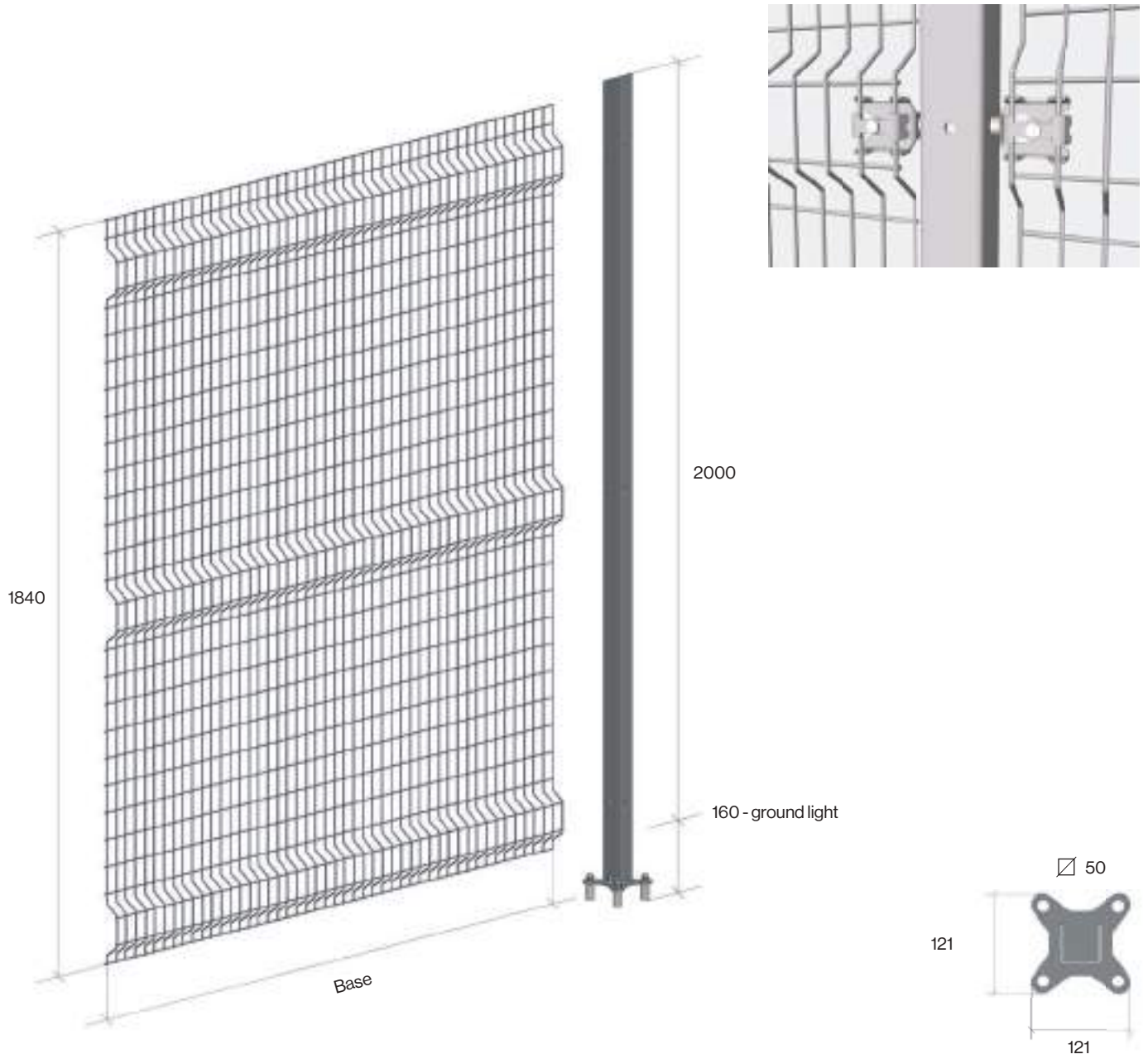
Anti-climbing

The Food Inox system has been designed to make climbing difficult. The vertical wires of the 32x67 Ø3mm mesh welded externally prevent climbing. The position and inclination of the mesh wires make it difficult for a shoe to grip onto them.



Example of applications of the Food Inox system for the demarcation of areas with hazardous machinery in the food environment.

Food Inox Ø4 system



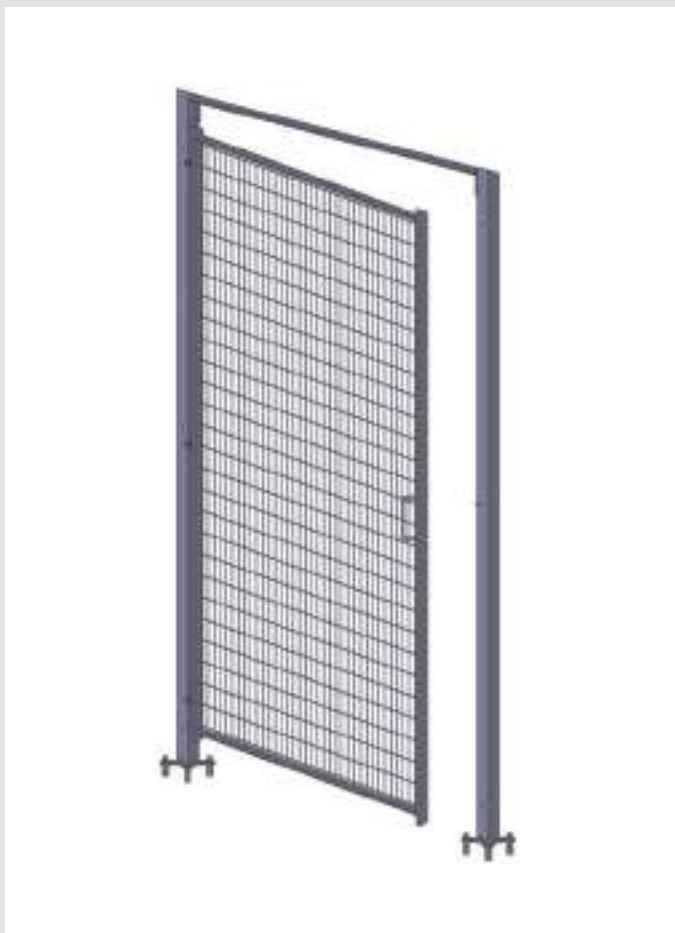
Panel Options

Base	H 1840
1988	X

Posts Options

Section	H 2000
∅50 U-shaped	X

Accessories



Swing Door

It is available in a single or double version.

It acts as a panic alarm using a magnet system that enables operators to evacuate the segregated area by pushing the door panel.

Ø50 U-shaped post

Light available from 735 to 2050 with standard panels use.

Single door light = B (700, 1000) + 35

Double door light = B (2000) + 50

More light on request.



Suspended sliding door

It is available in a single or double version.

The suspended sliding door is supplied pre-assembled. All the profiles have been designed to facilitate the outflow of water, in fact there are no flat surfaces.

Ø50 U-shaped post

Light available from 890 to 1830 with the use of standard panels.

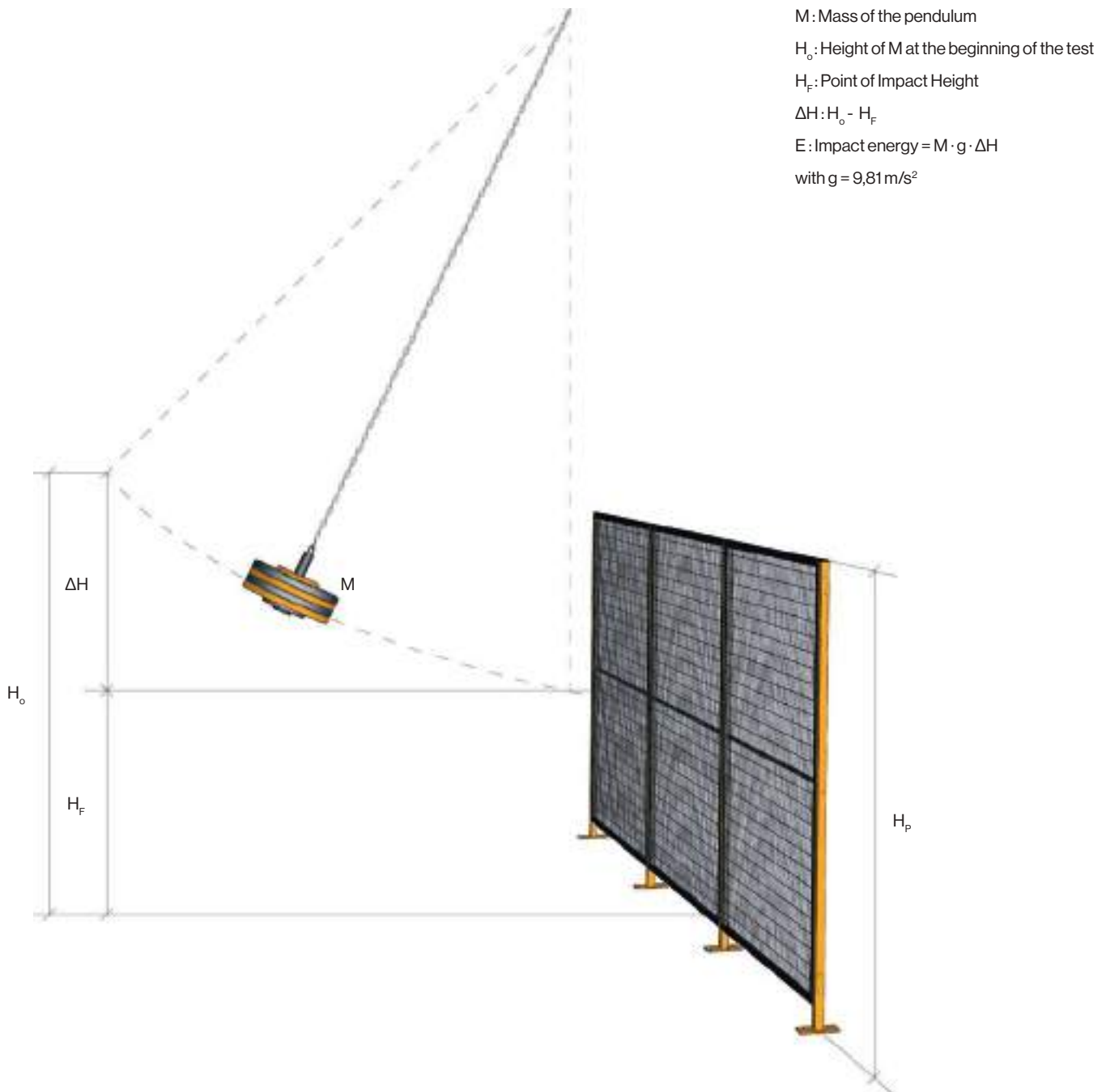
Single door light = B (1000, 1500) - 110

Double door light = B (2000) - 140

More light on request.

Impact Tests

Our products are tested according to the indications given by the EN ISO 14120 standard. The pendulum test consists of testing the resistance of the guards against impacts from inside and outside the protected danger zone.





We have an internal test area at our disposal, which allows us to carry out dynamic impact resistance tests from the inside out using a rigid body.

Standards

The modular guards have been designed according to the criteria contained in the following reference standards:

EN ISO 12100

Machinery safety. Fundamental concepts, general design principles for the design and construction of fixed and mobile guards.

EN ISO 13857

Safety distances to prevent reaching dangerous areas with the upper and lower limbs.

EN ISO 14119

Safety of machinery - Interlocking devices associated with guards - Principles of design and selection.

EN ISO 13849-1

Safety of machinery - Parts of control systems related to safety. General principles for design.

EN ISO 13854

Safety of machinery. Minimal clearances to prevent crushing of body parts.

EN ISO 14122-3

Permanent means of access to machinery. Stairs, bunk ladders and parapets.

EN 60204-1

Safety on machinery. Electrical equipment of machines. Part I: General Rules.

2006/42/CE

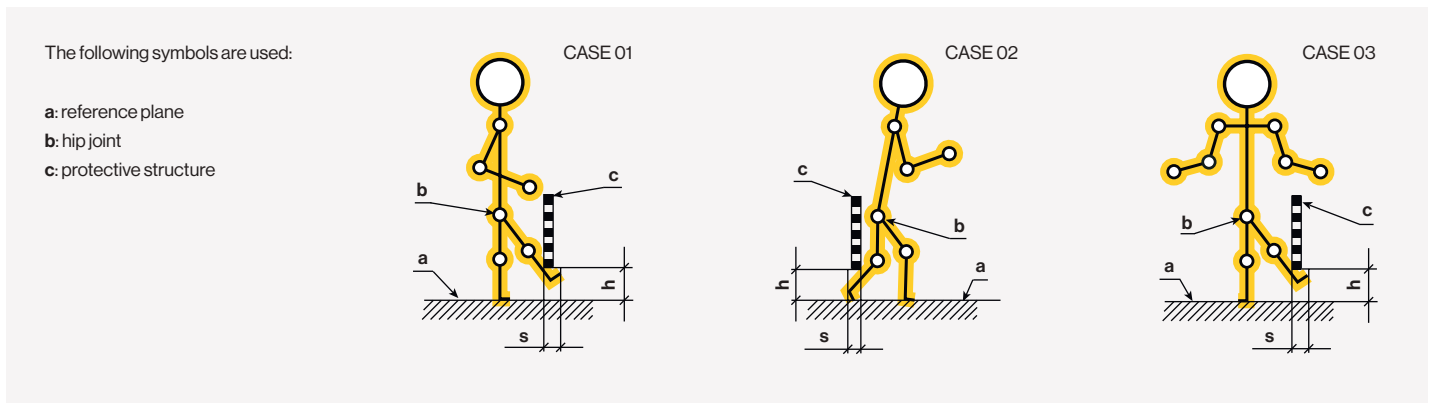
Machinery Directive.

EN ISO 14120

Safety of machinery - guards - general requirements for the design and construction of fixed and movable guards.

Lower limb access table EN ISO 13857, Annex B

Limitation of free movement under protective structures.



Irregular openings and accessibility from below : Slit openings >180mm and square or circular >240mm allow access to the entire body.

Height to the structure of guards h	Distance S		
	CASE 01	CASE 02	CASE 03
$h \leq 200$	≥ 340	≥ 665	≥ 290
$200 < h \leq 400$	≥ 550	≥ 765	≥ 615
$400 < h \leq 600$	≥ 850	≥ 950	≥ 800
$600 < h \leq 800$	≥ 950	≥ 950	≥ 900
$800 < h \leq 1000$	≥ 1125	≥ 1195	≥ 1015

Upper limb access table EN ISO 13857



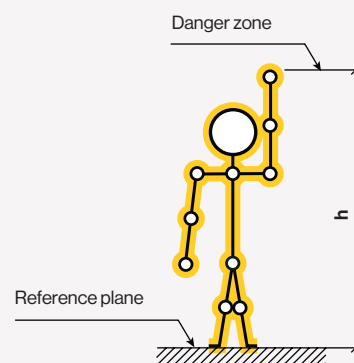
Restriction of free movement over protective structures.

EN ISO 13857, 4.2.1

Fig.1

Upward accessibility

- If the danger zone is a reduced hazard, the height h of the hazardous area must be greater than or equal to 2500 mm.
- If the danger zone is at high risk, then:
The height h of the hazardous area must be greater than or equal to 2700mm or other safety measures must be taken.



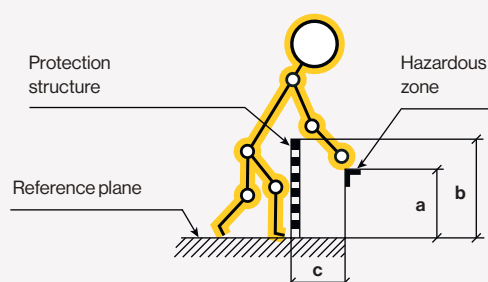
EN ISO 13857, 4.2.2

Fig.2

Accessibility above of protective structures

The following symbols are used:

- a:** height of the danger zone
- b:** height of the protective structure
- c:** horizontal distance of the hazardous area



In the table below (relating to high risk) protective structures with a height of less than 1000 mm are not considered because they do not sufficiently limit the movement of the body. Protective structures with a height of less than 1400 mm should not be used without additional safety measures.

In a situation of reduced risk, protective structures with a height equal to or greater than 1000 mm are considered. If the safety distance is expressed in the table below with a hyphen, then the distances according to the size of the net must be used. With 32x67 wire Ø3 or Ø4 mesh, the minimum safety distance is 200 mm.

EN ISO 13857, 4.2.2.1.2 Table 2 height risk

Height of the hazardous area a	Height of the protective structure b									
	1000	1200	1400	1600	1800	2000	2200	2400	2500	2700
Horizontal distance from the hazardous 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	-	-	-	-	-	-	-	-

the \mathbb{R}^n is a linear space over \mathbb{R} and \mathbb{C} and a vector space over \mathbb{R} and \mathbb{C} . The operations are defined as follows:

$$(\alpha + \beta)z = \alpha z + \beta z, \quad (\alpha\beta)z = \alpha(\beta z), \quad \alpha(\beta z) = \beta(\alpha z),$$

$$\alpha(\beta + \gamma)z = \alpha\beta z + \alpha\gamma z, \quad \alpha(\beta\gamma)z = \alpha\beta(\gamma z), \quad \alpha(\beta\gamma)z = \beta(\alpha\gamma)z,$$

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