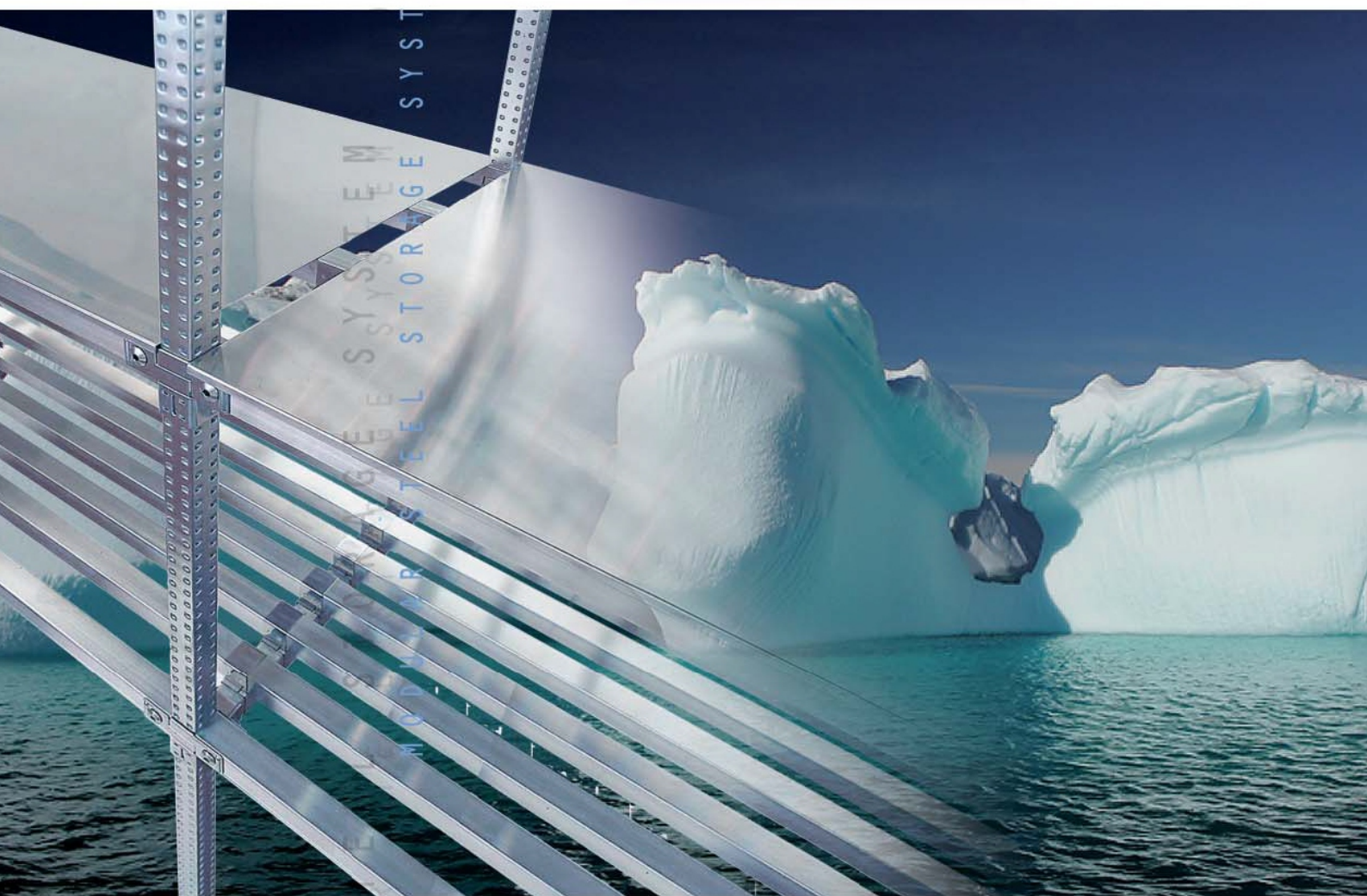


DULAR STEEL STORAGE
SYSTEMS

SUPERINOX

PATENTED MODULAR STAINLESS STEEL SHELVING



MODULAR
SYSTEMS



METALSISTEM[®]
SISTEMI E STRUTTURE PER IL MAGAZZINO

STANDARD SPECIFICATIONS

General Standard Rules:

The correct use of the product distinguishes both the Customer and the Manufacturer. METALSISTEM recommends that customers strictly follow its code of practice for the design and utilisation of its products. The design and assembly of the product must be carried out by expert and qualified personnel. METALSISTEM declines any responsibility for improper use of its storage systems and accessories.

Floor Slab Loading

Prior to the installation of the product, the floor slab must be checked to ensure that it is of adequate load capacity.

Site Installation & Assembly

The assembly and site installation of racking systems must be carried out by expert personnel, in full conformity with the assembly criteria and specifications contained in the SUPERINOX Technical Manual <Doc. MT10> and the relevant Assembly Instructions <Doc. ISTM-031>.

Rack Alignment

The shelving system must be assembled square. During assembly, the verticality of the frames must be checked for both the depth and length direction. The frame alignment tolerance cannot exceed $H/350$ or $\pm 10\text{mm}$ whichever is the larger value (where H is the height of the upright expressed in mm). Refer to the <MUM03> Operating and Maintenance Manual for Light Duty Shelving, for a more detailed description of assembly tolerances.

Load bearing capacity plate

The load bearing capacity plate must be fixed in clearly visible locations and must indicate the product series, year of manufacture, frame and shelf load bearing capacity (expressed as a uniformly distributed load), the load unit and the height of the first loading level from ground. One plaque must be fixed for each single shelf or load configuration.



Shelving Safety Standards

Shelving cannot exceed the following parameters:

- 3 meter maximum frame height;
- The ratio between the frame depth and height cannot exceed 1:5 for single entry shelving;
- Maximum height between levels of 900mm.

The frame depth to height ratio can exceed 1:5

only at the condition that the frame is safely connected to a wall of adequate dimension and load bearing capacity or an equivalent structure. It is prohibited to connect shelving to walls within seismic areas. The SUPERINOX shelving must be accessorised with appropriate safety apparel if assembled in areas exposed to material handling devices.

Loading Modalities

The SUPERINOX shelving series is designed for hand picking operations only; loading operations by lift trucks, pallet jacks and alike have not been considered and are strictly prohibited. METALSISTEM declines any responsibility for improper, inappropriate or non authorised uses of the shelving system and its accessories.

Reference Standards

The structural calculation reference standards are:

- ACAI-CISI text 15/06/2004: "Technical Standards for light gauge shelving";
- ACAI-CISI text 26/02/2004: "Certification Standards";
- C.N.R.- UNI 10011/97: "Structural steel construction: instructions for calculation, execution, testing and maintenance";
- C.N.R. 10022/88: "Cold rolled profiles: instructions for application in construction";
- References to EUROCODICE 3 using calculation coefficients of the F.E.M. recommendations;
- References to EUROCODICE 1 parts 1 and 3 using calculation coefficients of the F.E.M. 10.2.06 ("The design of hand loaded static steel shelving system") recommendations.

Material reference standards:

- UNI EN 1088-2: "stainless steel technical specifications for the supply of sheets and coils for general applications";
- UNI EN 10204: 3.1 certificate for high tensile steels.

Software Reference - Structural calculations

The finite element structural calculations have been conducted with the ANSYS and CMP IT-RACKS software.

Frame Load Bearing Capacities

The frame load bearing capacities have been calculated considering two standard bay configurations: one with a shelf at floor level and a second with the height of the first shelf taken as the level between ensuing loading levels. The frame load bearing capacity was then calculated as a function of the height between loading levels. For bays with a maximum height of 3 meters, a minimum of 2 loading levels and a maximum height between levels of 900mm, METALSISTEM's unique patented connection system stabilizes the shelving system without the need of additional bracing components. (Bracing components are available on request for special applications).

Shelf Load Bearing Capacities

The shelf load bearing capacities have been calculated with the following assumptions:

- The loads are uniformly distributed;
- Admissible tensile stress of the material;
- Deflection of $1/200$ of the beam or secondary beam length.

Non Standard - Custom Built Applications

Customised solutions and/or non standard components **MUST BE EXAMINED BY THE METALSISTEM TECHNICAL OFFICE** following a written request indicating all loading information as well as the environment into which the shelving shall be erected and the installation's intended use.

Application and Environment of the Installation

The indicated load bearing capacities and the materials used for the manufacture of the product assume that the shelving will be placed in a mild environment and will be regularly cleaned. The application of this product in unsuitable environments will void the guarantee of the surface finish. For indications on the regular maintenance and appropriate use of the shelving, please refer to the MUM03 "Light gauge operating and maintenance manual".

Quality Control

The steel entering production is subjected to ongoing testing executed by METALSISTEM's internal quality control body. The tests confirm the mechanical properties (elongation, yield strength, rupture point), dimensional characteristics (steel gauge and width) surface finish (absence of defects, uniformity & resistance of the coating). METALSISTEM has its own internal testing facilities able to conduct tensile testing (approx. 1000 tests conducted per year) and SIT (Servizio di Taratura in Italian) certified dimensional tests. Saline mist, scratch resistance and other tests are conducted by external facilities. Testing of finished products is conducted by both the internal METALSISTEM Quality Control Office and externally by product certifying bodies such as the German TUV Product Service. The system certifying agency IGQ guarantees consistent product quality.

Metalsistem reserves the right to modify the technical characteristics of its products at any time it sees fit. Technical data, dimensions and characteristics given in this document are merely indicative.

Definitions and Acronyms:

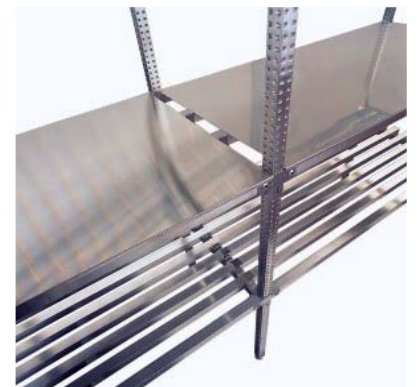
Bay

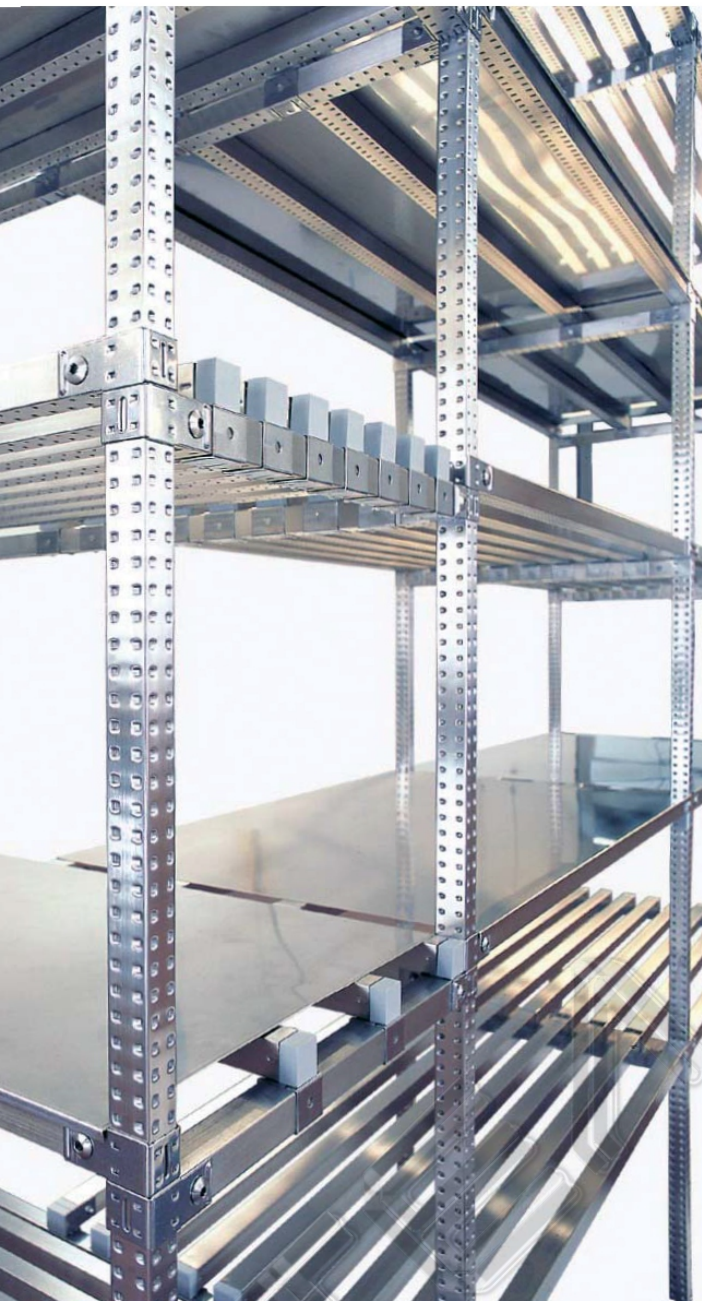
A shelving bay is the area between two frames divided by levels of shelves and accessories.

A shelving bay is single sided if accessed from only one face or double sided if accessed from both sides.

Shelving Row

2 or more interconnected bays.





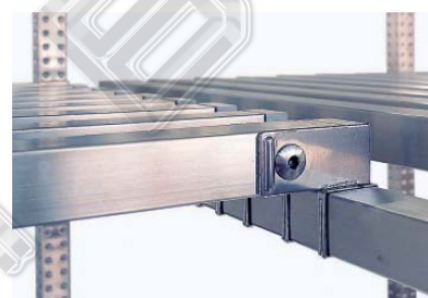
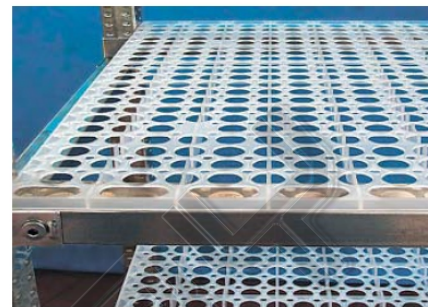
The innovative SUPERINOX stainless steel shelving series provides a comprehensive answer to modern hygiene standards and corrosion resistance requirements for the food industry, as well as pharmaceutical and chemical sectors. This shelving system is suited for applications in refrigerated cells, industrial kitchens and food preparation industries as well as pharmaceutical laboratories. It is also highly suited for interior design and shopfitting purposes.

SUPERINOX is adaptable to any requirement or dimension. The system has been designed to hinder the formation of condensation or water stagnation and can be supplied with both smooth or slatted shelves.

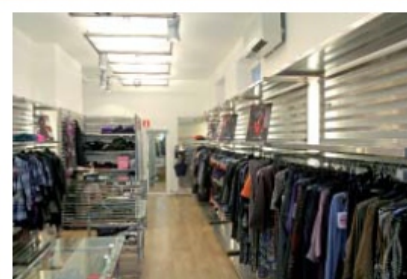
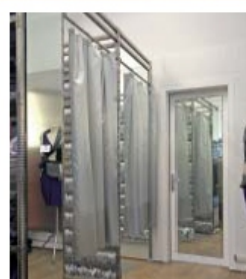
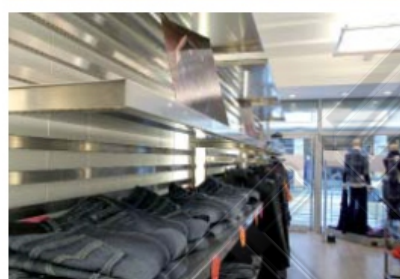
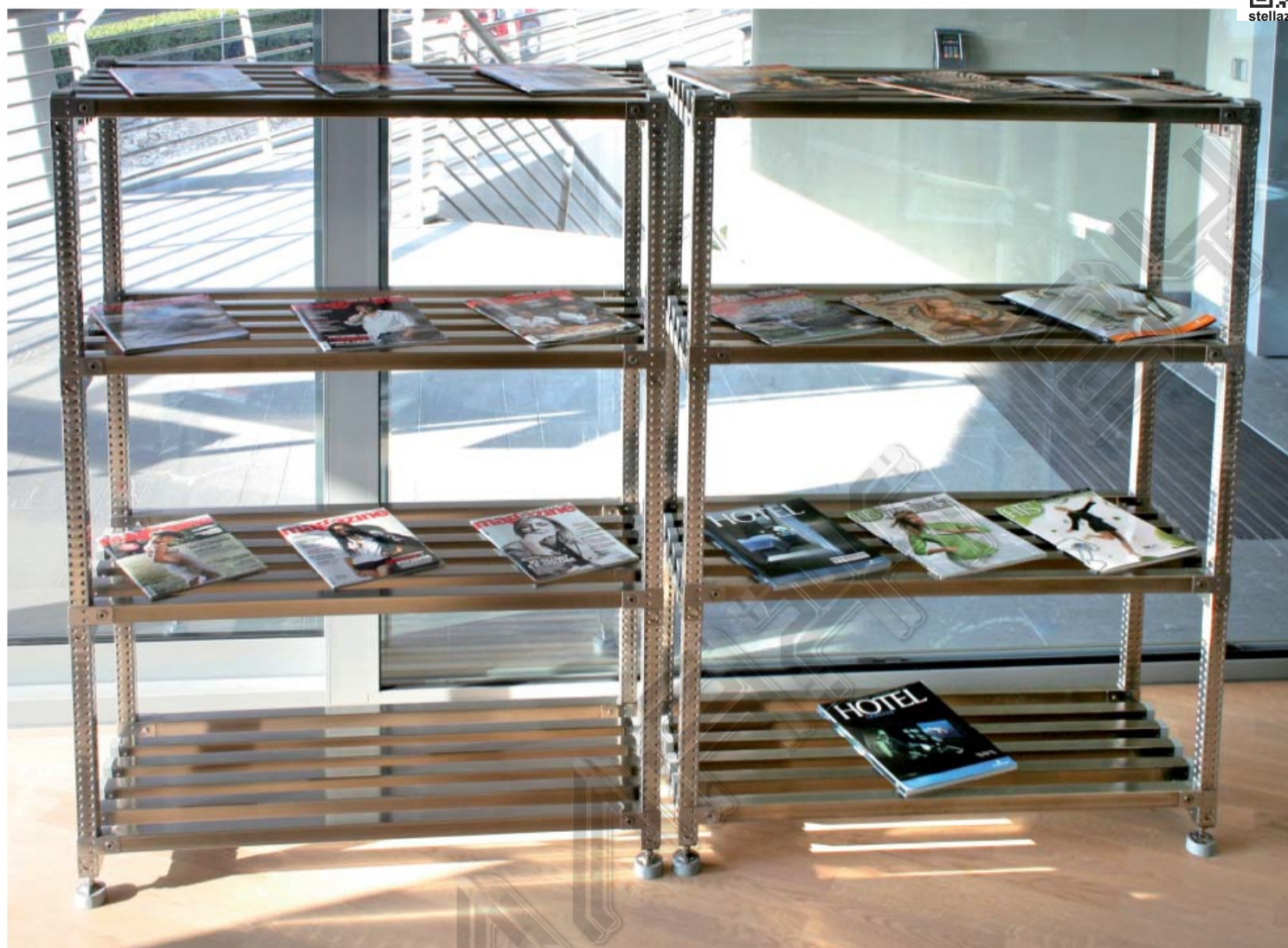
The upright profiles are closed box sections with two rows of dimples present on all four faces of the upright, set at a constant pitch of 16.5 mm along its full height. The dimples are used to locate and connect frame spacer bars and beams.

Beams, secondary beams and spacer bars are smooth on all top faces, containing open drainage slits on the underside of the profiles, thus simplifying cleaning procedures.

Numerous accessories are also available such as hooks, height adjustable stainless steel foot plates, food grade plastic top caps, reinforced beams for corner units, food grade white, perforated, polypropylene shelf panels, and many more.



- **Extremely simple to assemble** and with corner units perfectly adaptable to tight environments, the savvy SUPERINOX shelving system is able to squeeze the most out of any space.
- **The variety of standard** upright, spacer bar and beam lengths permit the creation of countless configurations.
- **The shelf levels** are height adjustable at a 16.5mm pitch
- **The frames have load bearing capacities** ranging up to 2500 daN and uniformly distributed shelf load capacities of up to 300 daN.



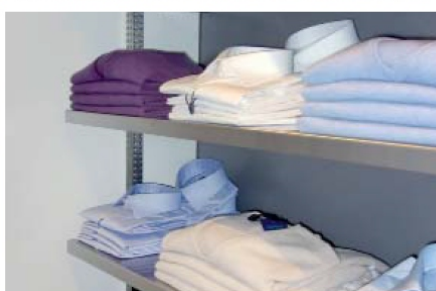
THE PRODUCT

The SUPERINOX shelving series has been conceived as a response to food, hotel and catering industry demands. The product that ensued, in addition to taking full advantage of the technical characteristics offered by stainless steel, resulted in a unique and attractively designed product offering alternative applications for varying environments and market sectors.

Thanks to the quality of the materials used for the manufacture and the versatility of the product, SUPERINOX has today evolved into a wide range of market sectors, to the satisfaction of the most demanding clientele:

- shelving for the food industry;
- display shelving, shopfitting and boutiques;
- exclusive furnishing concepts - versatile solutions with innovative design for modern living;
- furnishing for public spaces - such as hotels, wellness & fitness centres, change rooms and alike;
- creative applications thanks to the modular concept of the product series.

The safety and quality of the product have always been a primary aim of METALSISTEM and are recognised by TÜV PRODUCT SERVICE, Germany, one of the most rigorous European commissions in the field of quality and safety certification.



SHELVING AND FURNISHING FOR THE FOOD SECTOR

The food sector is the natural habitat for SUPERINOX. This shelving system is suited to applications ranging from store rooms and food preparation areas to chemical laboratories, wherever stainless steel is required. The basic structures used for this sector are shelving, work benches, cupboards and furnishing items.

Frames

The frames are created by pairing two uprights connected by frame spacer bars and are accessorised with top caps and adjustable foot plates. The uprights, available in 2 gauges, are able to satisfy a variety of load bearing capacity demands.

The adjustable foot plates are available in stainless steel for demanding load bearing capacity applications or in polypropylene.

The shelf is fixed to the upright dimples at a pitch of 16.5mm. The uprights are available in standard heights of 850mm, 2000mm and 2500mm.

This catalogue considers the basic frame version with one frame spacer bar at ground level. The frame load bearing capacity is derived exclusively from a maximum height between levels of 400mm (including ground).

- 32/4 frame type - providing a maximum load bearing capacity of 1400daN with 400mm maximum height between levels;
- 32/1 frame type - providing a maximum load bearing capacity of 1100daN with 400mm maximum height between levels;

The SUPERINOX technical manual <Document Code MT10> contains a more detailed load bearing capacity description of the frames.



Shelving bays

A shelving bay is the area between two frames divided by shelf levels and their accessories.

The creation of a shelf level requires the creation of a basic frame made from frame spacers and a pair of beams onto which the shelf furnishing is placed.

A shelf beam is fixed to the upright with a clip which cups the upright and is tightened into position with an M8 bolt and sleeve. Several bays can be connected in a continuous line by using half clips which enable shelf levels to maintain a continuous line in height.

Shelf levels

The process of ordering a shelf level has been facilitated by the creation of macrocodes that group together the components needed to build an individual shelf.

Every shelf level requires the support of frame spacer bars which are divided into "header" frame spacer bars placed at the end of a shelving row, and "intermediate" frame spacer bars placed onto the inner frames within a shelving row.

Further details and customisation methods are available in the SUPERINOX technical manual <Document Code MT10>.

The SLATTED shelf is created by placing a sequence of secondary beams along the depth of the frame, set apart at a net centre distance of 33mm. The secondary beams rest on the frame spacers and are fixed in position with secondary beam clips. Finishing accessories are available to complete the frame header as well as inner bay locations.

Create a slatted shelf from:

- Frame Spacer Bar for slatted shelves (header and/or intermediate frame spacer bars)
- Slatted Shelf

The PLASTIC shelves are 300mm wide perforated panels made from food grade polyamide. These span between a pair of beams.

Create a plastic shelf from:

- Frame Spacer Bars for plastic shelves (header and/or intermediate frame spacer bars)
- Plastic Shelves

The CLOSED shelves are made from a sheet of stainless steel finished with safety edges resting on a combination of beams and one or more secondary beams depending on the required load bearing capacity.

Create a closed shelf from:

- Frame Spacer Bars for closed shelves (header and/or intermediate frame spacer bars)
- Closed shelf

All components are delivered disassembled.





Shelving row for storage of food items



Delicatessen island inside a shopping mall



DISPLAY SHELVING AND SHOP FITTING

The versatility and unique design of the SUPERINOX product has also been appreciated in the store display sector. A market segment where effective product display is essential to draw customer attention. A specific range of solutions has been developed to satisfy these needs, allowing for a unique system of shelf height and inclination adjustment.

The basic modular frame, assembled from a unique front curved upright and straight back upright, is perfectly suited for wall or island applications. The addition of ground level and top beams create the basic display unit shell. A range of shelves can be added and garnished with a vast array of accessories to meet specific display requirements. The top of the frames can also be used to affix signage and advertising.

Frames

The frames are created by pairing one straight and one curved upright giving it a unique "K" shape designed for enhanced merchandise visibility. A single straight upright is shared for the island frames.

The straight upright is accessorised with an adjustable foot plate.

The single sided frame has a depth of 480mm while the double sided frame has a total depth

of 910mm. Both units have a height of 2070mm. The maximum bay load is 300daN, for uniformly distributed loads.

The frame macrocode featured within the technical addendum of this brochure includes all accessories required for its assembly.

Shelves

The wide range of different shelf types available for supply allow varying solutions to be targeted to specific display needs. Shelves in varying depth can be connected to the same bay. In addition to the basic range of slatted and smooth stainless steel shelves, plastic or wooden shelf options as well as gravity roller profiles are also available.

The shelves come in nominal depths of 390mm, 520mm and 700mm and nominal length variations of 900mm, 1200mm, and 1500mm.

The shelves are height adjusted by repositioning supporting blocks fixed to the uprights; the adjustment of the rear blocks define height and pivot point while the front blocks define the inclination. The dimples along the upright face permit a 16.5mm pitch height regulation hence permitting product placement volumes to be maximised.

The shelves have a maximum load bearing capacity of 75daN/shelf, for uniformly distributed loads.

The slatted, solid and plastic shelf variants all share the same rectangular frame.

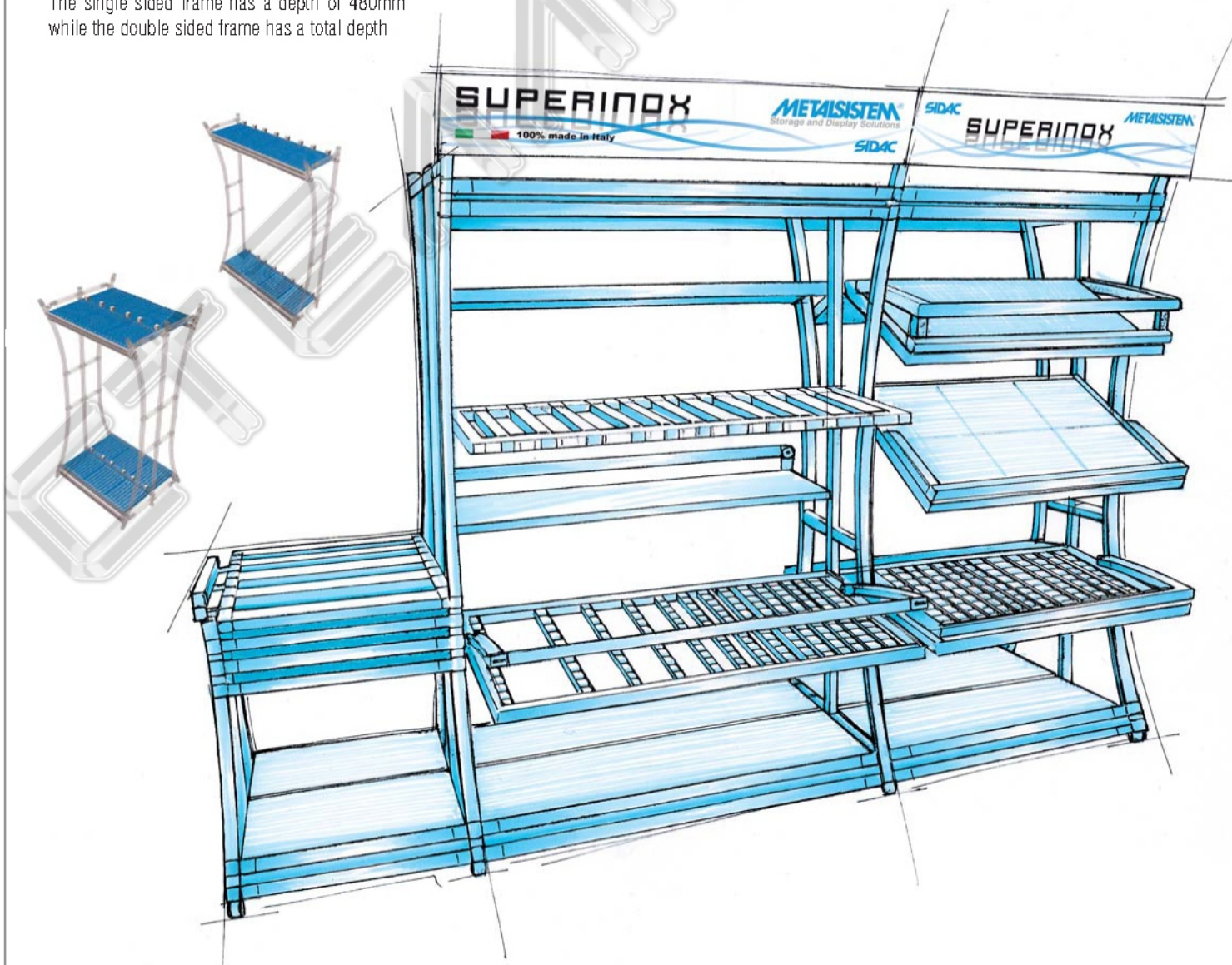
Shelves equipped with roller profiles reduce the need for products to be repositioned, as the merchandise is always present at the display face: a very useful time saving device.

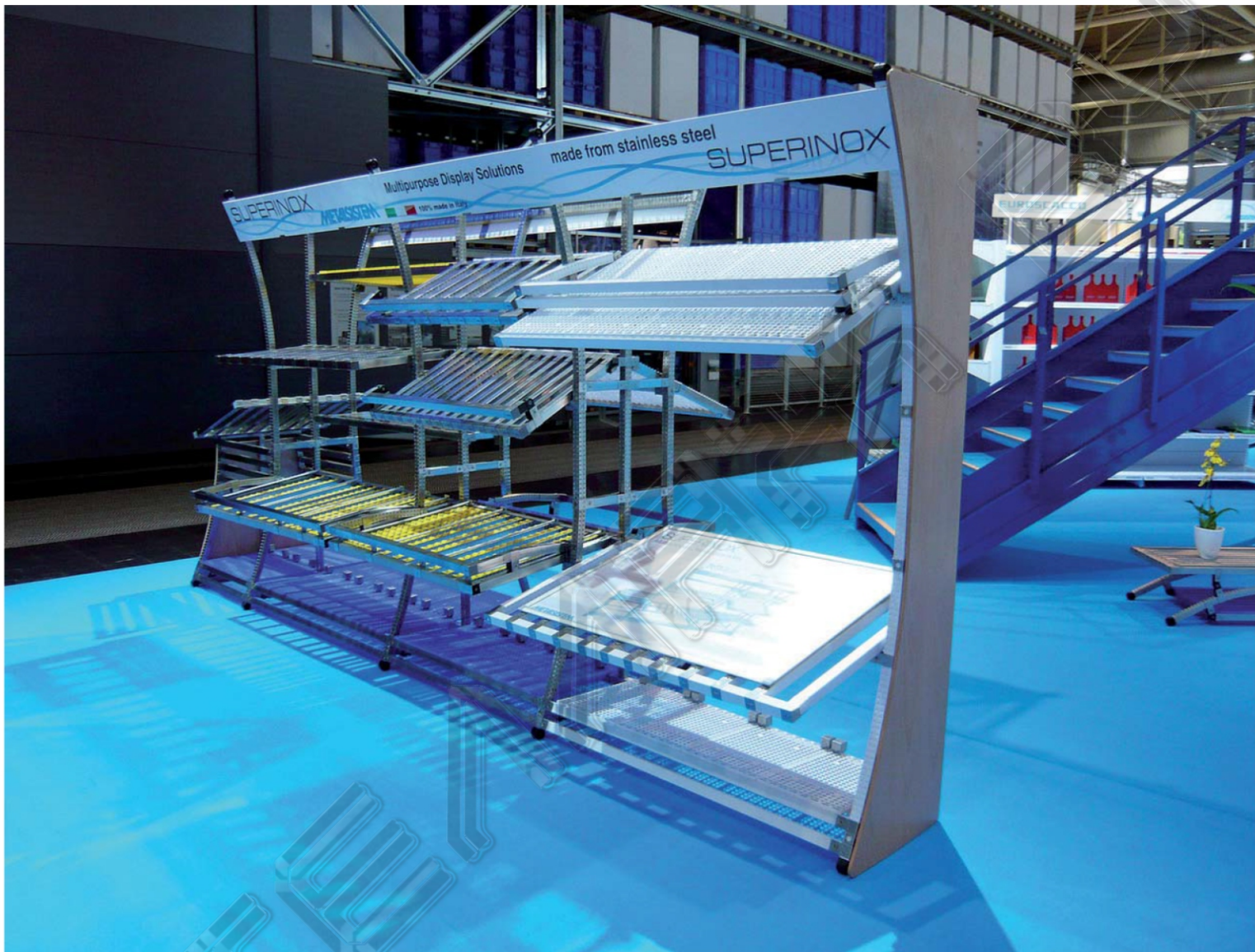
The number of roller profiles within a shelf has to be defined according to the dimensions of the product packaging.

The wooden shelf is made from 30mm thick laminated maple wood **MDF** boards. The quality and consistency of the materials used, provide elegant display solutions.

Please refer to the SUPERINOX technical handbook <Document Code MT10> for more detailed information and assembly variants. In case of tailor-made solutions, please contact the METAL-SISTEM offices.

All materials are supplied loose and disassembled.







On this page and the following one, various examples of METALSISTEM stainless steel shopfitting solutions





SALES FLOOR FURNISHING - FRUIT AND VEGETABLE DISPLAY SHELVING

Hygienic, scratch and stain resistant, coupled with its elevated structural capacities, the stainless steel offers maximum quality for all segments of the food sector, from small to large supermarkets.

METALSISTEM offers specific solutions for all display needs from small mobile inclinable display units to modular units for island fruit stands. The design has been studied to provide elegant and functional structures that highlight the product on display.

Island Fruit Stand - Mobile Display Unit

The island fruit stand is available in 3 standard lengths of 900mm, 1200mm and 1500mm. Both practical and manoeuvrable, this stand is easily relocated throughout the sales floor thanks to its four, 100mm diameter swivelling polyurethane capped wheels (two with integrated locks).

The unit contains 3 display levels to suit diverse display and replenishment demands:

- the first level can be used for replenishment. This level is adaptable to any fruit and vegetable box dimension;
- the inclined hip level shelf comes with a standard stopper accessory and provides excellent product visibility;

Island Fruit Stand - Fixed Display Unit

Designed with elegant linear forms, manufactured with a sturdy and resistant frame, this product provides full product visibility. The fixed display unit contains three display levels, adaptable to any fruit and vegetable box dimension: as with the mobile display unit,

- the first level can be used for stock replenishment;
- the intermediate level is inclined at an angle of 17° and is accessorised with an end stopper. This shelf level provides utmost product exposure;
- the top level can be adjusted at angles from 6° to 27° and is also accessorised with an end stopper.

Inclinable Display Stand

The inclinable display stand consists of a stainless steel frame assembled on a chassis supported by 4 swivelling rubber capped wheels (2 with wheel locks), to facilitate the relocation of the stand around the sales floor or to replenishment areas.

The chassis surface contains a level for stock replenishment while the display surface, accessorised with an end stop, is inclinable to 3 fixed positions.



Island Fruit Stand - Fixed Display Unit



Inclinable Display Stand



Island Fruit Stand - Mobile Display Unit

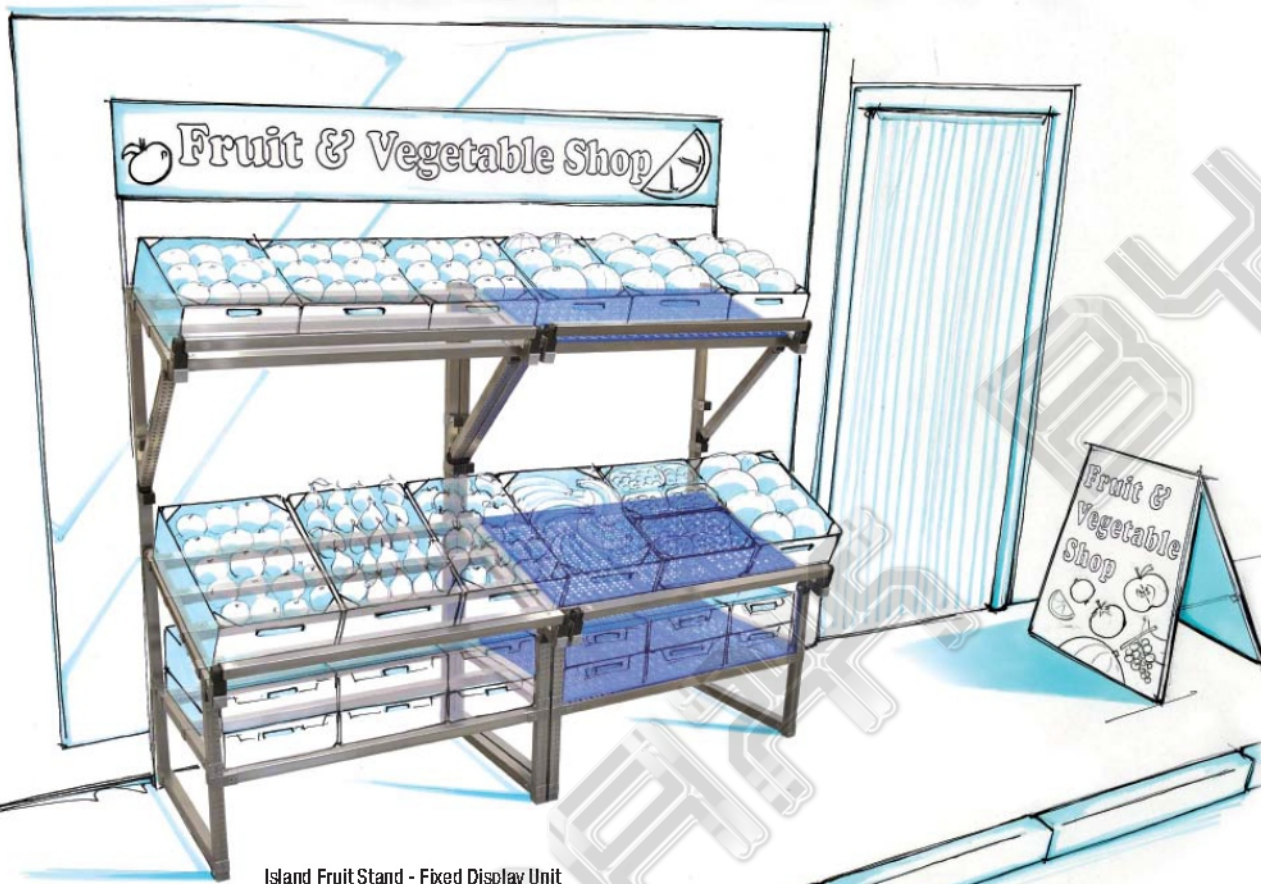
- the top level provides an additional product display surface.

The shelf levels are available in two different versions:

- made from a slatted surface composed of SUPERINOX profiles with a smooth upper face;
- made from blue polypropylene perforated plastic shelf infills.

The unit can also be set flat to reduce its volume once in storage.

The inclinable display stand is available in single and double unit versions. The inclined display surface of the double unit has two vertical central supports that can be easily repositioned to adapt to any fruit or vegetable box dimension.



Island Fruit Stand - Fixed Display Unit

Promotional display bin

The promotional display bins are available in two different versions: with a slatted base made from stainless steel profiles or polypropylene plastic panel version.

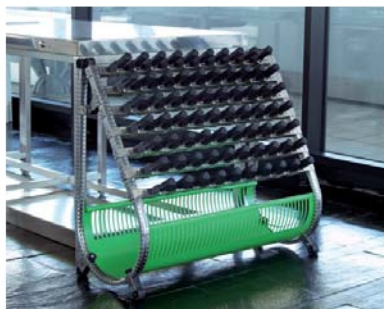
Both models are eye catchers and excellent vehicles to highlight merchandise on the sales floor. The shelf level is 500mm from ground and the side walls are 300mm high thus providing a total storage capacity of approx. 310 litres.



WINE DISPLAY SOLUTIONS

can *Tinotta*

Wine rack, available as single sided or double sided units. Due to its particular tear drop design, this wine rack provides an additional storage space at its bottom, which may be used to store packaging material. The container at the bottom can be supplied in three different colour shades providing a cheerful note. Thanks to the stainless steel used for its manufacture, this wine rack perfectly fits into varying environments.



Wine Rack



Wine Shelving

Modular insert designed to complement the SIMPLY INOX shelving kit. Each storage level is made from two opposite bars with modular supports for the storage of 9 wine bottles per level. The levels may be adjusted in height, thus providing utmost visibility of the bottles stored within the shelving unit. The modular supports can be adjusted in width, to allow for bottles of varying dimensions to be safely located on the shelf.

vedo *Bacco*



Wine Display



Elegant wine display, made from stainless steel and wood. The frame features a standard inclination of 11° which can be raised up to 24°, thus allowing for a perfect display of 10 wine bottles of 750 ml each.

pro *Bacco*



Wine Rack

This wine rack is a true eye catcher, due to its unique design. The rack has an overall storage capacity of exceeding 100 bottles and is achieved by simply stacking up add-on-units on top of the starter unit. The top layer may be inclined, for enhanced exposure and visibility of the bottles. Available in two different versions: made from stainless steel or stainless steel frame with wooden inserts.



MULTIMEDIA DISPLAY SOLUTIONS

pro *Teo*



Multipurpose Media Rack

Designed to display books, CD's, DVD's in varying dimensions and formats. The two support brackets are conceived with a rotating device that allows to adjust the distance in width in order to house various formats of items to be displayed on the rack. Also, the stainless steel bracket around the upright can be adjusted in height, thus providing the desired inclination to the items stored, such as books or similar.

do re *Mitico*



Multimedia rack with five powdercoated shelves, adjustable in height, providing a storage capacity for 15 multimedia items each. The shelves are also suitable for books, to be displayed with their cover page in front, to enhance exposure and visibility. The container at the bottom provides extra storage space and can be rotated for an everchanging overall design of the rack.

do re mi *Lybra*



Display Shelving



Innovative book & media rack featuring a surprisingly fresh design. The structure has been designed with a modular concept and is available with 900 or 1200 mm long bays. Each shelving bay is equipped with 5 shelf levels in height, composed by stainless steel beam pairs covered with powder coated curved tops. Thanks to their bent design, books are always kept perfectly in place without any need for bookends.

media *Tino*



CD/DVD Stand

Attractive display solution for CD's or DVD's, made from stainless steel. May also be used as a trendy bookshelf. The item has been designed with 7 levels, for an overall storage capacity of 84 items in standard width (10.5 mm) or 126 items in slim cases (7mm) or 63 DVD (14,4 mm). Each level is composed of two arms. The upper one can be adjusted in height, depending on the dimensions of the items to be stored.

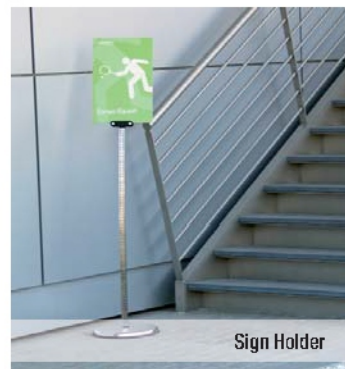
porta *Delia*



Catalogue Display Stand

Modular frame with 3 display levels in height, to showcase brochures and information material of varying dimensions. On its rear side, the frame houses two hooks for bags.

pa *Lucio*



Sign Holder

Modular sign holder made from stainless steel, suitable for both inside and outside use. The system can accept sign plates of up to 6 mm gauges, fixed by means of a pincers device.



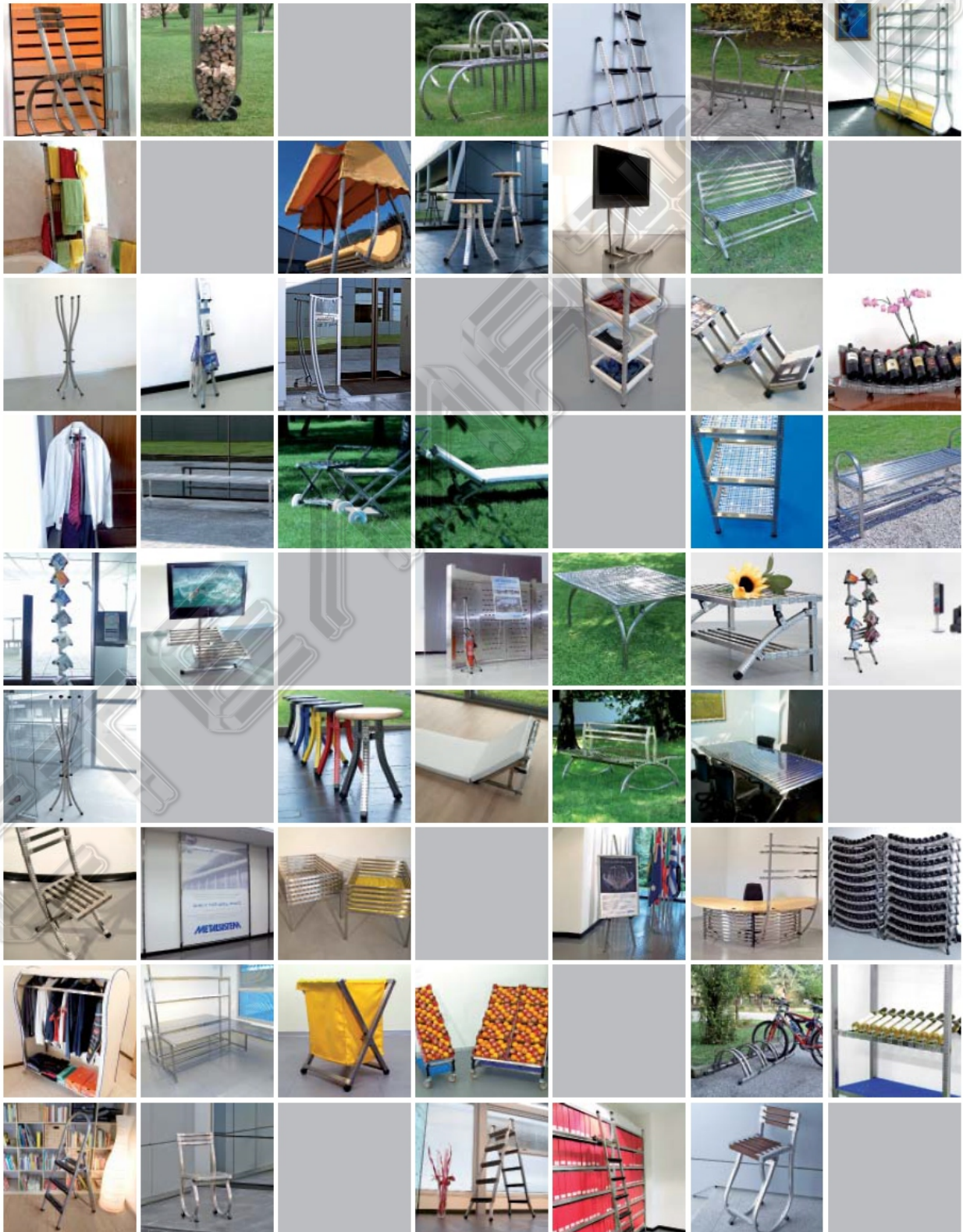
The frame of the rack features a truly unique design and is made from one sole piece of upright section calendered into a tear drop shape. Its lower part accommodates a circular recipient provided with slots that may also be used as a CD/DVD rack. The recipient can be rotated in varying directions, thus providing access from both sides. The system would therefore also work as a smart solution for room partitioning.

EXCLUSIVE FURNISHING CONCEPT - VERSATILE SOLUTIONS FOR MODERN LIVING

The versatility of the modular SUPERINOX product series unleashes countless possibilities for the creation of a wide range of applications as diverse as the ever expanding confines of creativity.

The unique and innovative SUPERINOX solutions created by METALSISTEM include an exclusive furnishing concept adopting captivating designs suited to any environment.

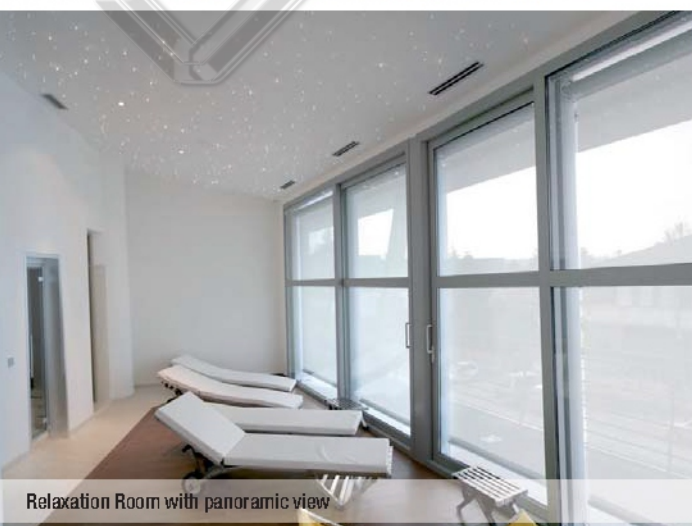
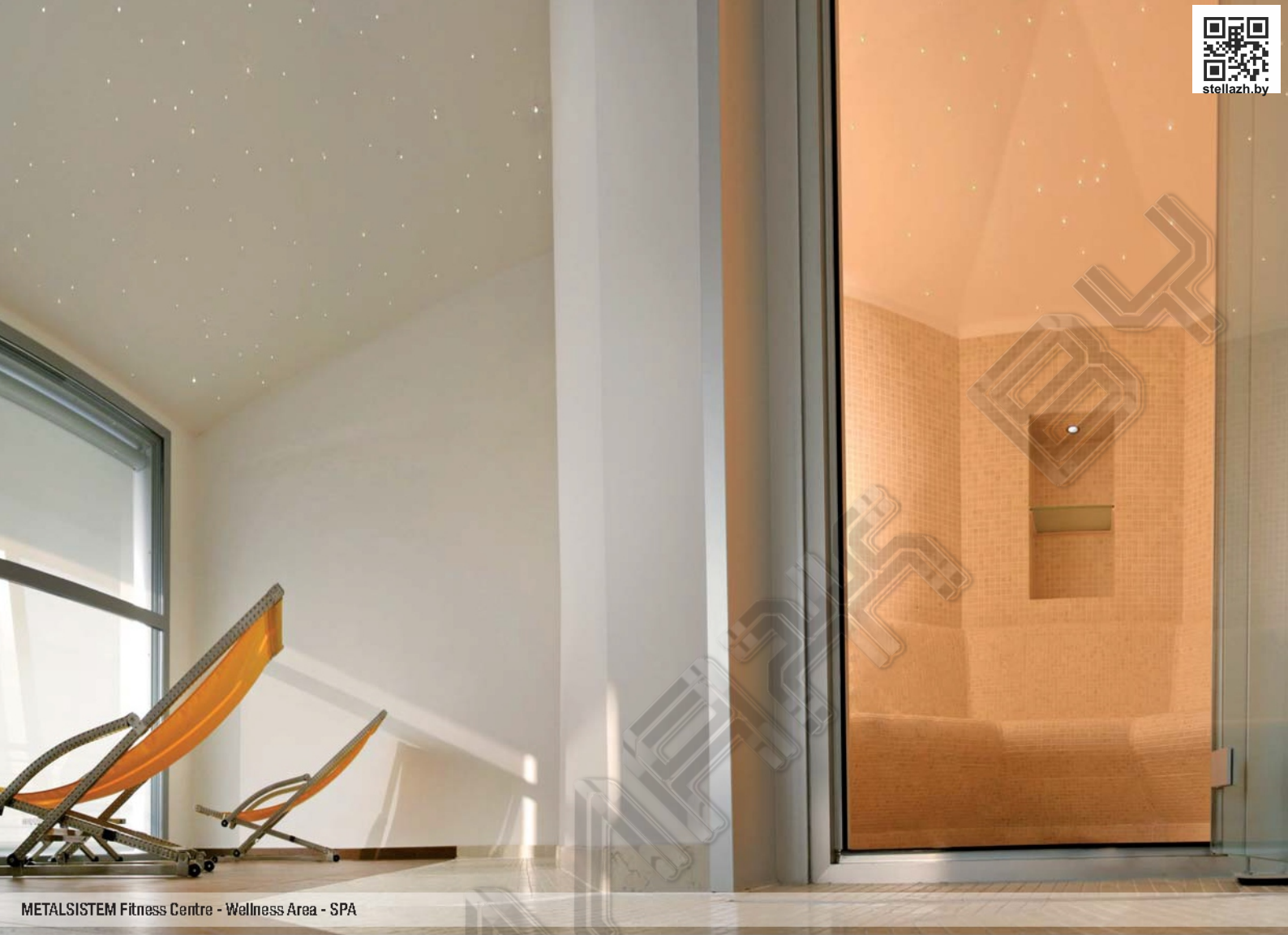
From home to garden, from cellars to wardrobes, from the factory floor to the shop floor, all these solutions have a timeless appeal and duration and thanks to the use of stainless steel are perfect for both indoor and outdoor applications.



SUPERINOX...the evolution of a conceptually dynamic product. Flexible and versatile solutions that respect the environment and nature.

The development of new products is in continuous evolution. Refer to the commercial documentation and dedicated catalogues to view details of all products available for supply.

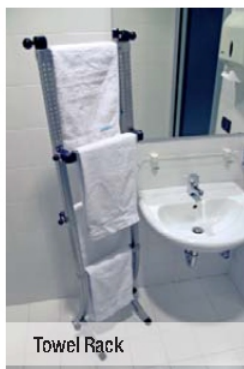




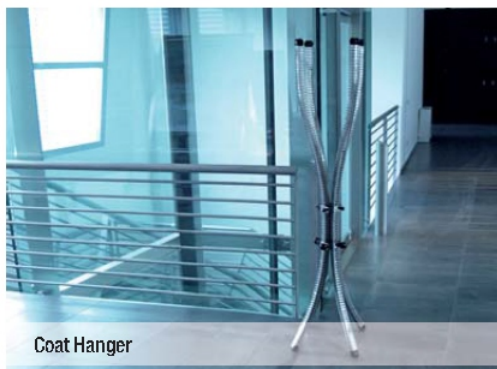
CLOAK ROOM FURNISHING

The SUPERINOX product, thanks to the quality of the material used for its manufacture, is perfectly suited for all environments where high levels of cleanliness and hygiene are required; for example: fitness centres, wellness centres, change rooms, and generally all sectors of the hotel and food industry.

Discretely elegant, SUPERINOX is an ideal product to promote a unique environment and life style.



Towel Rack



Coat Hanger



Glass Partitioning



Display

CREATIVE SOLUTIONS

The square profile of the SUPERINOX upright allows for a multitude of creative applications in both indoor and outdoor applications. Solutions featuring numerous geometric configurations that are both solid and practical, yet elegant in form.



Modular Safety Barrier



Curved Table - an original touch for moments of conviviality



Photograph Display Frames - Exhibition in Piazza Duomo, Trento



Parabolic Display Billboards for the announcement of public events - Dance Festival



Partition Wall

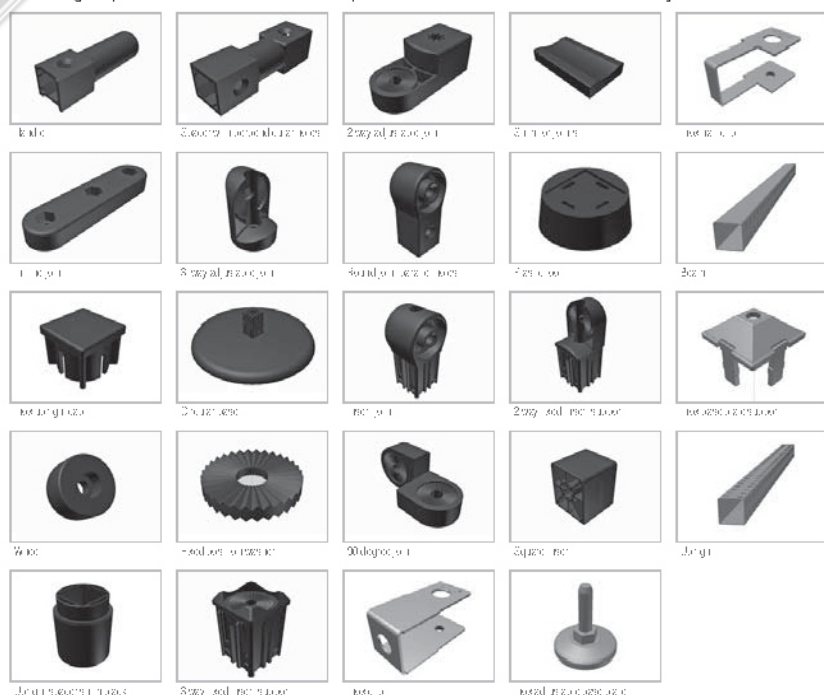


Stainless Steel Railing on Dry Stone Wall

A special connection joint preparation tool is available to facilitate personalised SUPERINOX creations. Uprights and beam profiles are available in bars of 5000 mm, together with a wide array of standard accessories and connections in stainless steel and plastic.

Please refer to the SUPERINOX technical catalogue (Document Code N° ING029METALS) for a detailed description of all available components.

A wide range of plastic and steel connection components is available to achieve the assembly of SUPERINOX creations.



METALSISTEMI S.p.A. recommends that all components be applied professionally following a correct code of practice for the design and utilisation. METALSISTEMI declines any responsibility for inappropriate, improper or unauthorised applications of this product or its accessories.



Artistic Christmas Sculpture



Billboard

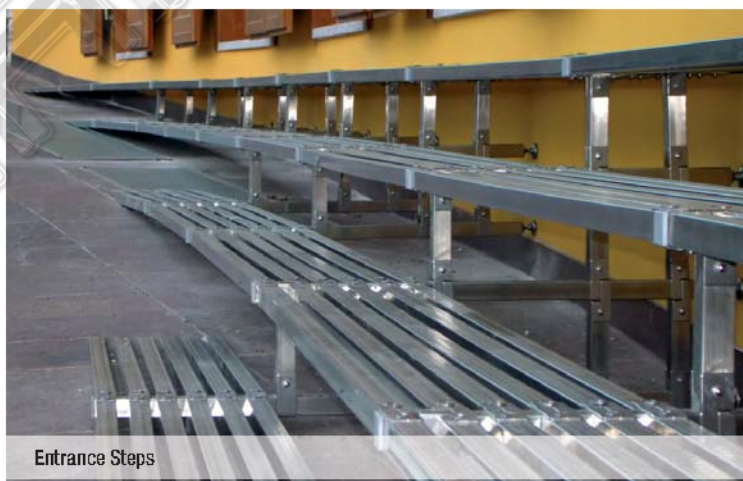
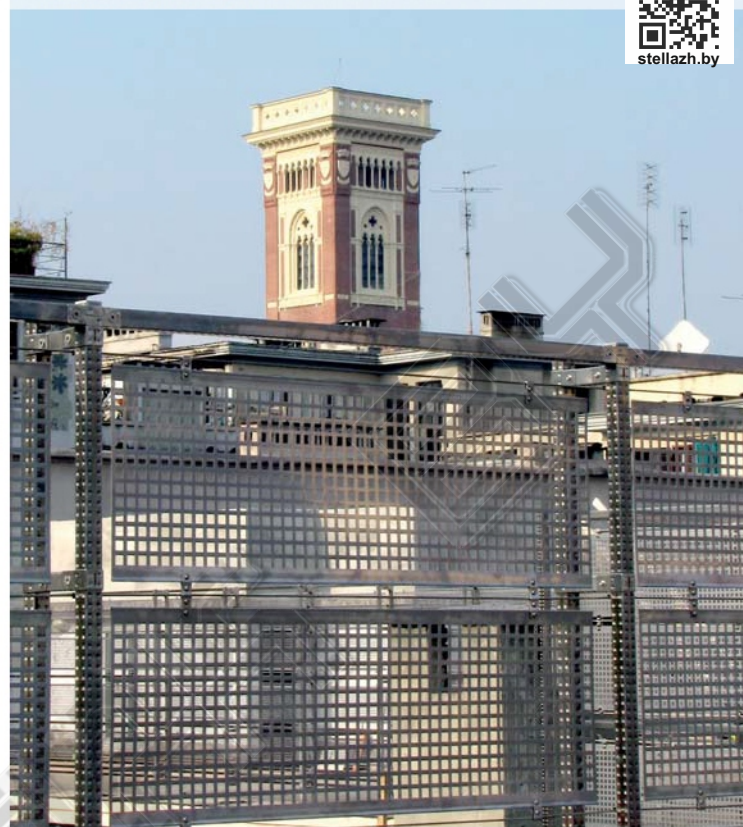


Ventilated bed for fruit and vegetable storage over winter periods

Terrace Railing - Privacy Screen



stellazh.by



Entrance Steps



Green House Frame



Fence made from stainless steel

Attractively fluid lines that resist ... to time, in time.



Green House



Futuristically designed winter garden



Olive Grove Perimeter Division



SUPERINOX is adaptable to a multitude of show casing applications which are both functional and elegant. Solutions that catch the eye, able to add value to the merchandise on display.



Exhibition stand



Jewellery case



Portable table

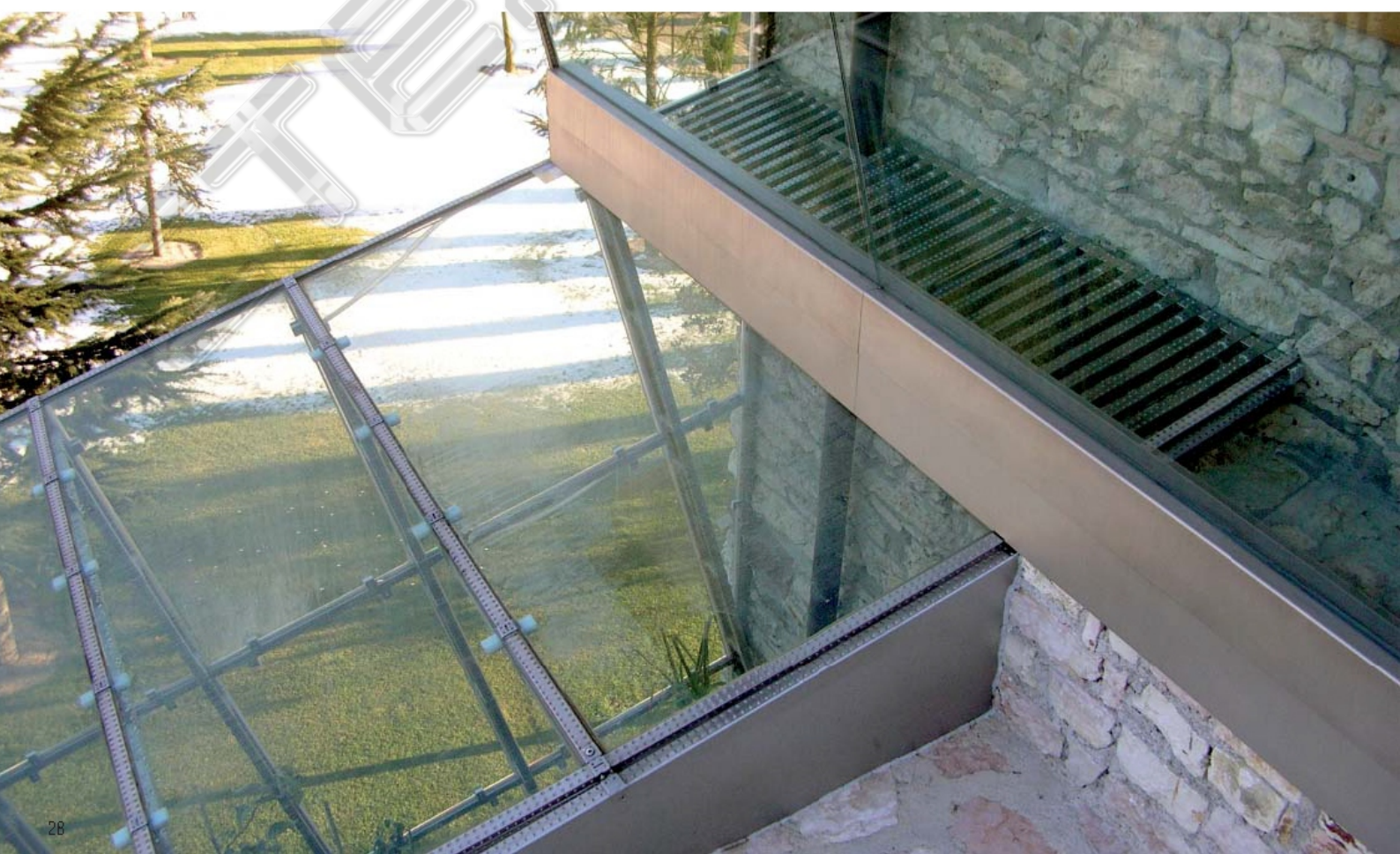


Television trolley





The stainless steel used for the manufacture of the SUPERINOX product series contains characteristics that fully satisfy the resistance and durability requirements needed for products that are destined for outdoor use. SUPERINOX lends itself for a multitude of applications in gardens and more generally for the outdoor environment: creations that stand out for their beauty, simplicity and functionality.





A table harmoniously following the line of the foot path



Well Cover Grill



Modular Stainless Steel Frame for Solar Panels



Lemon Grove



Winter Shelter for plants