



®

armes

APR 12



INDUSTRIAL RACKING



armes



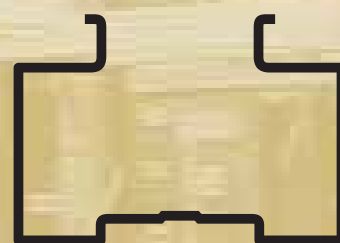
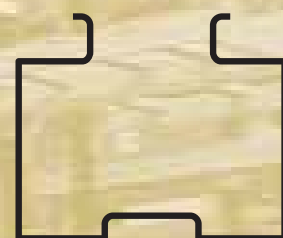
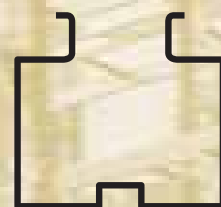


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scaffali · soppalchi
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APR 12

INDUSTRIAL RACKING

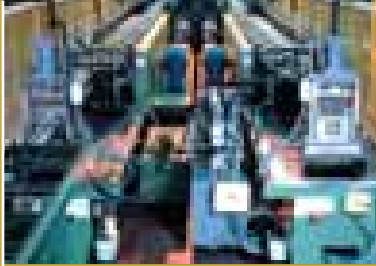




The executive offices

COMPANY
WITH QUALITY SYSTEM
CERTIFIED BY DNV
=ISO 9001/2000=

ARMES: PROFILE OF



Set up as a company specialising in the organisation of space, Armes has operated successfully in the field of warehousing and storage since 1956. Our company stands out as an example of a robust, reliable production system employing state-of-the-art equipment. Our advanced technological/managerial know-how gives added value to a product that has encountered widespread customer approval for years.

Starting from the diagnosis of the customer's needs, through the planning stage and the installation of fully operational, integrated systems, we are able to offer a complete service. In addition to the vast range of our own products we also work closely with the associate companies that form part of the Ferretto Group: Promag Spa (San Polo d'Enza), specialists in the area of storage automation systems and Archimede Ingegneria Srl (Busto Arsizio).

Thus Armes has at its disposal the strength and flexibility of what is, in effect, a global partnership. We are able to offer solutions of varying degrees of sophistication, each one tailored to the customer's unique requirements. We can furnish highly complex automatic installations on a turn-key basis and also provide after-sale service.



PALLET RACKING



DRIVE-IN PALLET RACKING



GRAVITY-FED RACKING



PUSH-BACK RACKING



FLOW-RAIL PALLET RACKING



LIVE CARTON STORAGE



MOBILE RACKING



CANTILEVER RACKING

A COMPANY...



Armes has always been tightly focused on two fundamental areas: high quality and the use of cutting-edge production methods and technology.

As a result of this policy, our company can safely say that it is one of the leaders in its field. Proof of this claim lies in the fact that Armes belongs to an elite group of companies that have signed up to the CISI program of auto-certification created by the Association of Italian Steel Constructors.

The CISI logo, "CISI QUALITA' E SICUREZZA" (CISI QUALITY AND SAFETY) represents a guarantee that the manufacturers who display it adopt certain specific, stringent procedures. Procedures which ensure that the products regulated and distinguished by said logo have been manufactured in accordance with codified norms and standards.

Our policy of high quality also involves the various phases of the production process. The company has been awarded the WPQR (Welding Procedure Qualification Record), a certificate renowned at European level, by Bureau Veritas for all welding operations.

In line with our dedication to customer satisfaction in the areas of pre/post-sale service, we at Armes have certified our own QUALITY CONTROL SYSTEM based on UNI EN ISO 9001:2000 norms and attested by the Certification Organisation "DET NORSKE VERITAS".

...AND OF A CERTIFIED SYSTEM.



AUTOMATED STORAGE SYSTEMS



SELF-SUPPORTING WAREHOUSES



LIGHT/MEDIUM BOLTLESS SHELVING



CANTILEVER SHELVING



MEZZANINE FLOORS



COUNTERS



DECKING



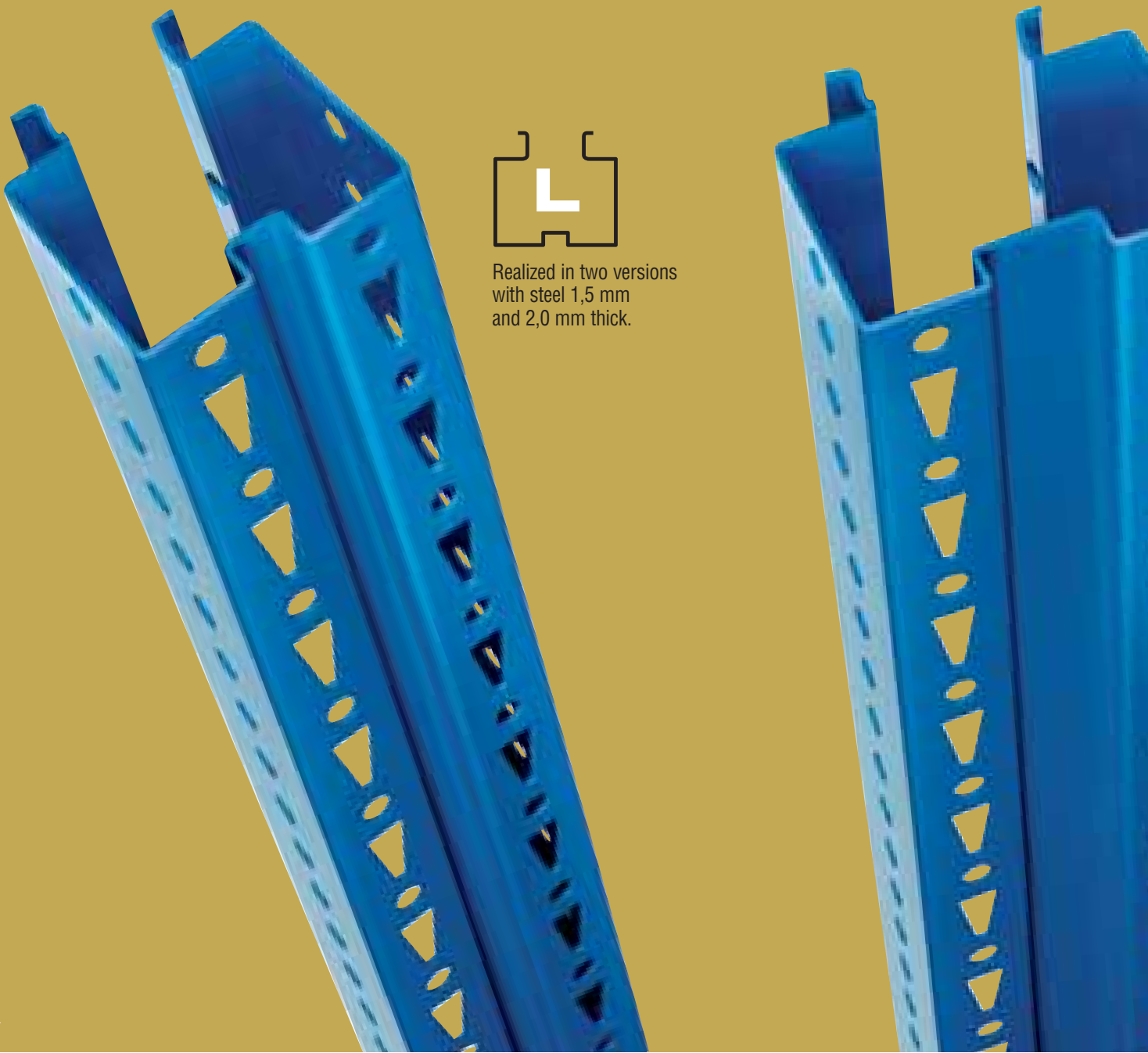
LOCKERS AND ACCESSORIES



APR 12 is such a versatile system that it is suitable for small-medium and large installations. It is produced in three versions: Light (**L**), Medium (**M**) and Heavy (**P**), each of which is different, due to the use of steel strips of varying thickness. This ensures solutions to a vast range

of needs, thanks to the possibility to adjust the load capacity of the frames, guaranteeing an excellent combination between technical performance and economic benefits. The components of the **APR 12** system are available in different surface finishes: painted, galvanised. The paint is obtained from epoxy powder

APR 12 A SYSTEM FOR ALL



Realized in two versions with steel 1,5 mm and 2,0 mm thick.

dye series, which is applied by means of grease removing, phosphate coating, washing, oven drying, enamel paint electrodeposition and later, thermal tunnel polymerisation. The special design of the uprights enables to use all the beams on any type of frame. The completeness of the available solutions

(without even considering the “non standard” sizes that can be sometimes realized) makes it extremely difficult to find a problem in Industrial Racking which we could not resolve in the best of ways with **APR 12** system.

REQUIREMENTS



Realized in two versions with steel 1,5 mm and 2,0 mm thick.



Realized in three versions with steel 1,5 mm, 2,0 mm and 2,5 mm thick.



The beams are steel structures made from steel strips and have specially shaped brackets at the end that wrap round the uprights on three sides.

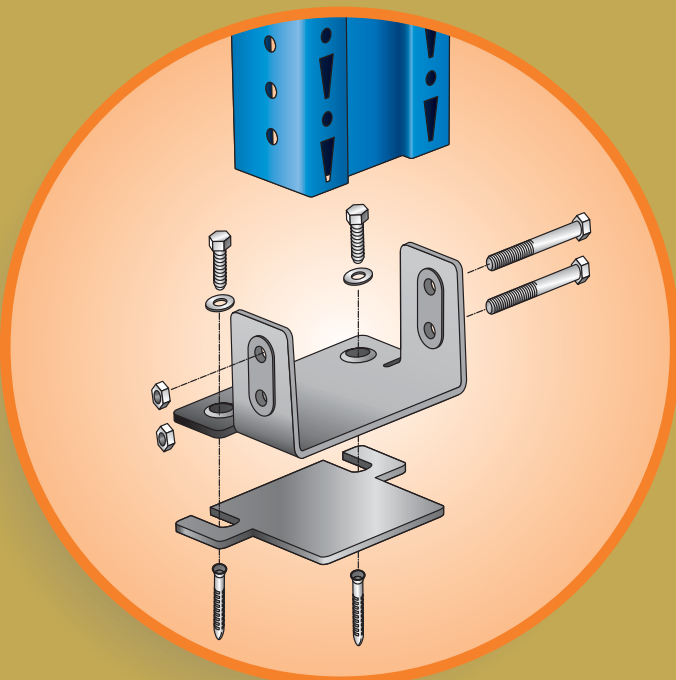
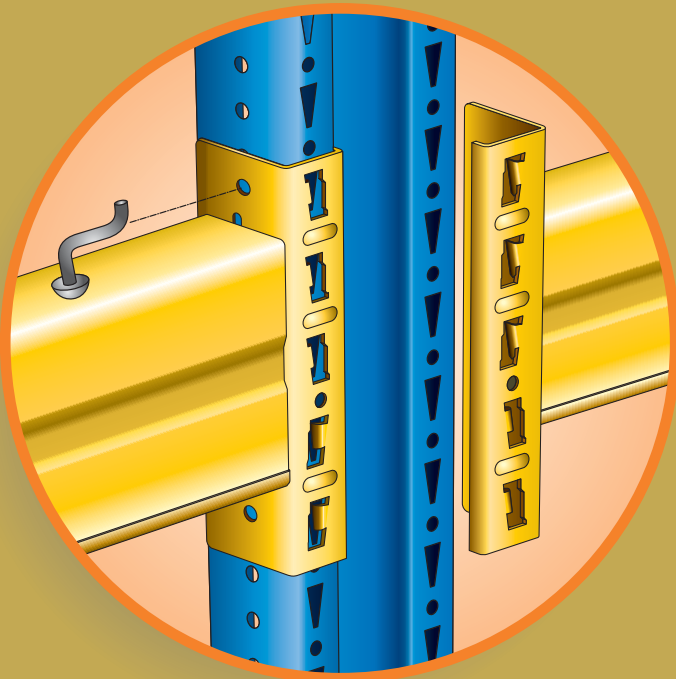
The connecting lugs to the uprights, made by drawing, are set out in opposite ways

and consequently work either in tension or compression.

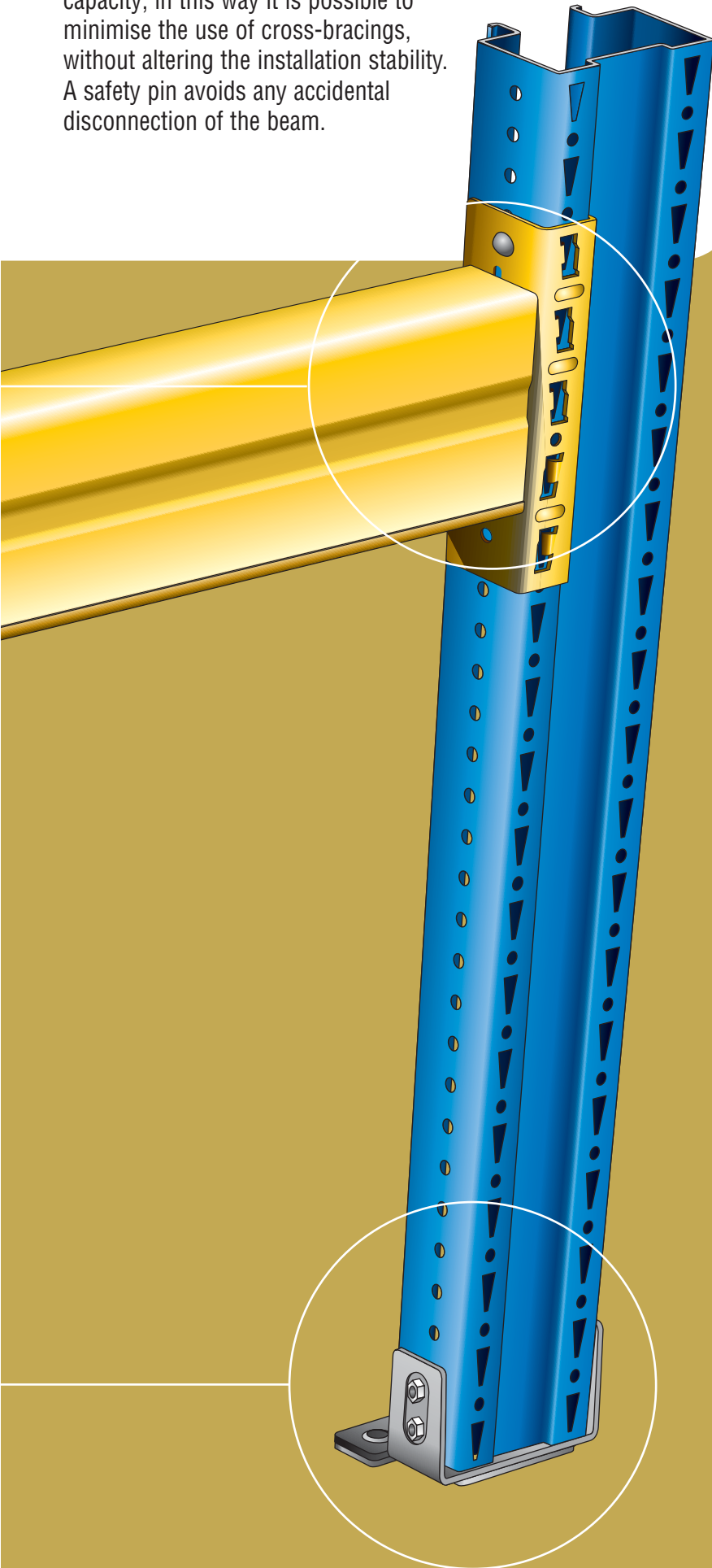
The shape of the brackets and the way these are connected to the uprights ensure an extremely stiff and solid assembly.

Joint efficiency between upright and beam upgrades what may

APR 12 A "WRAPPING" CLASP



be defined as "joint coefficient", optimising vertical and length-wise capacity; in this way it is possible to minimise the use of cross-bracings, without altering the installation stability. A safety pin avoids any accidental disconnection of the beam.





APR 12 is more than just racking, rather it represents a system whose versatility and flexibility allow the creation of multiple storage solutions, as shown in the picture below. More than fifty years' experience,

a highly professional technical staff, and the affiliation with the companies in the "Ferretto Group" mean that customers can be offered a design and quotation service that ensures

APR 12 "GLOBAL" STORAGE SYSTEMS

SELF-SUPPORTING STORAGE SYSTEM

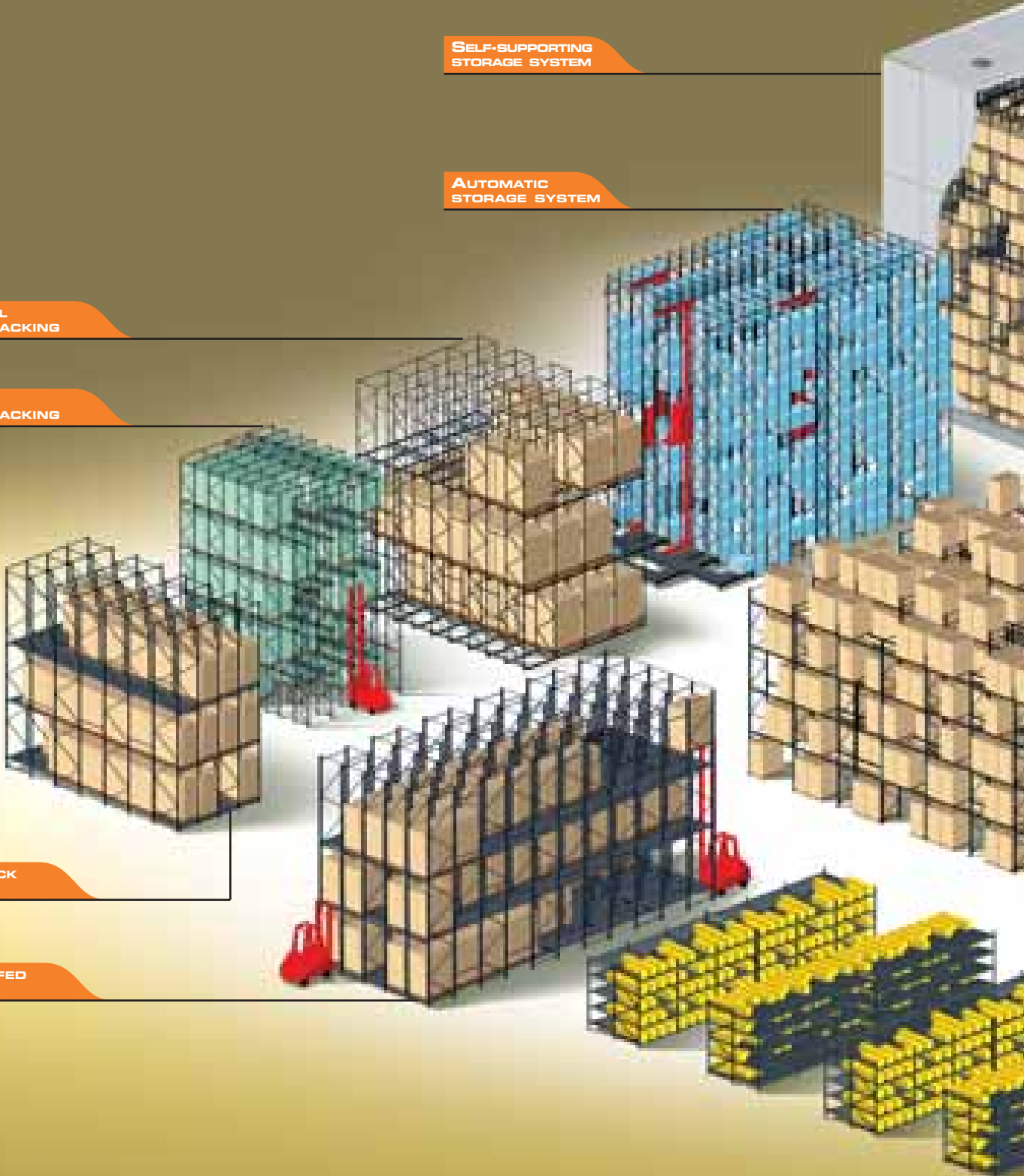
AUTOMATIC STORAGE SYSTEM

FLOW-RAIL PALLET RACKING

DRIVE-IN PALLET RACKING

PUSH-BACK RACKING

GRAVITY-FED RACKING



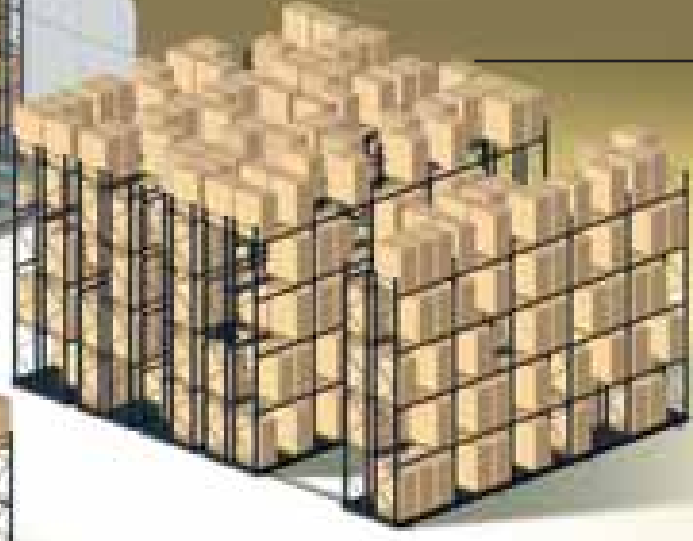
the most suitable solutions
to specific problems,
with the best possible
value-for-money.



RAGE SYSTEM



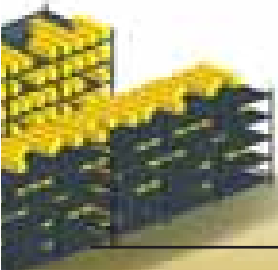
MOBILE
RACKING



PALLET
RACKING



CANTILEVER
RACKING



LIVE CARTON
STORAGE



APR 12 Pallet Racking consists of a body of frames, connected by horizontal beams, allowing storage on vertical loading levels. The groups of racks are separated by aisles of varying sizes, according to specific requirements.

This is the simplest and most widespread

application of the **APR 12** system. Thanks to the use of special beams and galvanised plates creating "loading levels", the **APR 12** Pallet Racking is also able to operate manually (picking) storage of different load units such as boxes, crates, containers, etc.

APR 12 PALLET RACKING

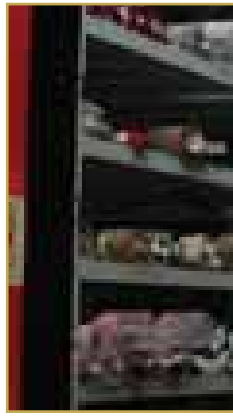


The possibility of carrying out multi-tier racking systems with load bearing walkways further widens the range of guaranteeing the most effective solution to all problems.

Being so versatile, an extreme stiff structure due to its uprights, beams and joints features, consents installations

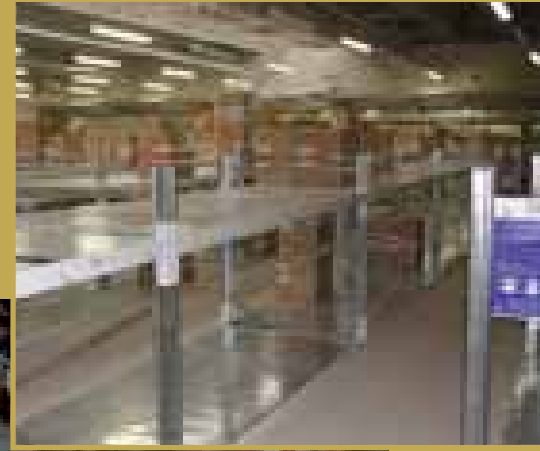
of the most diversified shapes and sizes and for all uses, moreover having an excellent price-performance relation for all demands.



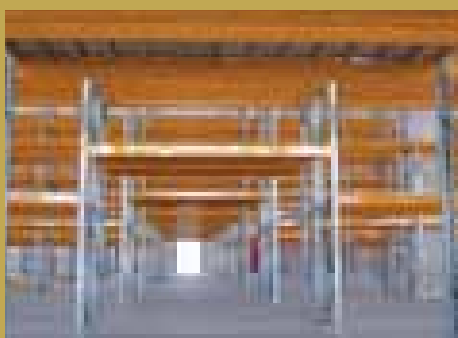
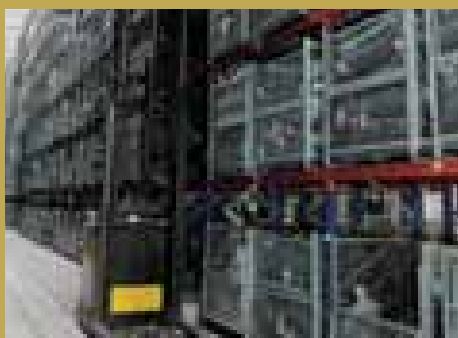














APR12 Drive-In Pallet Racking is the ideal solution for making high density storage racking. Typically configured as "an island", it can be made with various depths according to needs and allows the storage of homogeneous material for each aisle. The pallet is normally lifted according

to LIFO logic (last in first out), by which the first to enter is the first one out. In some cases, the aisle may not contain homogeneous material per type, but per shipment. The intrinsic technical features of the drive-in storage require considerable traversal stability.

APR12 is ideal thanks to its rigidity.

APR12 DRIVE-IN PALLET RACKING

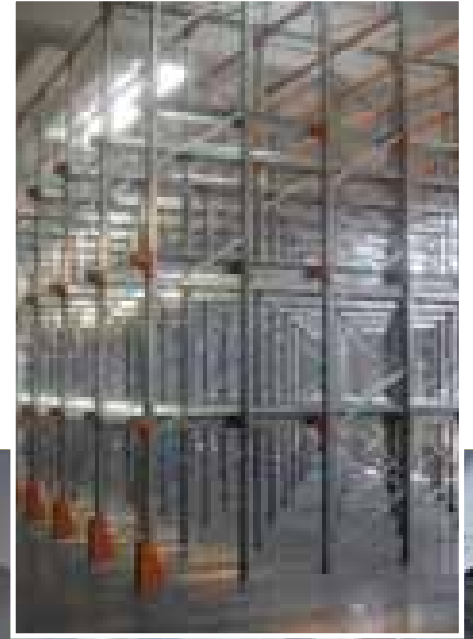


According to the plant's specific characteristics, each time the above can be completed and reinforced with horizontal and vertical cross bracing components, or suitable "brace towers", that are necessary with big plants having double front access.

The load bearing structures

can be protected from fork lifts accidental hits, by the use of specifically designed upright protectors. Finally there are floor guides that help access to fork lifts and their route along the aisles.







L M P





APR12 Gravity-Fed Racking is characterized by the presence of aisles with rolls. It represents an ideal solution to the high density storage racking, if the Drive-In Pallet Racking is inadequate. Such a solution limits the products to a single aisle, creating a more ordered

storage system; the pallet is always aligned to the loading side, with a significant increase in productivity. Gravity-Fed Racking uses FIFO logic (first in first out), by which the first to enter is the first one out, an essential factor when storing material of a perishable nature.

APR12 GRAVITY-FED RACKING



Although it is a "pass-through" warehouse, which assumes therefore a loading front and an unloading front, it has structural features that assure solidity and stability. The roller aisles are supplied with speed limiters that allow steady pallet movement, irrespective of the length of transit.









APR 12 Push-Back Racking is a "simplified" solution of "pass-through" Gravity-Fed Racking and is used in all those cases where FIFO logic is not essential, and therefore the last pallet in can be the first pallet out.

With respect to Drive-In Pallet Racking, it presents the advantage of not having the fork lift insert itself into the aisles. The whole complex is characterised by its structural stability. It offers maximum space advantage, with only one front for both loading and unloading.

APR 12 PUSH-BACK RACKING







L M P





APR12 Flow-Rail Pallet Racking represents a further solution for high density storage. Particularly suitable for goods placed on wooden pallets, it moves the load units by using chain mechanisms made with exceptional quality components.

It is organised according to LIFO logic, therefore the last pallet introduced is the first one out. As for Push-Back Racking there is only one front for both loading and unloading.

APR12 FLOW-RAIL PALLET RACKING



L M P





L

M

P





APR 12 Live Carton Storage stands for the most efficient response to the need of disposing of a dynamic system for load units not particularly heavy, of small-medium sizes, such as boxes, plastic or metal containers.

APR 12 Live Carton Storage

is used in many commodity sectors, both commercial and industrial; it is particularly good for the storage of materials in a high picking activity environment and offers the operator a constant front supply of material. For immediate replenishment of supplies, the **APR 12**

APR 12 LIVE CARTON STORAGE



Live Carton Storage provides sometimes, at the base or on the top of the racks, beams for pallet storage. Paying attention to ergonomic needs, the system is designed to facilitate picking operations. Armes is also able to put into practice sophisticated systems, such as "look and pick"

or "paperless", which guide the operator during picking and placing operations.





L M P





APR 12 Mobile Racking integrates the racks with sophisticated movement systems and creates a very high storage density, as it almost completely eliminates the loss in surface area and volume due to the aisles.

The sliding of the mobile bases

on which the racking rests allows space to be created for accessing the aisle where the required load unit or product is located.

This type of storage system is also suitable for developing very large structures.

Sophisticated remote controlled

APR 12 MOBILE RACKING



and safety mechanisms that allow a complete computerised management of all operations are available.





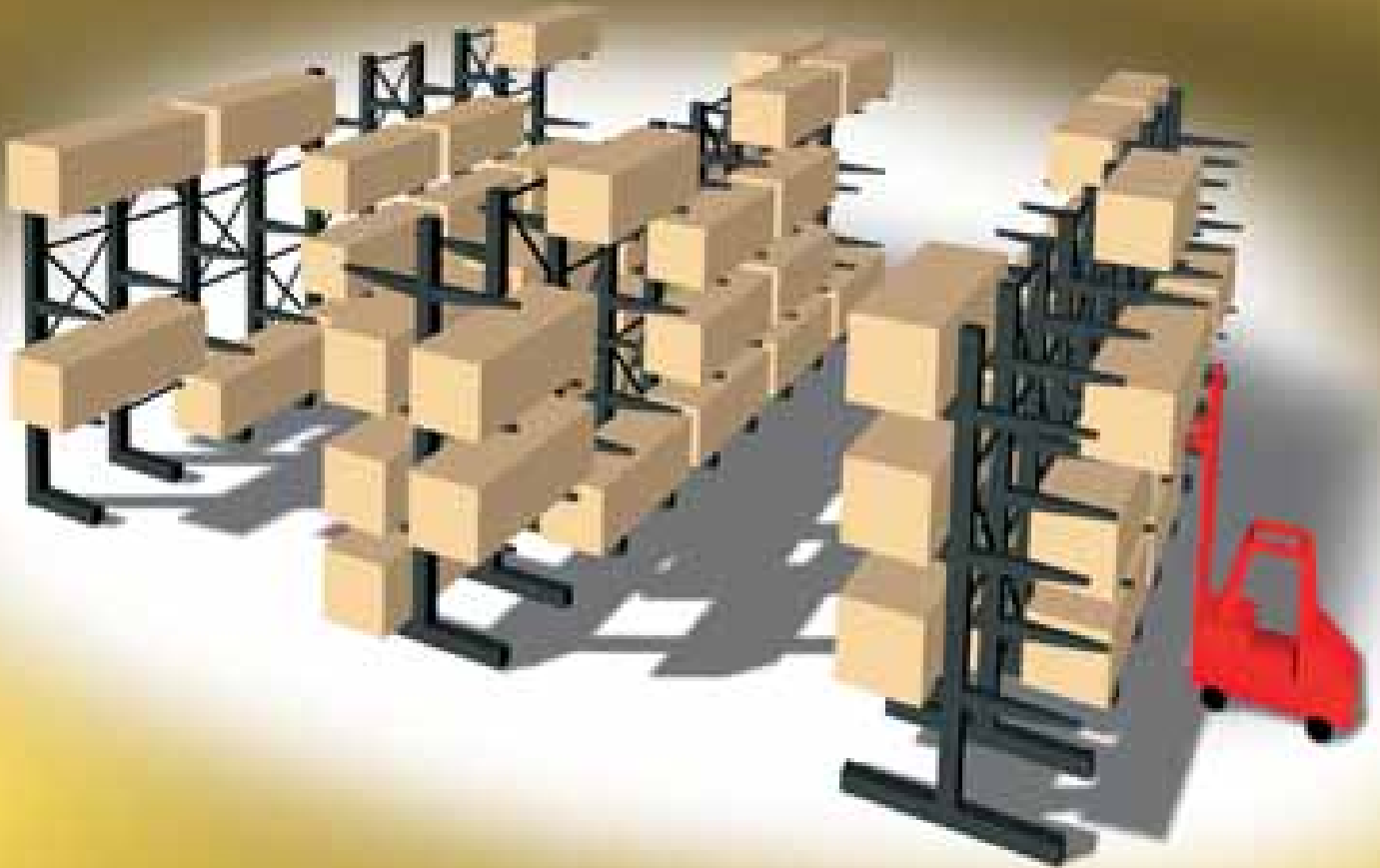




The Cantilever Racking, even if considered belonging to **APR12**, is a category on its own. It uses in fact special structures for all key components starting from the uprights. The various elements therefore have a completely different

concept and design from the **APR12** line. The Cantilever Racking is ideal for the storage of long items, loose or in containers to be moved by fork lifts having to operate with racking provided with cantilevered arms. A wide range of uprights

APR12 CANTILEVER RACKING



and shelves ensures coherent solutions for different capacity and size requirements.









APR12, for its technical features, is particularly suitable for Automatic Storage Systems with stacker cranes or other automatic movement systems. The vertical characteristic elements and an adequate range of accessories enable the design and realization of Automatic Storage Systems

in which various loading articles, from pallets to containers, from drawers to boxes, can be placed and moved even in considerable sized structures.

A significant experience is evident in over 50 years of Armes commercial involvement in the conventional storage

APR12 AUTOMATIC STORAGE

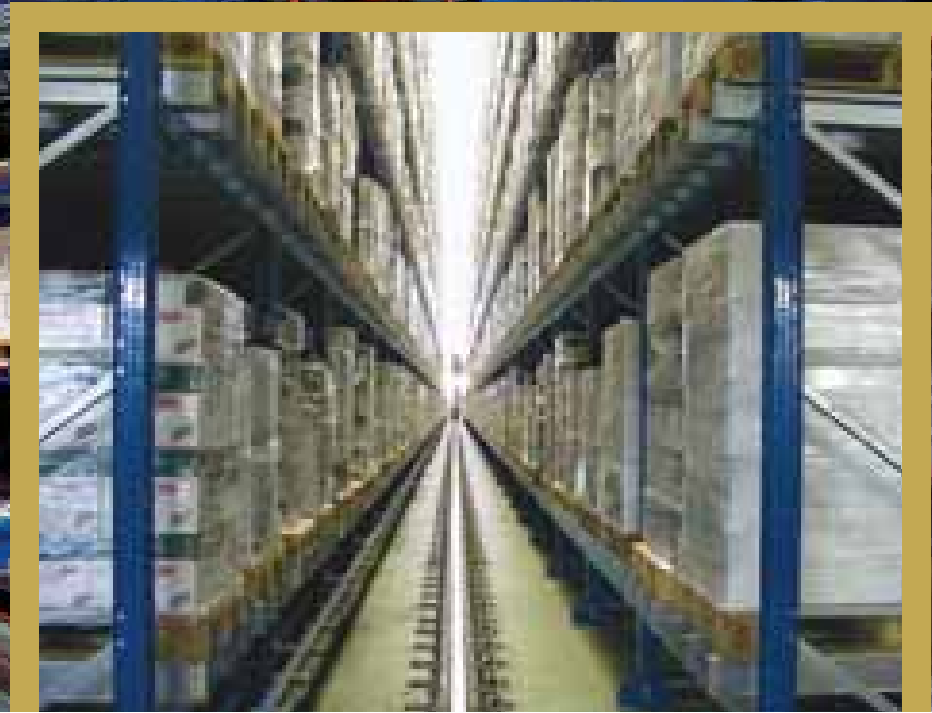


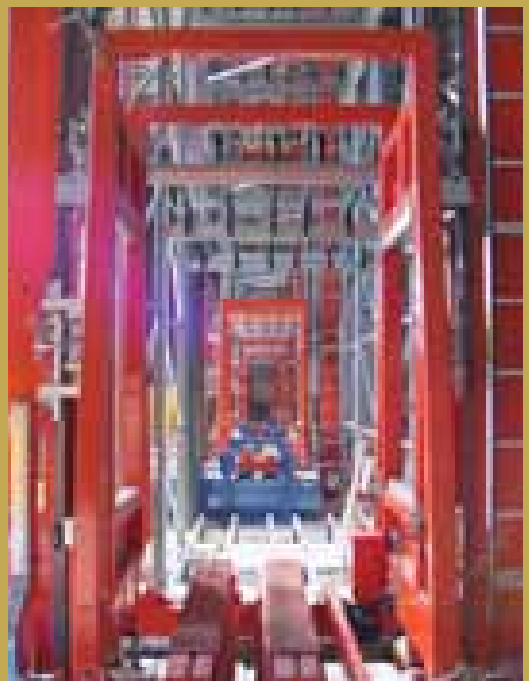
system field alongside its over 20 years old automation activity. Knowledge and mastery of the problems involved means that even particularly complex situations can be faced and resolved.



SYSTEM











L M P





There is no doubt that the most advanced development of **APR 12** racking is in the field of Self-Supporting Storage Systems, in which the storage structure is the building itself.

This is in an area in which very few firms are able to operate, because racking, besides containing storage material,

has to be capable to support the whole structure. Furthermore, every risk factor has to be taken into account, from snow and rain to wind and earthquakes. The system has therefore to respond to functional requirements, both static and dynamic similar to civil buildings and to conform with

APR 12 SELF-SUPPORTING STORAGE

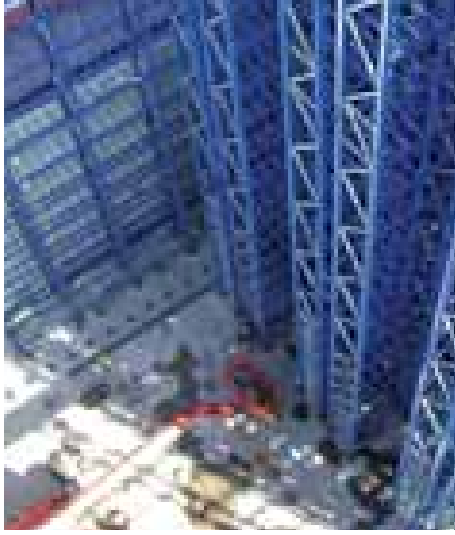


the regulations of the building sector. Armes is able to supply the Customer, on top of the necessary technical assistance, with the calculation documentation required by the building authorities.



TING SYSTEM









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racking · mezzanine floors
automatic storage systems

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FERRETTO GROUP

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**give us
a vacuum...**

... we'll give
you an
**integrated
space**



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Armes spa • Strada Padana verso Verona, 101 • 36100 Vicenza, Italia
Tel. +39 0444 349688 • Fax +39 0444 349498 • E-mail: armes@armes.it • <http://www.armes.it>

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