



LION RACKING SYSTEM



SYMBOL OF QUALITY

(T) : 0761-33338

(E) : info@wirakencana.com

(W) : www.wirakencana.com





LION RACKING SYSTEM

Pada dasarnya merencanakan sistem pergudangan adalah memaksimalkan penggunaan ruangan yang tersedia dengan biaya yang sesuai. Lion telah memiliki pengalaman lebih dari 30 tahun dalam membuat sistem rak pergudangan dan material handling yang modern, kuat, aman dan efisien. Lion juga memiliki tenaga engineering yang akan mempelajari dan meneliti kebutuhan pelanggan untuk kemudian merencanakan desain dan sistem yang paling efisien. Lion Racking System merupakan produk rak yang lengkap untuk memenuhi berbagai kebutuhan penyimpanan.

Designing a warehouse system entails the careful planning on how the racking structures and distribution systems are placed so as to maximize the use of available space at an affordable price. Lion has more than 30 years experience in designing strong, safe and efficient warehouse storage systems. Our engineering team can study your requirements and propose a design plan that will provide you with the most efficient warehouse storage system. Lion Racking Systems encompass a full range of racking products, which can cater for all loading requirements.

Lion Racking System

1. HEAVY DUTY

(Pallet Racking System)

- Selective Pallet Rack
- Double Deep Pallet Rack
- Drive In Rack
- Mobile Rack
- Mezzanine Rack
- Multi-tier Rack



2. MEDIUM DUTY

- Medium Duty Rack
- Shelving Rack



3. LIGHT DUTY

- Slotted Angle Rack

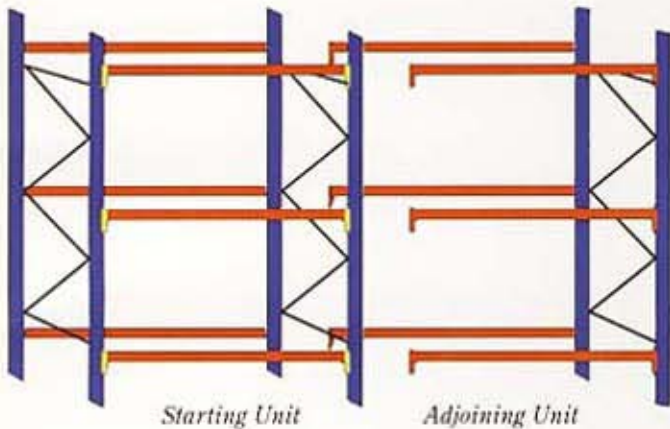


HEAVY DUTY

(Pallet Racking System)

Lion Heavy Duty Racking Systems merupakan suatu sistem peralatan pergudangan yang lengkap untuk memenuhi semua kebutuhan penyimpanan. Rak ini menggunakan pallet untuk menyimpan barang-barang berat dan dapat menahan beban hingga 20.000 kg per unit / kolom.

Lion's Heavy Duty Racking systems offer a full range of storage systems and equipment which can fulfill all kind of loading requirements. Our heavy duty racking systems use pallets to store items and, therefore, are particularly suitable for storing heavy and bulky items up to 20,000 kg per unit / column.



Komponen dasar rak pallet terdiri dari upright frame dan horizontal beam untuk penyimpanan barang. Rak dapat dipasang dan dibongkar dengan mudah sesuai kebutuhan Anda. Jarak beam dapat disesuaikan setiap 75 mm.

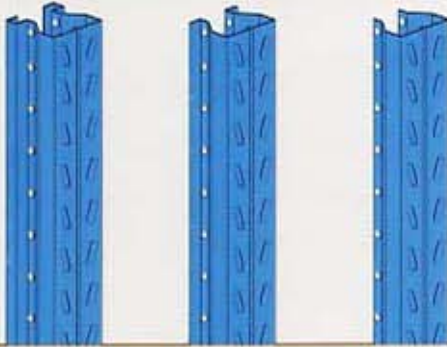
The basic components of the pallet rack consist of the upright frame and the horizontal beams for loading. The installation and dismantling of the pallet rack is made simple to suit your changing needs. The beams can easily be adjusted in steps of 75 mm.



The rack conforms to AS 4084 : 1993 "Steel Storage Racking"



LION OMEGA Frame Profile Specifications

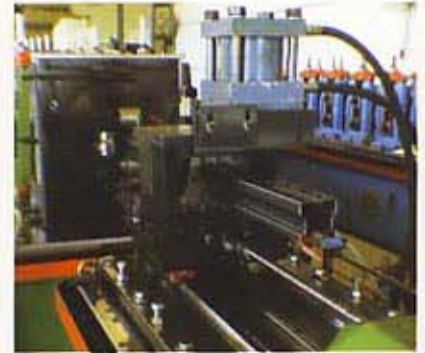


- Made of hot rolled steel sheet JIS G-3101 SS400
- Material : High Tensile Strength with thickness 1,8 mm and above
- Designed as CKD (Complete Knock Down) system.
- Vertical frame constructed using diagonal and horizontal square pipe bracings.

LION OMEGA Pallet Frame System

Dengan desain OMEGA, kami menawarkan beragam pilihan frame atau uprights untuk berbagai kebutuhan pergudangan / penyimpanan barang yang dapat dikonstruksi hingga ketinggian 20 meter atau lebih. Kami menawarkan dua pilihan tipe. : HD 92 dan SHD 112 sehingga memungkinkan customer untuk memilih frame yang sesuai dengan kebutuhan dan biaya yang tersedia.

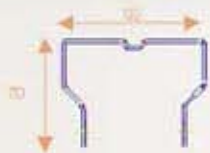
With our new OMEGA Design, we provide a wide range of heavy duty frames or uprights which can be used for various kinds of warehouse requirements. The heights of storage system can be constructed up to 20 meters or higher. The flexibility of choice from our type : HD 92 and SHD 112 enable customer to choose the most suitable frame capacity to meet their requirements with minimum investment.



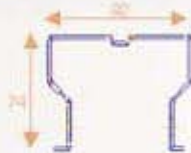
Loading capacity: 20,000 kg / column (depends on bracings interval space and beam positions)

OMEGA FRAME
Type HD-92
Column Width: 92 mm

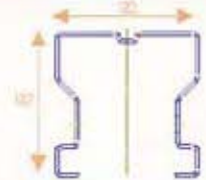
Standard Duty
HD-1



Heavy Duty
HD-2



Extra Heavy Duty
HD-3



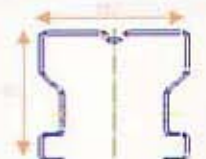
Heavy Duty
SHD-1



Extra Heavy Duty
SHD-2



Super Heavy Duty
SHD-3



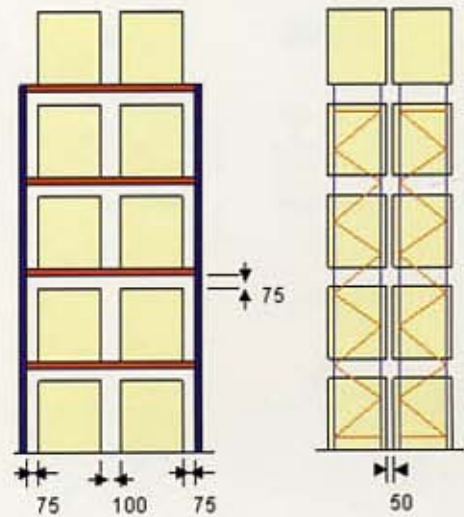
OMEGA FRAME
Type SHD-112
Column Width: 112 mm

BEAM PROFILE



- Made of hot rolled steel sheet JIS G - 3131 / SPHC
- Plate thickness : 1.6 - 2.0 mm

Unit Load Clearances



Loading Capacity per Pair of Beam Profile (kg)

Theoretical Calculation

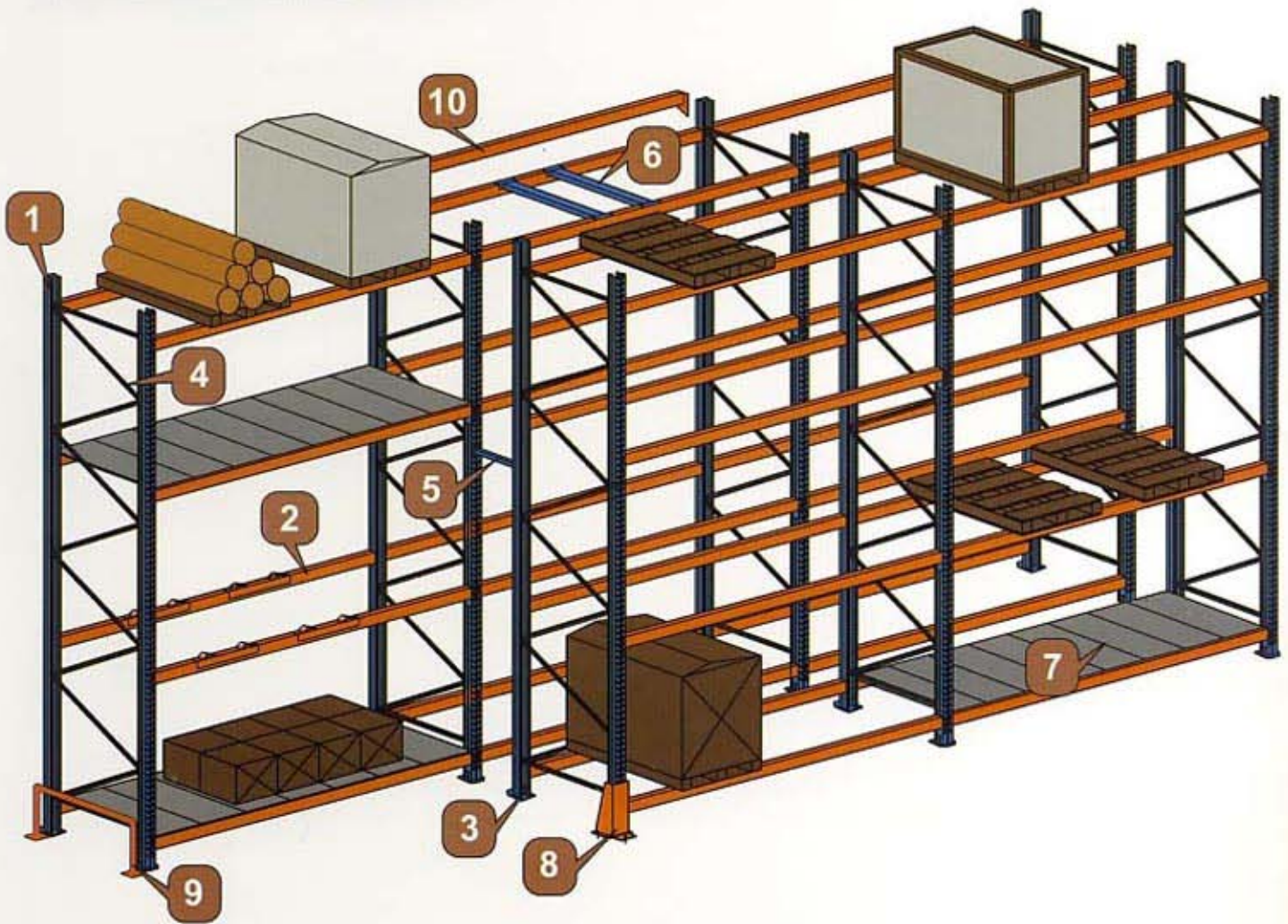
LENGTH (mm)	TYPE			
	Height: 75 mm	Height: 100 mm	Height: 125 mm	Height: 150 mm
2400	1300	2100	3400	4500
2600	1000	1950	3200	4100
2800	850	1750	3000	3800
3000	700	1600	2300	3500

Note :

- Uniform Distribution Load (UDL)
- Steel Yield Stress : 290 MPa.
- Young Modulus : $2,1 \times 10^5$ Mpa.
- Simple Beam Calculation
- Maximum Deflection $1/200$ beam length
- Safety Factor : 1.7 fy



ISOMETRIC VIEW



General Features

1. Upright Frame



Consists of two upright sections in racking system, and constructed using diagonal and horizontal square pipe bracings.

2. Beam



To connect two frames and to support pallets.

General Features

3. Base Plate



Fitted underneath the upright sections using dyna bolts (wall plugs) for the purpose of distributing the frame loading onto the floor.

4. Bracing



Horizontal and diagonal bracings, made of square steel pipes, are secured by bolts and nuts to the frame.

5. Row Spacer



Used to connect 2 frames for racking stability and allow clearance between two frames.

6. Safety Bar



Used as a place to store loose and heavy goods.

7. Shelves



8. Column Guard

To protect posts (upright sections) against accidental damage by forklifts or other vehicles.



9. Column Barrier



Have similar function with column guard.

10. Pallet Stopper



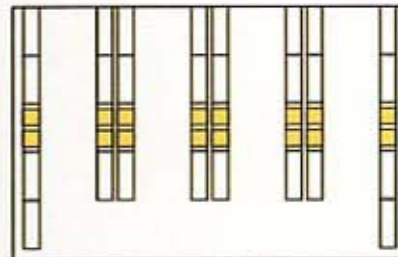
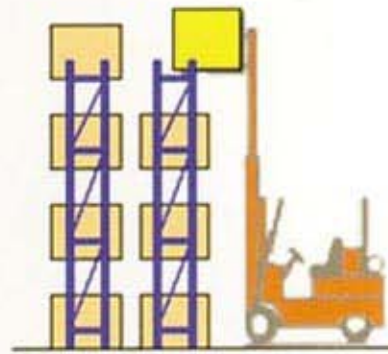
To prevent pallets from being loaded too deep inside the rack.



Selective Pallet Rack

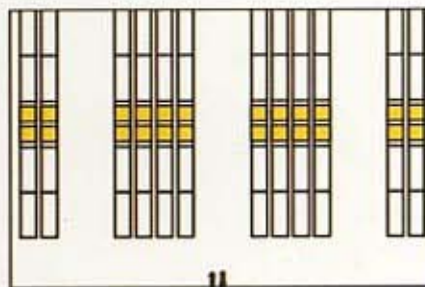
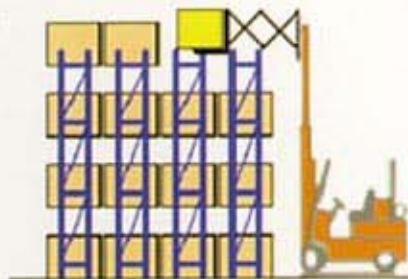
Selective Pallet Rack merupakan rak palet standar dalam sistem pergudangan. Rak ini menggunakan sistem rotasi 'first-in, first-out', dan ideal untuk semua penggunaan dalam penyimpanan maupun pengambilan barang.

It is the most common type of pallet racking in warehouse systems that adopt 'first-in, first-out' product rotation principle. Suitable for all applications and ideal for combined storage and order picking operations.



Simple to use and economical. Easy to operate and offers good warehouse control. Strong and safe.

Double Deep Pallet Rack



Secara umum memiliki prinsip yang sama dengan Selective Pallet Rack. Perbedaannya adalah pada cara meletakkan rak. Rak palet yang terletak ditengah ruangan dibuat berjajar 4 baris, sehingga membutuhkan forklift khusus untuk pengambilan barang. Sistem rotasi produk 'first-in, first-out' akan terganggu.

Generally operates on the same principles as selective pallet racks. The only difference is on how the racks are located. For this system, the pallet racks are arranged in 4 lines in the center of the room. Another difference from the selective pallet racking system is that this system requires the use of a specialist reach truck. 'First-in, first-out' product rotation may be less convenient.

Drive In Rack

Drive In Rack merupakan metode pergudangan yang paling banyak digunakan untuk menyimpan barang-barang yang tidak dapat ditumpuk dan yang membutuhkan penyimpanan dan pengambilan barang-barang dalam volume besar. Sistem rak ini adalah meminimalkan penggunaan ruang operasional. Kapasitas efektif penggunaan ruang hingga 60 % atau lebih.

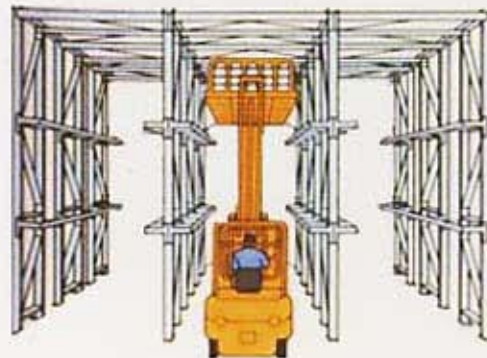


A popular method of achieving high density storage where loads cannot be stacked on each other due to load instability or crushing. It provides high volume storage and retrieval capacity while minimizing operating space areas. Effective storage capacity can be up to 60 % or more.

Operational System

Pallet diletakkan pada *runner* yang berada didalam rak, yang memungkinkan forklift masuk kedalam rak untuk mengambil dan meletakkan barang.

Pallet are placed on runners inside the racks, allowing forklifts to enter the racking module to deposit or retrieve loads.





Mobile Rack



Mobile rack menggunakan sistem rotasi produk 'first-in, first out' yang memaksimalkan penggunaan ruang, dimana hanya dibutuhkan satu ruang gangway untuk mengakses seluruh lokasi rak.

Used for 'first-in, first-out' product rotation system. Mobile rack maximizes the storage capacity in a given area as only one aisle is required to provide access to all racking locations.

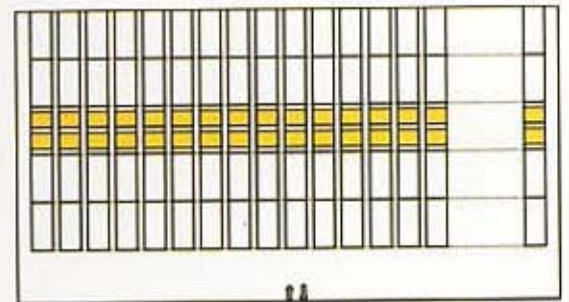
Operational System

Mobile rack dengan kedalaman rak hingga 9,5 meter dan beban mencapai 30.000 kg dapat digerakkan dan dipindahkan dengan mudah.

Mobile rack base berjalan diatas rel yang diikat pada lantai, dan dioperasikan dengan sistem mekanis. Sistem ini mudah dioperasikan dan dapat menggerakkan / memindahkan beberapa unit rak sekaligus tanpa kesulitan.

The racks can be up to 9.5 meters deep and can carry loads in excess of 30,000 kg. The mobile racks run on rails which are laid into the floor and operated with a single rear mounted guide wheel (Mechanical System).

The system operates easily and quietly, enabling several shelving units to be moved at the same time without any great efforts.

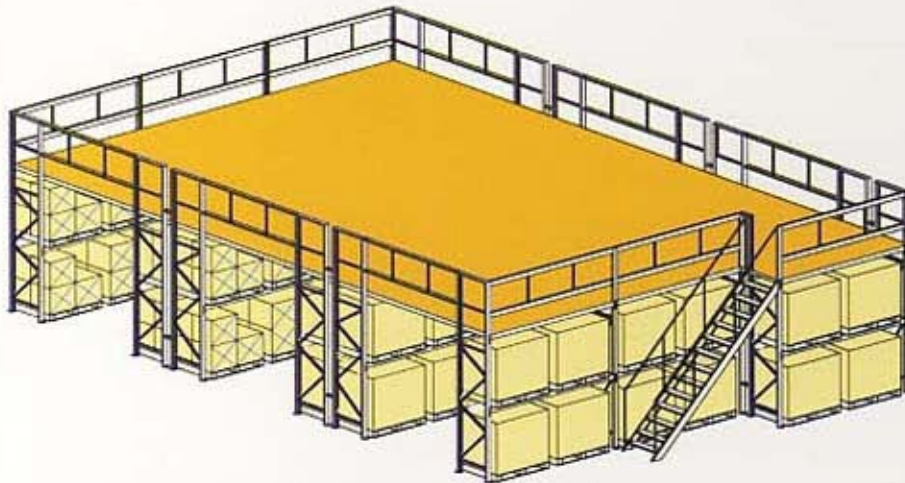


Selective picking order and effective in controlling goods safety.

Mezzanine Rack

Rak Mezzanine merupakan rak bertingkat dimana lantainya menggunakan pelat baja atau plywood. Lantai mezzanine dapat digunakan sebagai ruang kantor.

Mezzanine Rack is a multi-tier rack system whose floors are made of either steel plates or plywood. Besides being used for storage, the floors can also be used as office space.



Lantai mezzanine terbuat dari pelat baja atau plywood.
Mezzanine flooring can be steel plate or plywood.

Multi-tier Rack

Multi-tier racks dapat dibuat 2 atau 3 tingkat untuk mengoptimalkan penggunaan ruang.

Multi-tier racks can be built up into 2 or 3-tiers to maximize space utilization.



Area bagian atas dapat ditutupi dengan steel planking atau plywood.
Open floor areas are covered with steel planking or plywood.



MEDIUM DUTY



Medium Duty digunakan untuk menyimpan barang-barang dengan beban 300 – 600 kg. Medium Duty terdiri dari dua tipe yaitu Rak Medium Duty dan Rak Shelving. Kedua rak tersebut dikonstruksi dari up frame (post) yang terbuat dari profil C-Channel (C-50 x 50 x 10 x t 2,0 mm).

Particularly suitable for storing items weighing between 300 to 600 kg. Medium Duty consists of two type : Medium Duty Rack and Shelving Rack. Medium Duty Racks are constructed using vertical frames (posts) which are made using C-Channel profile (C-50 x 50 x 10 x t 2,0 mm).

Standard Size :

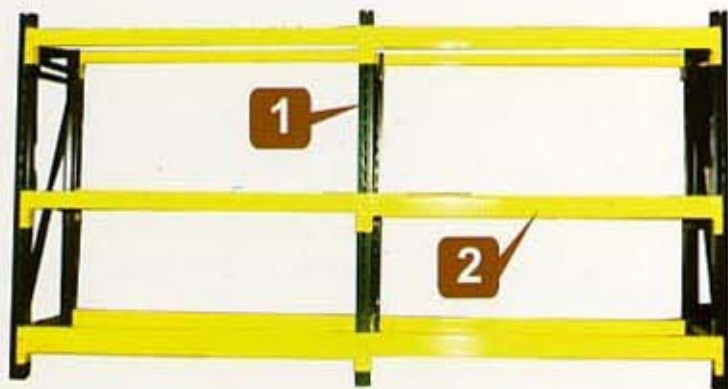
VERTICAL FRAME

Width : 600, 800, 1000 mm

BEAM

Length : 1200, 1800, 2400 mm

MEDIUM DUTY RACK



Rak Medium Duty memiliki konstruksi yang hampir sama dengan rak pallet. Rak ini menggunakan sistem pin untuk mengikat frame pada beam dengan plywood diletakkan pada sepasang beam untuk menaruh barang.

The Medium Duty Racks possess similar features to pallet racking. This type of rack uses a pin system to clip the beams onto an upright frame. Plywood planks are then placed over the beams.

COMPONENTS



1. Up Frame

2. Beam



Using C - Channel profile :

C - 60 (single or double)

C - 75 (single or double)

Loading Capacity :

300 – 600 kg for every pair of beam

SHELVING RACK

Rak Shelving adalah rak Medium Duty yang menggunakan shelves dari baja sebagai tempat untuk menaruh barang.

Span beam menggunakan mur dan baut untuk mengikat frame dan beam.

Shelving rack is one of our medium duty rack systems which uses steel shelves for storing items. The vertical frames and beams are secured using bolts and nuts.



Accessories

1. Frame (C-Channel 50 x 50 x 10 x t 2,0 mm)
2. Span Beam

3. Steel Shelves

Width : 500, 600, 700 mm
 Length : 1200, 1400, 1500, 1600 mm
 Thickness : 50 mm
 Loading capacity :
 300 - 500 kg
 for each shelf



4. Hook Shelves

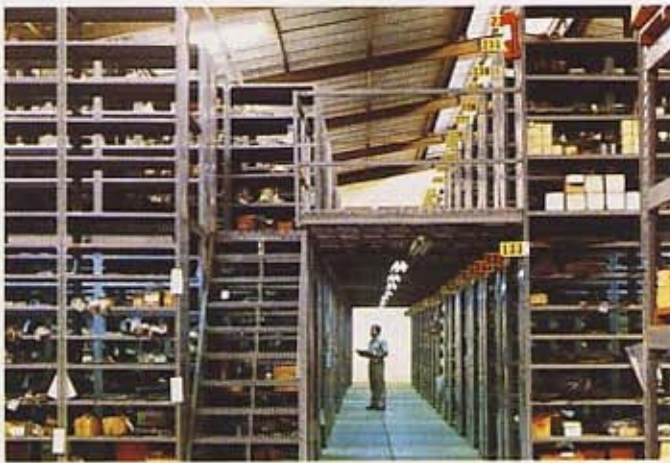
Heights : 152 mm
 Width : depends on
 width of steel shelves
 Adjustable shelves -
 50 mm intervals





LIGHT DUTY

(Slotted Angle Rack)



Light Duty Racking System merupakan suatu sistem rak yang terbuat dari steel slotted angle dan steel shelves untuk penyimpanan barang dengan kapasitas beban hingga 200 kg.

Light Duty Racking System is a racking system which comprises of slotted angle and steel shelves. Each shelf is designed with loading capacity up to 200 kg.



POST



Post L.704

Profile Size :

38 x 38 x t 2,0 mm



Post L.705

Profile Size :

60 x 41 x t 2,0 mm

STEEL SHELVES



Loading Capacity : 100 - 200 kg

Length : 39 inches (991 mm)

Height : 1 ½ inch (38 mm)

Thickness : 0.7 mm for 12" width shelves

0.9 mm for 15", 18", 24" width shelves

1.2 mm for heavy duty shelves

ACCESSORIES



1. Post

2. Steel Shelves

3. Fixed Divider



4. Bin Drawer



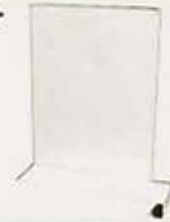
Heights : adjustable -

$\frac{3}{4}$ inches intervals

Width : depends on the number of bin drawers per shelf

Length : depends on shelf width

5. Movable Divider



6. Corner Plate

Installed at the top and bottom shelves for racking stability.



Detail Applications



L.704



L.705

7. Base Plate



Double



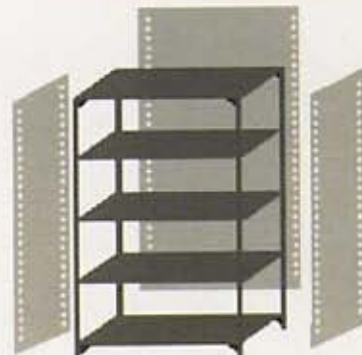
Single



Center

8. Back Cladding

9. Side Cladding



OTHER RACKING PRODUCTS

Lion offers a wide range of storage systems and equipment that can meet most industrial, education, commercial, and retail requirements.



Note :

Desain produk dan spesifikasi teknis dapat berubah tanpa pemberitahuan terlebih dahulu sesuai perkembangan produk.

Product design and technical specifications subject to change without prior notice in line with product development.



**P.T.
LION
METAL WORKS Tbk.**

A Member of The Lion Group

Dealer :