



## UNARCO MATERIAL HANDLING, INC.

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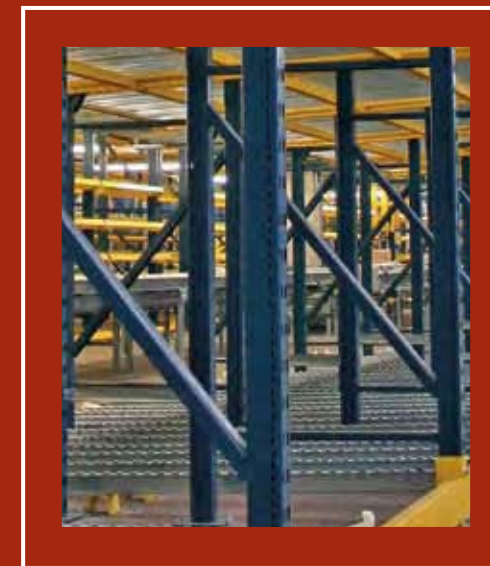
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UNARCO MATERIAL HANDLING, INC.



U N A R C O



MATERIAL HANDLING SYSTEMS



## PRODUCTS CATALOG

COMPLETE PRODUCT SELECTION

INCREASED PRODUCTION

TOTAL MARKET COVERAGE



UNARCO was the first pallet rack manufacturer in the industry. With over fifty years in production, engineering and design, no one offers more experience in how to increase efficiency in warehouses and distribution centers.

Flexibility that you will not find in other large pallet racking manufacturers stems from the ability to produce an entire line of warehouse storage solutions including carton flow, pallet flow, push back, drive-in/drive-thru and cantilever. But more importantly, UNARCO has structured its customer service and manufacturing facilities to LISTEN to customers' needs and respond with custom designs and smarter solutions.



## Strategic Plant Locations

UNARCO's network includes field representatives and stocking distributors across the country.



PANDORA, OHIO



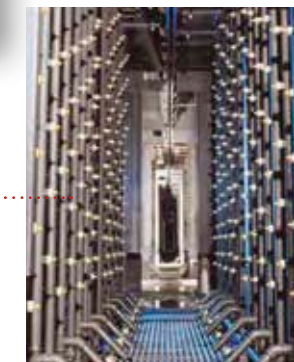
LEWISVILLE, TEXAS

SPRINGFIELD, TENNESSEE



## STATE OF THE ART PAINT APPLICATION

UNARCO has invested millions of dollars in state of the art powder coat paint lines for a superior finish. Parts begin at a four-stage washer which meticulously cleans the product before sending it through booths with over 25 guns. The parts then travel through a 200 foot long bake oven to insure a durable finish.



Powder Coat Paint Booth

## MODERN MANUFACTURING AND PROFESSIONALLY SKILLED LABOR

UNARCO's plants of over one million square feet are streamlined for maximum efficiency and computer guided accuracy. The modern manufacturing process starts with coils of high-strength steel, certified to meet our demanding specifications for chemistry and thickness. Beams and uprights are formed and welded to exacting standards by advanced robotic equipment and A.W.S. certified welders. UNARCO maintains top quality throughout the manufacturing and finishing process with a highly skilled work force.



Computerized Mills



High-Strength Steel Coils

- America's first manufacturer of pallet rack
- Complete product line for any storage requirement
- History of successful working relationships with consultants and integrators throughout the United States
- Proven engineering and design history
- Seismic calculations and local building code compliance
- Installation and project management capabilities
- Vast distributor network
- Member of Rack Manufacturers Institute (RMI) with R-Mark certification, which guarantees compliance to latest RMI specifications
- Solid financial backing of multi-billion dollar corporation



The  
Renco Group,  
Inc.



# Single-Source Capability

UNARCO handles projects from the simplest warehouse to the most complex pick module. Our team of qualified engineers can solve any application issue presented. We have big ideas for even the smallest warehouse. When coupled with project management and installation services, you can leave the coordination to us. Put your project in our hands and let innovation work for you.



PALLET RACK



STRUCTURAL PALLET RACK



PICK MODULES



CARTON FLOW



PALLET FLOW



CANTILEVER



PUSH BACK



RACK REPAIR



DRIVE-IN/ DRIVE-THRU



RETAIL ACCESSORIES

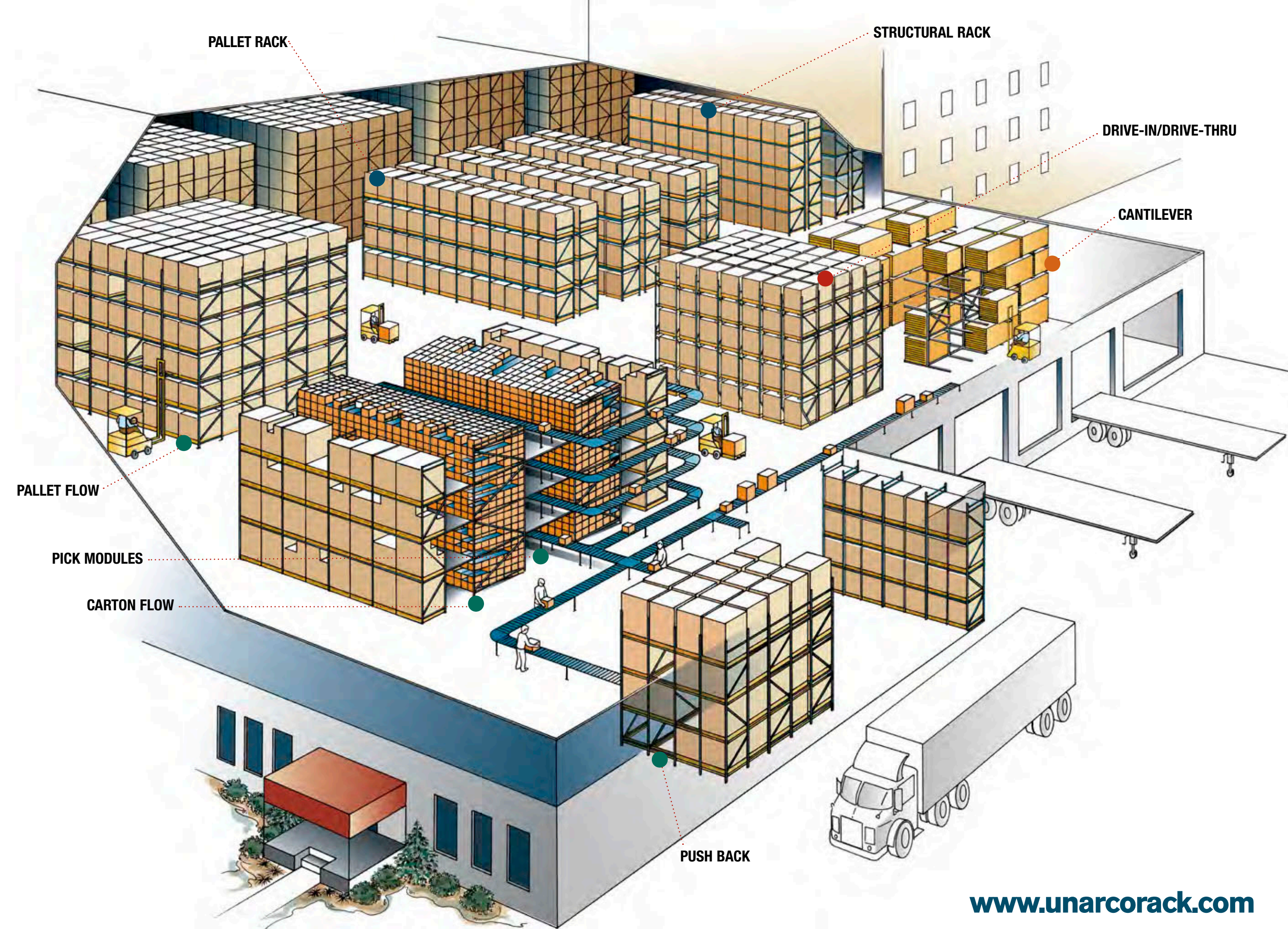
The wide range of UNARCO's products allows for an efficient solution to any warehousing requirement. Because of our long history in the industry, we have developed a product line that has been successfully implemented for many years. From standard pallet rack to carton flow to push back, we manufacture rack systems to increase your warehouse productivity.

- Selective Pallet Rack
  - Roll-Formed
  - Structural
- Pick Modules
- Carton Flow
- Pallet Flow
- Push Back
- Drive-In/Drive-Thru
- Cantilever
- Rack Repair
- Retail Accessories



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● **RETAIL ACCESSORIES**

[www.unarcorack.com](http://www.unarcorack.com)



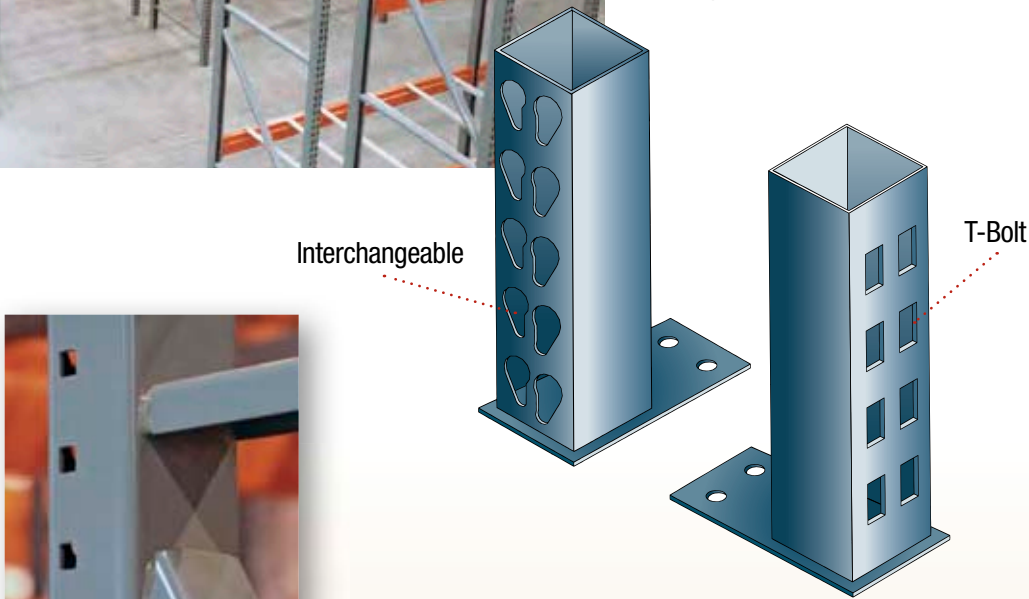
# Selective Pallet Rack ROLL-FORMED



Standard Selective Pallet Rack is the basis for most warehouse storage systems. UNARCO can provide all varieties from light to heavy-duty, open to closed tubes and bolted to automatic locking connections. Computerized mills insure that tolerances on all roll-formed beams and uprights are precise and install with ease.



- *Roll-formed*
- *All-welded construction*
- *Wide variety of column sizes*
- *Closed tube or open section columns*
- *Available with bolt-on or automatic locking devices*
- *Sturdy miter cut bracing*
- *Rigid connections*
- *40-foot continuous length capability*

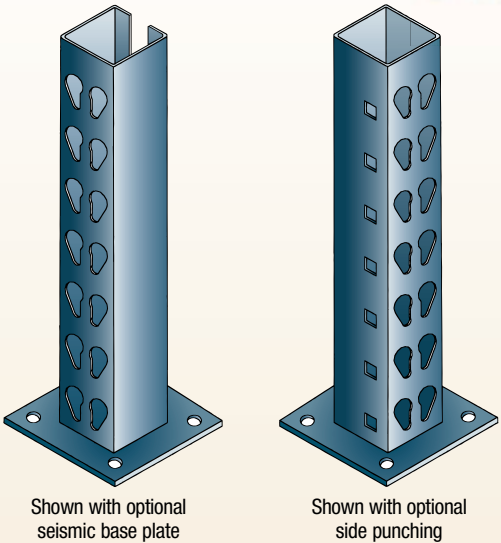


## SUPERPOST CLOSED TUBE

- 30% - 40% greater load capacities than same gauge open back design uprights
- Over 200 times more resistant to torsional forces
- Cleaner - no areas to trap dust and debris
- Resists frontal impact five times more than structural column

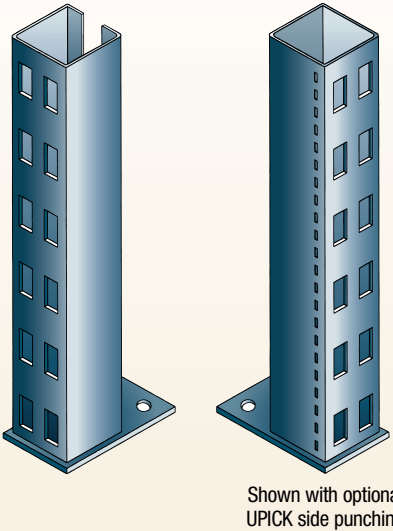


## UPRIGHTS



### INTERCHANGEABLE Non-Bolted Connection

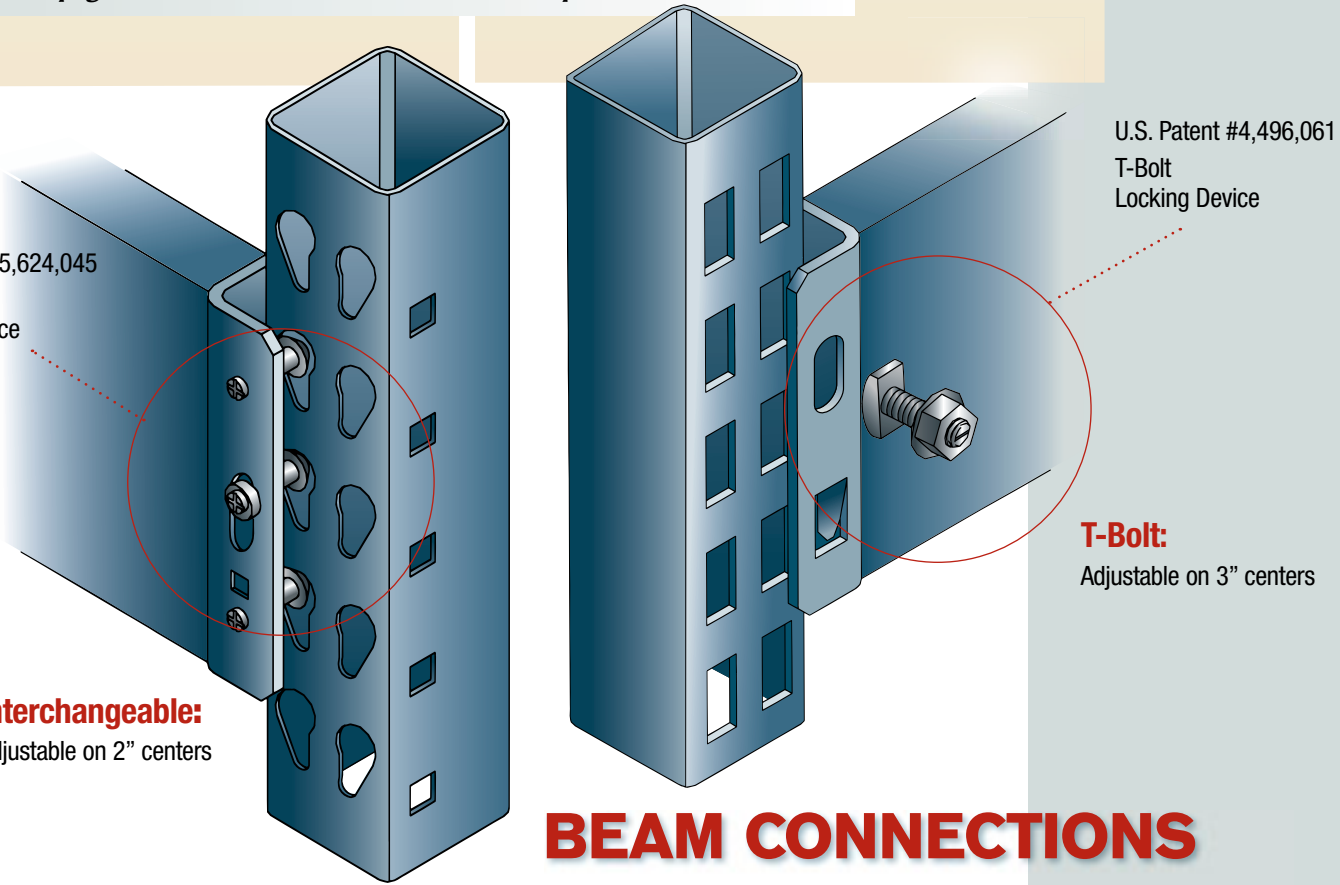
- Interchangeable tear drop upright columns will accept most industry standard "Interchangeable" beams
- Manufactured with or without side holes
- Available in open or closed tube sections



### T-BOLT Bolted Connection

- T-Bolt upright columns front-end-only connection allows for easy installation because you never need to reach into the column
- Extra rigid connection
- Available in open or closed tube sections

**Pallet Rack: See pages 10-11 for available column sizes and capacities**



## BEAM CONNECTIONS

pallet rack
gravity flow
drive in/drive thru
cantilever
retail
rack safety options
rack repair - safety

U.S. Patent #4,496,061  
T-Bolt  
Locking Device

**T-Bolt:**  
Adjustable on 3" centers

**Interchangeable:**  
Adjustable on 2" centers

U.S. Patent #5,624,045  
Gravity  
Locking Device



Selective Pallet Rack COMPONENTS

ROLL-FORMED UPRIGHTS

GENERAL UPRIGHT CAPACITY GUIDELINES FOR T-BOLT UPRIGHTS

SUPERPOST T-BOLT										
COLUMN SIZE	3 x 2"	3 x 2"	3 x 2"	3 x 3"	3 x 3"	3 x 3"	3 x 3"	4 x 3"	4 x 3"	4 x 3"
PART NO.	T0142	T0132	T0122	T0143	T0133	T0123	T0103	T0134	T0124	T0104
MAXIMUM UNSUPPORTED LENGTH	POUNDS	POUNDS	POUNDS	POUNDS	POUNDS	POUNDS	POUNDS	POUNDS	POUNDS	POUNDS
36"	26,564	34,714	41,254	32,023	43,716	52,950	65,590	51,903	66,396	86,429
48"	22,242	28,680	33,990	27,556	36,983	44,585	55,039	47,403	60,224	77,937
60"	17,655	22,437	26,498	22,631	29,811	35,742	43,928	42,129	53,092	68,233
72"	13,249	16,587	19,502	17,709	22,889	27,279	33,347	36,405	45,475	57,998
84"	9,816	12,186	14,328	13,330	16,965	20,143	24,572	30,567	37,834	47,863
96"	7,556	9,330	10,970	10,320	13,008	15,422	18,813	24,923	30,566	38,323

OPEN SECTION T-BOLT						
COLUMN SIZE	3 x 1 5/8"	3 x 1 5/8"	3 x 3"	3 x 3"	3 x 3"	3 x 3"
PART NO.	T0145	T0135	T0146	T0136	T0126	T0106
MAXIMUM UNSUPPORTED LENGTH	POUNDS	POUNDS	POUNDS	POUNDS	POUNDS	POUNDS
36"	17,902	22,751	25,618	34,383	43,637	53,939
48"	13,913	17,607	20,691	27,257	34,076	42,035
60"	11,196	14,042	17,165	22,304	27,569	33,895
72"	8,721	10,831	13,860	17,761	21,700	26,549
84"	6,771	8,354	10,922	13,856	16,802	20,537
96"	5,375	6,600	8,771	11,045	13,320	16,272

All values in the above tables assume that each column carries half of the frame load. The table values are expressed in pounds per frame. These values are based on gravity loading only that is purely axial. Any condition where the axial load is accompanied by moment, the axial load capacity will be less. This will occur for non-symmetrical loading conditions. The capacities also assume the base plates and the bracing are of adequate strength and that all other parts of the rack have been properly designed. All values are for undamaged racks that are installed plumb. It is the rack user's responsibility to properly maintain the racks to ensure that the carrying capacity of the racks is not reduced by damage and that any changes to the rack configuration do not cause an unsafe condition.

Frame capacities are based on maximum unsupported length, which is the measurement of the distance between the floor and the top of the first beam or the maximum spacing between beams, whichever governs.

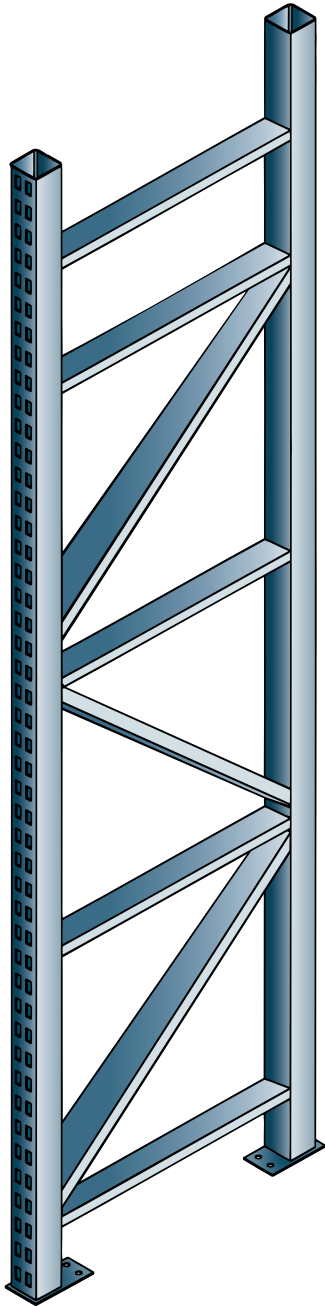
Refer to [www.unarco.com](http://www.unarco.com) for latest updates to installation instructions and user manuals.

CONTACT THE UNARCO SPRINGFIELD OFFICE FOR ANY OF THE FOLLOWING CONDITIONS:

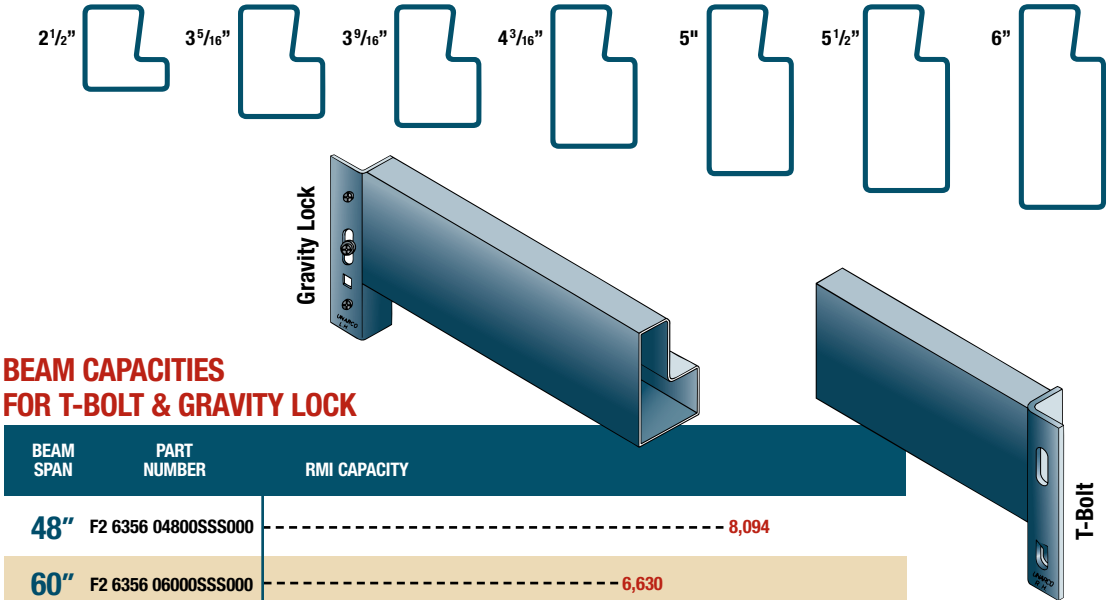
- Any application where the frame load exceeds 31,000 lbs. (23,600 lbs for 3 x 1.625 columns or 28,700 lbs. for 3x2 column). These frames may need larger base plates or heavier bracing.
- Any application that requires seismic design where the design ground acceleration is greater than 0.05g or if Ss exceeds 25%g in IBC areas
- Configurations that require a frame deeper than 60 inches or higher than 40 feet.
- Applications that involve support of platforms or catwalks or any application other than normal pallet rack.
- Any single row where the height-to-depth ratio exceeds 6 to 1. These must be checked for anchorage against overturning.
- Any condition which creates uncertainty as to the proper use of these tables.

Column capacities shown are for T-Bolt uprights. Please see pallet rack brochure or contact UNARCO for interchangeable varieties or uprights with side punching.

Column protection is recommended for uprights subjected to potential column abuse from lift trucks.



ROLL-FORMED BEAMS



BEAM CAPACITIES FOR T-BOLT & GRAVITY LOCK

BEAM SPAN	PART NUMBER	RMI CAPACITY
48"	F2 6356 04800SS000	8,094
60"	F2 6356 06000SS000	6,630
72"	F2 6356 07200SS000	5,649
84"	F2 6356 08400SS000	5,010
96"	F2 6250 09600SS000	2,126
	F2 6331 09600SS000	3,510
	F2 6356 09600SS000	4,005
	F2 6418 09600SS000	5,372
	F2 6500 09600SS000	6,825
	F2 6550 09600SS000	7,809
	F2 6600 09600SS000	8,863
108"	F2 4600 09600SS000	10,034
	F2 6356 10800SS000	3,206
	F2 6418 10800SS000	4,431
	F2 6500 10800SS000	6,126
	F2 4500 10800SS000	7,010
120"	F2 4600 10800SS000	9,020
	F2 6356 12000SS000	2,649
	F2 6418 12000SS000	3,643
	F2 6500 12000SS000	5,353
	F2 4500 12000SS000	6,020
144"	F2 4600 12000SS000	8,114
	F2 6356 14400SS000	1,902
	F2 6418 14400SS000	2,596
	F2 6500 14400SS000	3,785
	F2 4500 14400SS000	4,192
	F2 4600 14400SS000	6,369
144"	F2 3600 14400SS000	7,653
	F2 2600 14400SS000	9,010

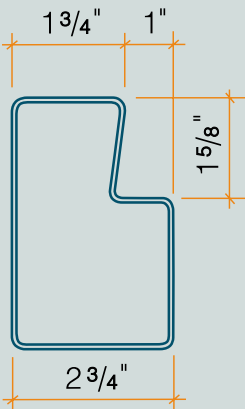
- All capacities are expressed in pounds per pair of beams. Only gravity loading and the RMI required impact have been considered.
- All values are based on a uniformly distributed load (i.e. each beam carries 50% of the load) and assume proper installation and no beam damage.
- The deflection limit for all beams is the length divided by 180.
- Beams that are longer than 150" require crossbars, lateral ties, wire decks or some other type of lateral restraint.
- Values in the table are for beam bending only. Shear on the connectors and weld strengths, etc. are not taken into consideration.
- Capacities include 12.5% impact for two pallets side by side. For a three-pallet-wide shelf, the values should be multiplied by 0.95. For one pallet per shelf the values should be multiplied by 0.90.

PLEASE CONTACT THE UNARCO SPRINGFIELD OFFICE FOR THE FOLLOWING CONDITIONS:

- Beams that are longer than 144"
- Ground acceleration exceeds 0.05g or if Ss exceeds 25%g in IBC areas
- Shelf load in excess of 10,000 lbs.
- Beam application where the proper use of the tables is unclear

pallet rack

- gravity flow
- drive in/drive thru
- cantilever
- retail
- rack safety options
- rack repair - safety



UNARCO rack designs conform to the latest Rack Manufacturers Institute (RMI) specifications and AISC Cold Formed Steel Design Manual using "Load and Resistance Factor Design" (LRFD) method.

Original Sturdi-Bolt and Keystone products may be ordered to add to an existing rack system.





# Structural Rack

Structural racks are designed with high-strength structural steel C-Channels for added toughness and rigidity. UNARCO offers 3" and 4" upright posts with sturdy structural steel bracing. Heavy-duty structural beams range from 3" to 6" in height to meet the most demanding load criteria.

UNARCO also manufactures a 3" structural column with teardrop punching. This allows the addition of interchangeable roll-formed beams as an economic and efficient option.

The high-strength and durability of structural steel combined with UNARCO engineering and design can solve any project dilemma and create a more efficient warehouse space.

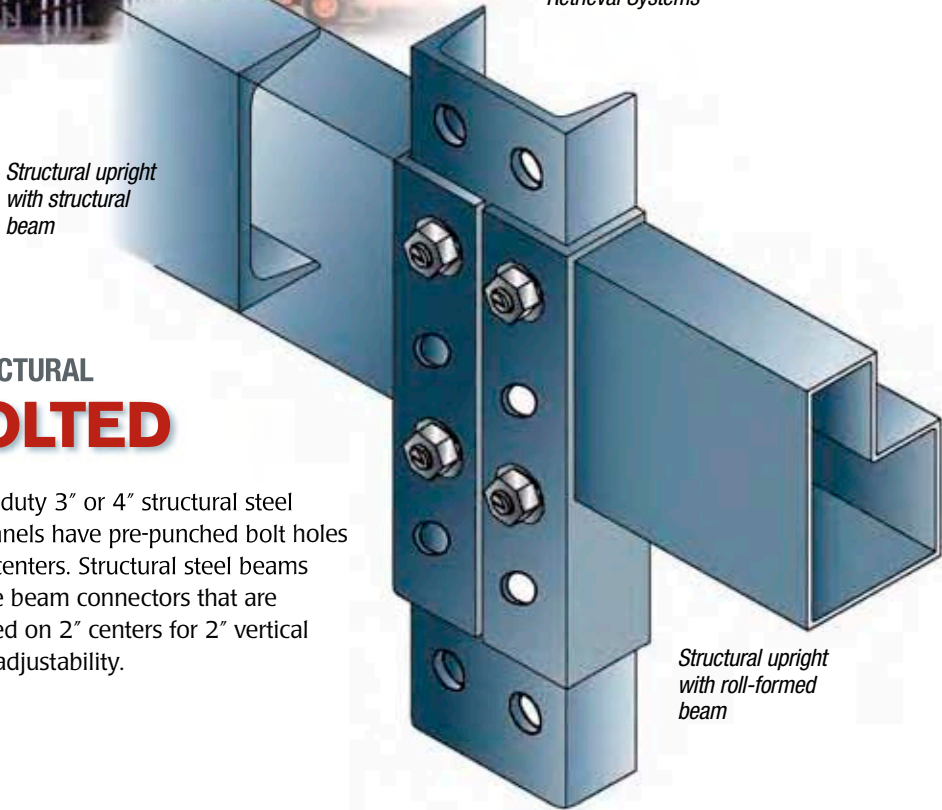


## HIGH-STRENGTH STRUCTURAL STEEL

UNARCO Structural Racks are designed to prevent damage from forklift abuse. The posts are constructed from structural steel and are much thicker than roll-formed posts, particularly at the corners which are the primary impact points.



Automated Storage and Retrieval Systems



### STRUCTURAL BOLTED

Heavy-duty 3" or 4" structural steel C-Channels have pre-punched bolt holes on 4" centers. Structural steel beams include beam connectors that are punched on 2" centers for 2" vertical beam adjustability.

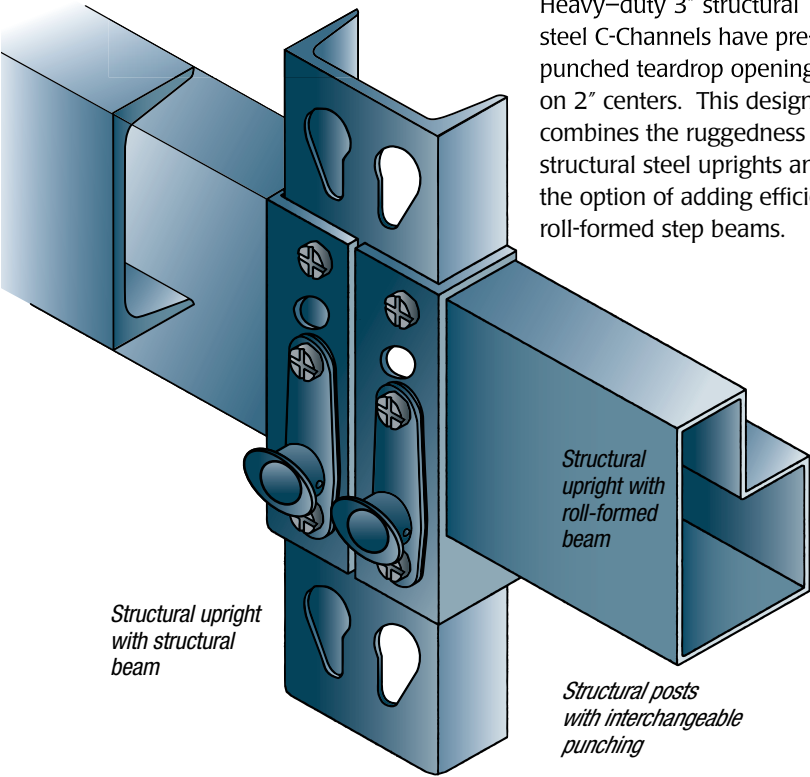
## RIGID EFFICIENT ECONOMICAL

UNARCO Engineering uses the high-strength and durability of structural steel for large projects with heavy loads or highly engineered pick modules.

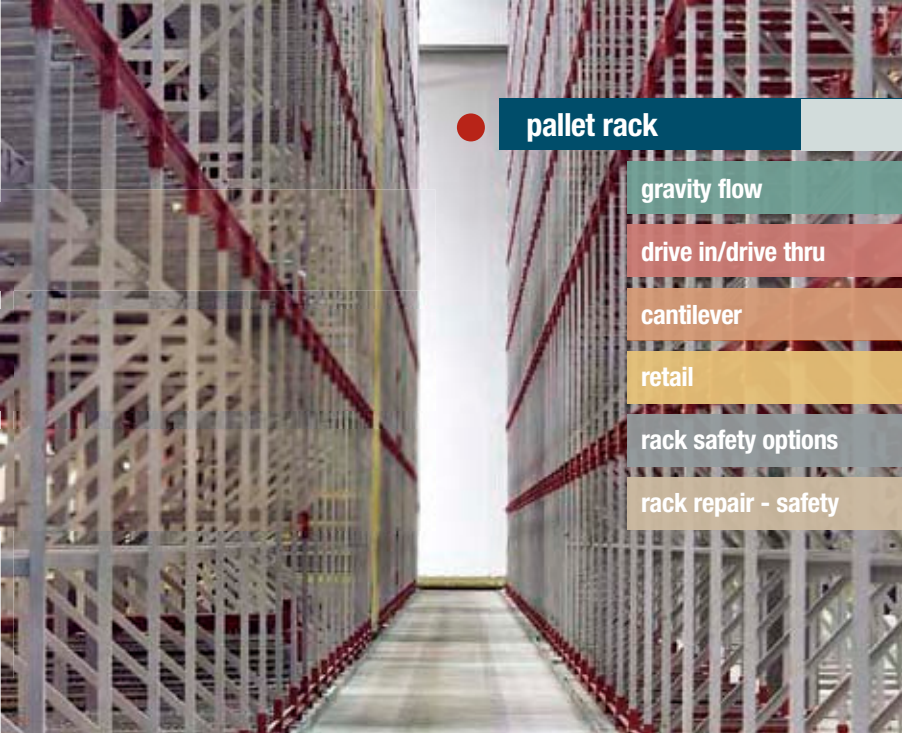
- **Strength**
- **Ductility**
- **Easily Repaired**
- **Abuse Resistant**
- **Heavy-Duty Structural Bracing**

### STRUCTURAL INTERCHANGEABLE

Heavy-duty 3" structural steel C-Channels have pre-punched teardrop openings on 2" centers. This design combines the ruggedness of structural steel uprights and the option of adding efficient roll-formed step beams.



Structural Pallet Rack: See pages 14-15 for structural capacities

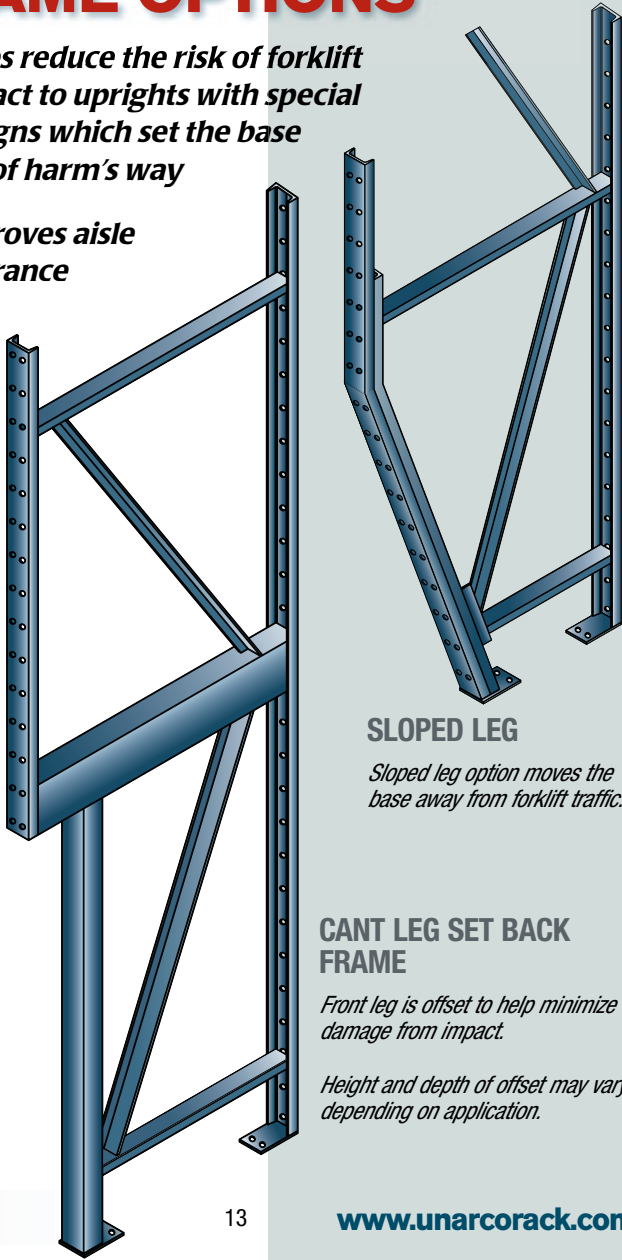


### pallet rack

- gravity flow
- drive in/drive thru
- cantilever
- retail
- rack safety options
- rack repair - safety

## FRAME OPTIONS

- **Helps reduce the risk of forklift impact to uprights with special designs which set the base out of harm's way**
- **Improves aisle clearance**



**SLOPED LEG**  
Sloped leg option moves the base away from forklift traffic.

**CANT LEG SET BACK FRAME**  
Front leg is offset to help minimize damage from impact.  
Height and depth of offset may vary depending on application.



Structural Uprights

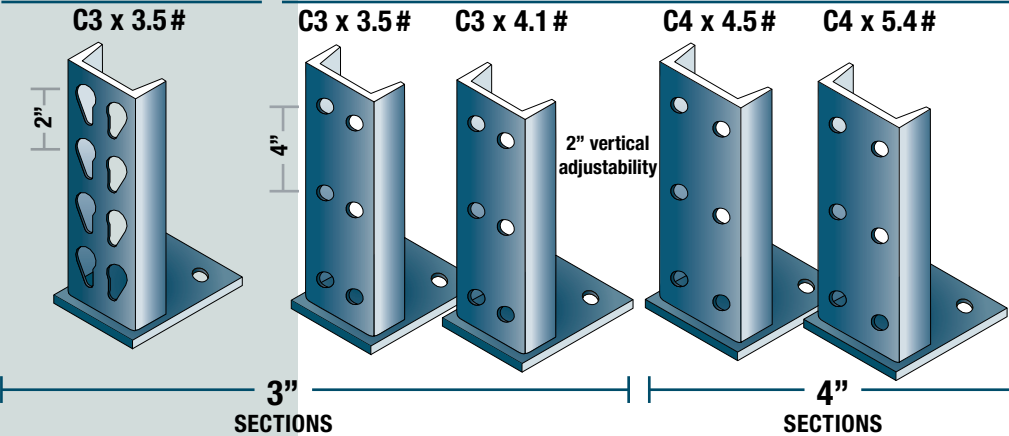
UPRIGHT FRAME SELECTION

STRUCTURAL CHANNEL  
FRAME TABLES BOLTED

COLUMN SIZE	C3 x 3.5#	C3 x 4.1#	C4 x 4.5#	C4 x 5.4#
Shelf Space	40" Pan.	40" Pan.	40" Pan.	40" Pan.
36"	25,987	28,165	41,719	44,516
42"	25,987	28,165	41,719	44516
48"	25,987	28,165	41,719	44,516
54"	25,987	28,165	41,719	44,516
60"	25,987	28,165	41,719	44,516
66"	25,987	28,165	41,719	44,516
72"	25,803	26,480	41,719	44,516
78"	22,611	23,045	41,719	44,516
84"	19,574	19,865	41,676	43,668
90"	17,051	17,305	38,355	39,884
96"	14,986	15,209	35,098	36,200

\* Indicated in pounds.

STRUCTURAL  
INTERCHANGEABLE



All values in the above tables assume that each column carries half of the frame load. The table values are expressed in pounds per frame. These values are based on gravity loading only that is purely axial. Any condition where the axial load is accompanied by moment, the axial load capacity will be less. This will occur for non-symmetrical loading conditions. The capacities also assume that the base plates and the bracing are of adequate strength and that all other parts of the rack have been properly designed. All values are for undamaged racks that are installed plumb. It is the rack user's responsibility to properly maintain the racks to ensure that the carrying capacity of the racks is not reduced by damage and that any changes to the rack configuration do not cause an unsafe condition.

Frame capacities are based on the unsupported length, which is the measurement of the distance between the floor and the top of the first beam or the maximum spacing between beams, whichever governs.

Refer to [www.unarcorack.com](http://www.unarcorack.com) for latest updates to installation instructions, user manuals and safety notices.

Capacities do not take seismic, wind or other lateral forces into consideration.

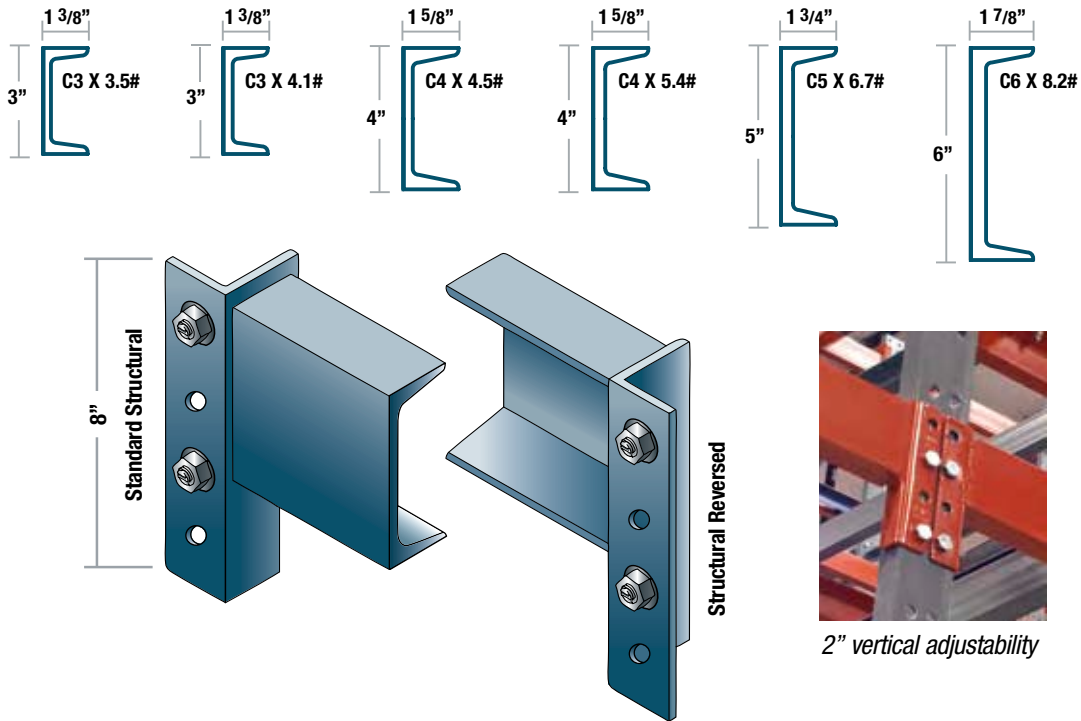
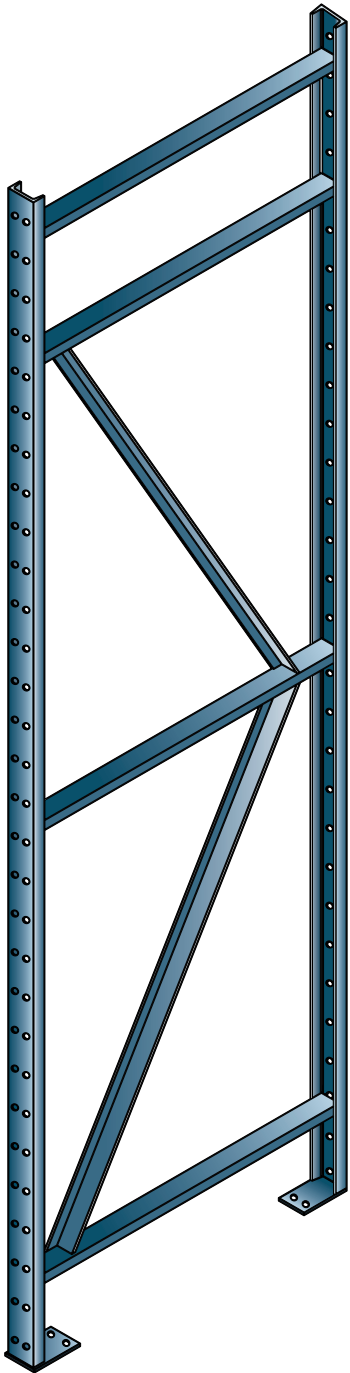
Upright frames have to be anchored with at least one anchor bolt in each post and require a minimum concrete floor strength of 3,000 PSI for the maximum loads.

- CONTACT THE UNARCO SPRINGFIELD OFFICE FOR ANY OF THE FOLLOWING CONDITIONS:**
- Any application where the frame load exceeds 31,000 lbs. These frames may need larger base plates or heavier bracing.
  - Any application that requires seismic design where the design ground acceleration  $S_s$  exceeds 25%g in IBC areas.
  - Configurations that require a frame deeper than 60 inches or higher than 40 feet.
  - Applications that involve support platforms or catwalks or any application other than normal pallet rack.
  - Any single row where the height-to-depth ratio exceeds 6 to 1. These must be checked for anchorage against overturning.
  - Any condition which creates uncertainty as to the proper use of these tables.

Column protection is recommended for uprights subjected to potential column abuse from lift trucks.

STRUCTURAL CHANNEL  
FRAME TABLES TEAR DROP

COLUMN SIZE	C3 x 3.5#
Shelf Space	40" Pan.
36"	25,357
42"	25,357
48"	25,357
54"	25,357
60"	25,357
66"	25,357
72"	25,177
78"	22,063
84"	19,099
90"	16,638
96"	14,623



BEAM CAPACITY CHART (indicated in pounds)

COLUMN SIZE	C3 x 3.5#		C3 x 4.1#		C4 x 4.5#		C4 x 5.4#		C5 x 6.7#		C6 x 8.2#	
	W/O Tie	W/ Tie	W/O Tie	W/ Tie	W/O Tie	W/ Tie	W/O Tie	W/ Tie	W/O Tie	W/ Tie	W/O Tie	W/ Tie
48"	12,593	12,858	13,521	13,632	16,000	16,000	16,000	16,000	16,000	16,000	16,000	16,000
60"	9,602	10,470	10,364	11,100	15,246	16,000	16,000	16,000	16,000	16,000	16,000	16,000
72"	7,577	8,680	8,231	9,057	11,801	14,074	12,917	15,132	16,000	16,000	16,000	16,000
84"	6,106	6,502	6,683	6,777	9,046	11900	10,263	12,802	15,379	16,000	16,000	16,000
90"	5,402	5,716	5,954	5,954	7,865	11,028	9,005	11,868	13,351	16,000	16,000	16,000
96"	4,777	5,068	5,276	5,276	6,904	10,263	7,908	11,048	11,676	16,000	15,871	16,000
102"	4,258	4,527	4,709	4,709	6,112	9,486	7,003	9,947	10,300	15,580	13,941	16,000
108"	3,821	4,070	4,231	4,231	5,451	8,493	6,246	8,903	9,155	14,577	12,344	16,000
114"		3,680		3,824		7,650		8,015		13,678		16,000
120"		3,345		3,473		6,928		7,255		12,867		16,000
126"		3,054		3,169		6,304		6,598		12,133		16,000
132"		2,800		2,903		5,760		6,026		11,163		16,000
138"		2,577		2,669		5,285		5,525		10,222		15,444
144"		2,379		2,463		4,865		5,084		9,395		14,619
150"		2,203		2,279		4,494		4,692		8,663		13,859
156"		2,046		2,114		4,163		4,344		8,012		13,156

- All capacities are expressed in pounds per pair of beams. Only gravity loading and the RMI required impact have been considered.
- All values are based on a uniformly distributed load (i.e. each beam carries 50% of the load) and assume proper installation and no beam damage.
- The deflection limit for all beams is the length divided by 180.
- Beams that are longer than 108" require lateral ties.
- Values in the table are for the beam bending only.
- Please consult Springfield Engineering for any shelf load over 10,000 lbs.
- Capacities include 12.5% impact for two pallets side by side. For a three-pallet-wide shelf, the values should be multiplied by 0.95.
- For one pallet per shelf, the values should be multiplied by 0.90.
- Capacity chart is based on current RMI specifications.

UNARCO rack designs conform to the latest Rack Manufacturers Institute (RMI) specifications and AISI Cold Formed Steel Design Manual using "Load and Resistance Factor Design" (LRFD) Method.

Refer to [www.unarcorack.com](http://www.unarcorack.com) for latest updates to installation instructions, user manuals and safety notices.

pallet rack

gravity flow

drive in/drive thru

cantilever

retail

rack safety options

rack repair - safety



# Carton Flow



All of UNARCO's carton flow systems are gravity driven. Product is loaded from behind onto sloped shelves and easily flows forward to the picking position. UNARCO offers UPICK modular shelves or KPICK welded shelf design; both with snap-in rollers. UNARCO's premium carton flow line, RHINOTRAC, has full-width lay-in roller units.

Separation of the loading, restocking and retrieval aisles allows pickers to operate more efficiently. Carton flow systems can grow into multi-level modules to take full advantage of vertical space and let you maximize your warehouse floor space.

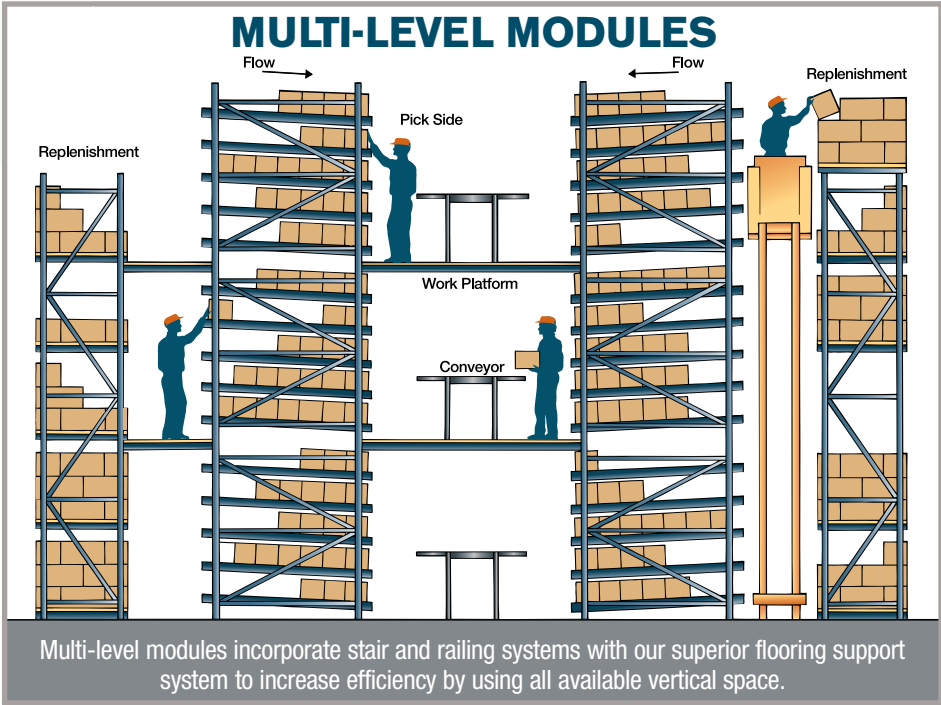


RhinoTrac lanes allow cartons to flow forward to picking position on opposite aisle with full width roller carton support.

RhinoDeck with 1.1" high galvanized steel side channels will drop into any existing carton flow system with no hardware or hanger brackets required.



- **First-in/First-out**
- **Dedicated Stock/ Retrieval Aisles**
- **Split Case Picking**
- **Case/Carton Picking**



- pallet rack
- gravity flow
- drive in/drive thru
- cantilever
- retail
- rack safety options
- rack repair - safety

## OPTIONS



UPICK Snap-In Roller Track Modular/Knock-down Shelves



KPICK Snap-In Roller Track Factory Welded Shelves



RhinoTrac Full-Width Carton Flow Roller

UNARCO manufactures traditional snap-in roller track or full-width lay-in roller units



# RHINOTRAC HEAVY-DUTY CARTON FLOW

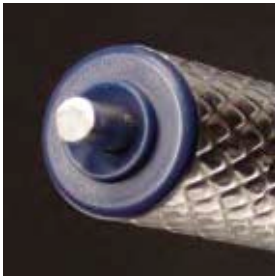


RhinoTrac rests below beam level in the front for maximum storage and a helpful product stop.

- *Compatibility with all pallet rack brands*
- *Easy installation – No hardware required*
- *Damage resistant aluminum rollers*
- *Galvanized side channels supported by heavy-duty end-plates for constant impact loading*

## RHINOTRAC END SUPPORTS

- Integrated supports mean no brackets to install
- Slotted end supports adjust to vary the length and insure proper fit



## STURDY CONSTRUCTION

- .75" diameter aluminum, diamond embossed, damage-resistant rollers
- Superior bushing design with heavy-duty axles
- 2.5" high galvanized steel side channels with .25" diameter carriage bolt tie rods for increased capacity

STANDARD ROLLER WIDTHS:  
6", 9", 12", 15"

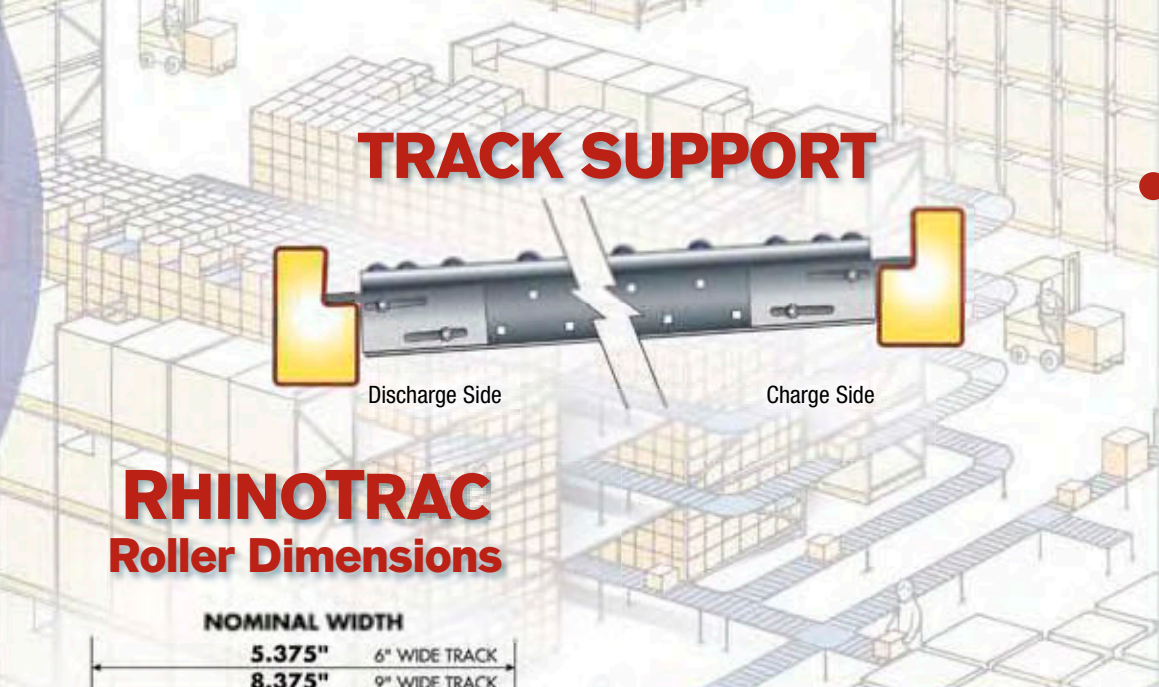
STANDARD ROLLER CENTERS:  
1", 2" and 3" on center



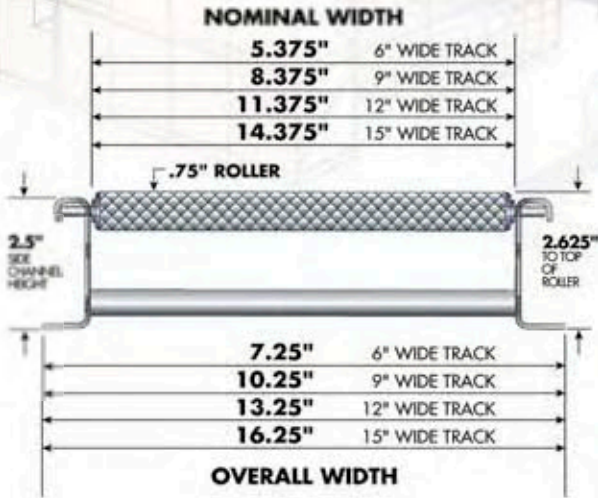
ROLL-FORMED



STRUCTURAL



## RHINOTRAC Roller Dimensions



## OPTIONS



Tilt Tray



Knuckle Shelf



Box Stop



**RHINOTRAC**

[www.rhinotrac.com](http://www.rhinotrac.com)

pallet rack

gravity flow

drive in/drive thru

cantilever

retail

rack safety options

rack repair - safety



# Carton Flow UPICK MODULAR DESIGN COMPONENTS

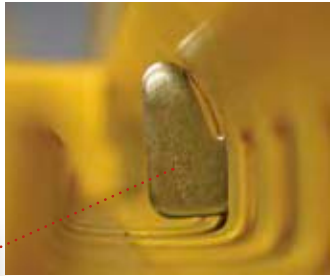
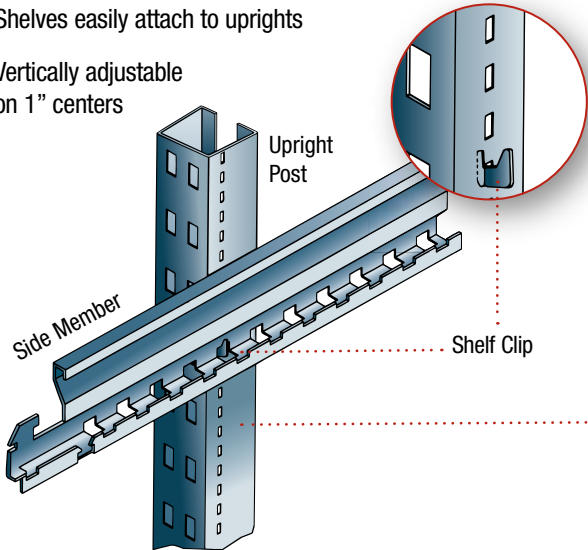


UNARCO's UPICK modular system makes installation of even the most complex modules simple.

- **Modular design for shipping ease**
- **Quick and easy installation**
- **Designed for projects ranging from single-level to multi-level modules**
- **Easily modified as product sizes or capacities change**
- **May be added to existing rack**
- **Easily works around building columns**

## Modular design makes it simple to add shelves or supports

- Shelves easily attach to uprights
- Vertically adjustable on 1" centers



Shelf Clip



UPICK Side Punching

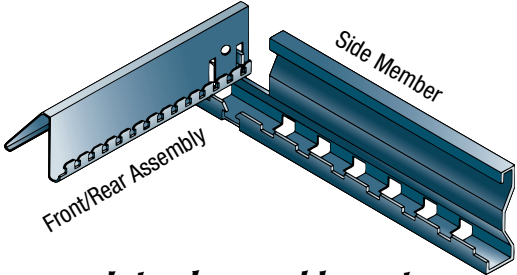
UNARCO also offers W-Strip retrofit add-on for existing uprights with no side punching.



Front/Rear Assembly



## All parts snap together with minimal hardware



## Interchangeable parts make installation and ordering less confusing

- Front and rear assembly are interchangeable
- Side members are not left and right specific



Steel axle track available as an option



Front Tilt Tray tilts cases forward for easier picking and access



Side Profile - Lay-Back Shelves

pallet rack

gravity flow

drive in/drive thru

cantilever

retail

rack safety options

rack repair - safety



# Carton Flow KPICK WELDED SHELF COMPONENTS

UNARCO KPICK is a welded shelf carton flow option which requires no shelf assembly and fits with all Kingway carton flow. Inclined shelves have snap-in roller track to move cartons by gravity from the restocking to the picking side of the system.

A full range of components are available to customize the system to each customer's needs. Standard bays can combine with overhead storage options or mezzanine capabilities for pick module applications.

Customization is easy as load requirements and box sizes change. Assembly is logical and requires no special tools.



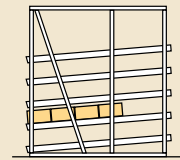
Designed for multiple configurations to optimize space.

- **Welded shelf**
- **Snap-in track**
- **Numbered scales for rapid assembly**
- **Precision slots**



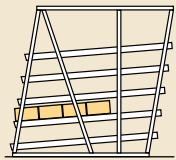
Mult-level systems offer substantial savings in floor space

## Standard Vertical Frame and Shelf Combinations



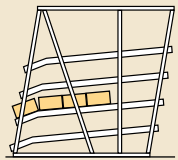
Square front vertical frame with straight shelves.

Full case picking



10° layback vertical frame with straight shelves.

Open case picking when cases vary in size



10° layback vertical frame with carton tilt shelves.

Open case picking with similar size cases



Optional impact deck helps prevent track damage

	60" DEEP BAYS	90" DEEP BAYS	120" DEEP BAYS
STANDARD BAY			
WITH PALLET BARS			
WITH OVERHEAD STORAGE RACK			

180" AND 240" DEPTHS ARE ALSO AVAILABLE

pallet rack

gravity flow

drive in/drive thru

cantilever

retail

rack safety options

rack repair - safety



Numbered scales for rapid assembly

### Shelf Hanger Clip

Unique clip fits into a single slot to attach the pre-assembled, welded shelf. No tools are required.



Snap-in track

### Roller Track

Allows movement at the lowest slope angle to maximize space utilization.

### Available Option

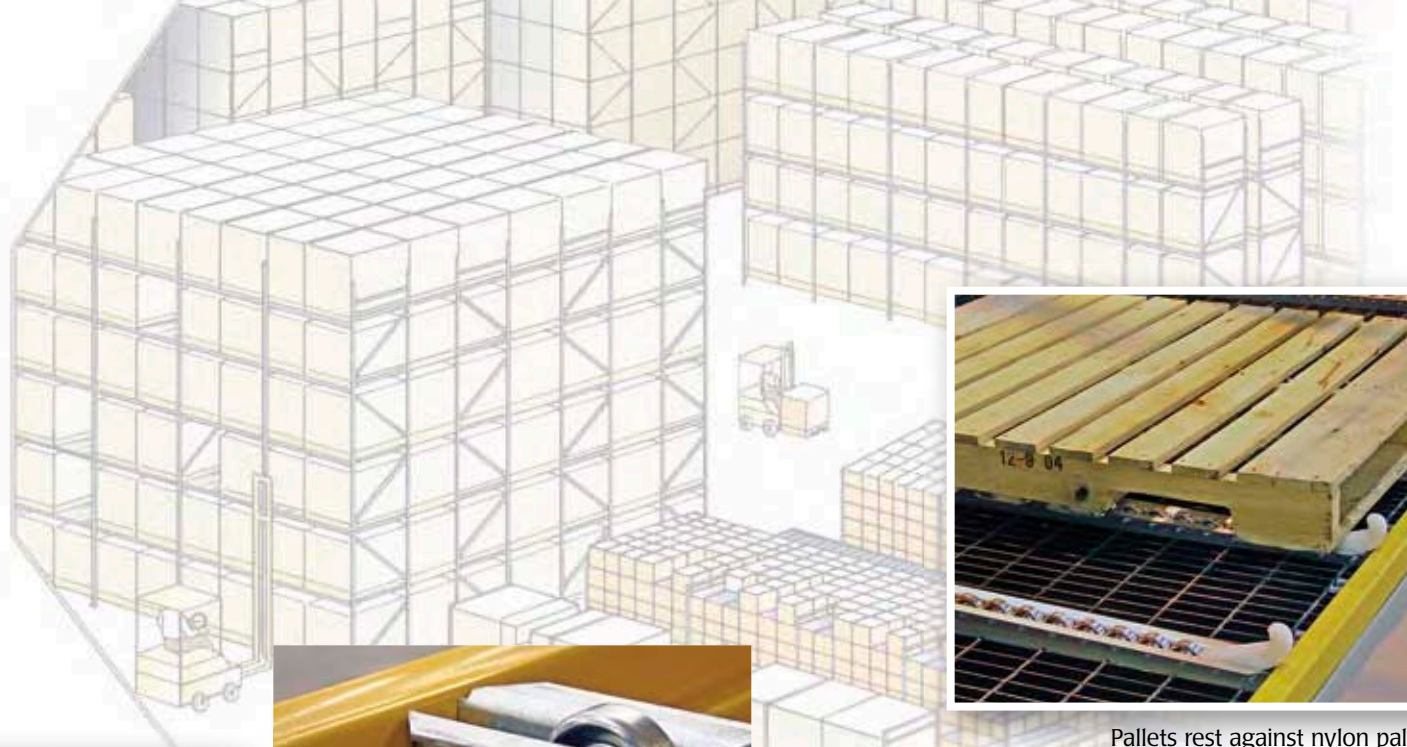
Numbered scales on shelf fronts for easy track location and lane profiling



# Pallet Flow

UNARCO's Pallet Flow system is also driven by gravity. It is perfect for fast-moving product with first-in/first-out stock rotation.

Heavy-duty skate wheels on sloped shelves let palletized loads flow forward for picking. The high-density storage utilizes warehouse space with fewer aisles.



Poly-wheel deep lane pallet flow is available in single or staggered wheel configurations to fit any load. Pneumatic brakes control pallet speed



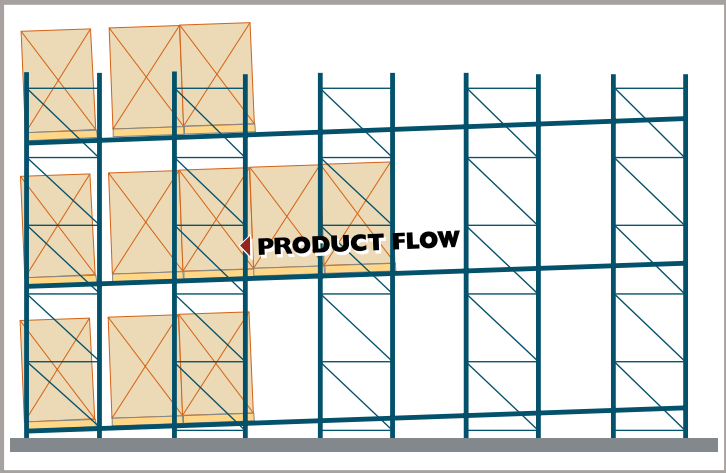
Pallets rest against nylon pallet stop  
Optional steel pallet stops available



Pallet flow rails are notched to rest on the step of the beam for a lower profile that protects ends of flow rail



## PALLET FLOW

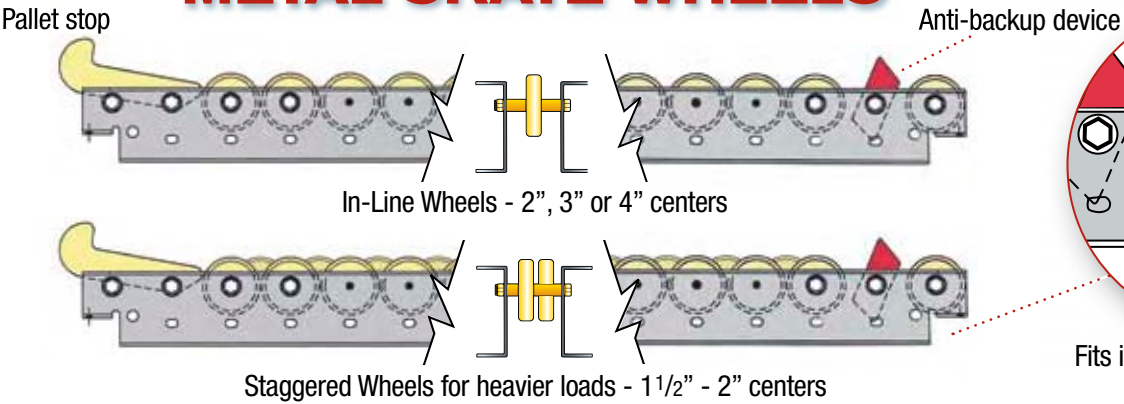


**DEEP LANE PALLET FLOW**  
Store as many as 20 pallets deep with the use of electro-mechanical or pneumatic speed braking systems

- Full case picking
- Dense storage with minimal aisles
- Able to accommodate full pallet loads
- Heavy-duty skate wheels provide excellent rolling surface for loads to flow



## METAL SKATE WHEELS



Pallet Flow used in pick module application



- pallet rack
- gravity flow
- drive in/drive thru
- cantilever
- retail
- rack safety options
- rack repair - safety



# Push Back

Push Back systems work by putting pallet loads on a series of nesting carts. As a pallet is loaded from the front, it pushes the pallet behind it back one position. When it is time to unload (LIFO), the front pallet is removed and the rear pallets come forward to the front picking position, automatically.

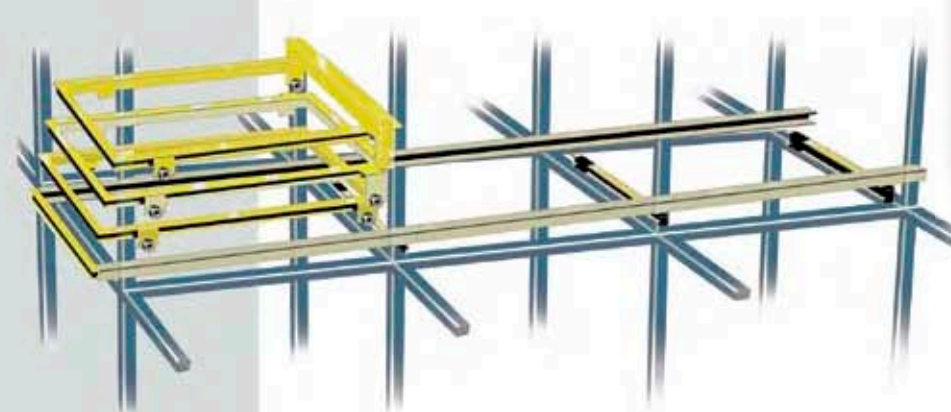


## Available in Structural Steel or Roll-Formed designs

- Available in 2, 3, 4, 5 and 6 deep configurations
- Lift truck drivers never enter the rack
- Nesting carts require minimal vertical space
- Product loads are always in picking position
- No special pallets are required
- Suitable for coolers and freezers with temperatures as low as -30° F



Product loads flow automatically to front picking position.



Carts nest together and pallet is loaded onto top cart. The final pallet rests on rails and allows all pallets from behind to come forward when pallet is removed.



Side view of nesting carts beneath pallet.



2-deep system



Carts flow automatically on four sealed wheels



Strong structural sides and rails

## The Benefits of a Push Back System

- Better floor space utilization
- Front loading only
- Automatic pallet placement to front position
- Versatile - more pick faces



STANDARD PALLET RACK



3-DEEP PUSH BACK SYSTEM



6-DEEP PUSH BACK SYSTEM

pallet rack

gravity flow

drive in/drive thru

cantilever

retail

rack safety options

rack repair - safety



# Drive-In

Pallets are placed on rails that run the depth of the rack. Drivers then enter the rack to remove pallets. Drive-in is perfect for high-density storage with minimal space devoted to aisles.

**Drive-In: Load and retrieve from same side (LIFO)**



## Drive-In and Drive-Thru ROLL-FORMED OR STRUCTURAL

- Used for high-density pallet storage
- Depth of systems reduces the need for aisles and increases space utilization
- Specifically for uniform pallet loads
- Easy to assemble
- Cost effective

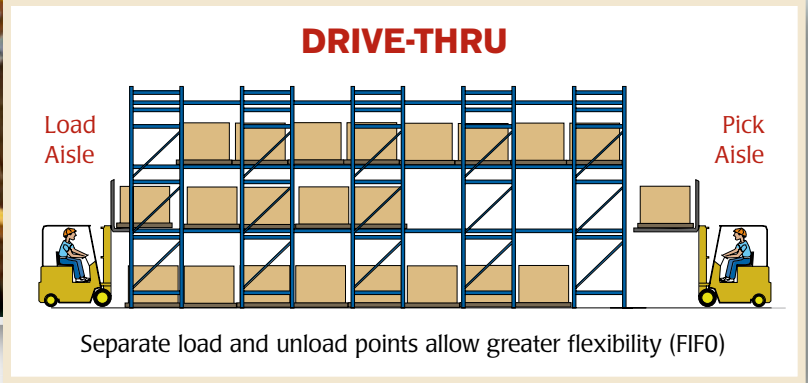
# Drive-Thru

As with Drive-In, pallets are placed on rails that run the depth of the rack. Drive-Thru, however, allows drivers to load from one side and unload from the other with an added aisle on the opposite end. This system creates First-In/First-Out (FIFO) inventory management.

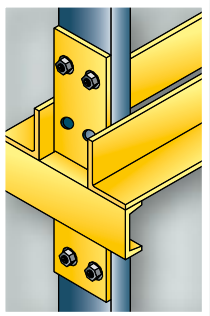
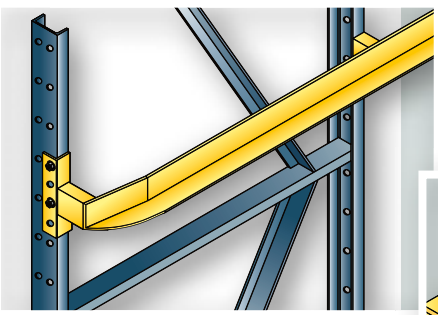
**Drive-Thru: Load from one aisle, retrieve from separate aisle (FIFO)**



Sloped leg structural upright option



## STRUCTURAL



Drive-In Rail with Space Saver Arm for easier placement of pallets (shown with rounded and flared entry rail)

Straight entry rail option for structural

Typical entry view



Z-Rail support system option



Structural angle rail option

pallet rack

gravity flow

drive in/drive thru

cantilever

retail

rack safety options

rack repair - safety





# Cantilever

UNARCO Premium Cantilever is the perfect storage solution for elongated materials and tough storage applications. The system allows complete accessibility from the front with no horizontal obstructions. The entire length of the rack may be used for storage and easy order picking.

Flexible systems allow loads of varying length to be stored on the same rack and columns are pre-punched to easily convert from single-sided to double-sided applications. The Key Wedge connector allows arms to be moved easily as load requirements change.

## Ideal for:

- Pipe and Tubing
- Lumber & Plywood
- Building Materials
- Furniture
- Sheet Steel
- Conduit
- Extrusions



## ROLL-FORMED

### Flexible Design

- **Single-sided or double-sided storage**
- **Columns up to 48 feet**
- **3" vertical adjustability**
- **Tapered arms**
- **Heavy-gauge welded brace panels**

Full access to stored material with no obstructions

### Easy Installation:

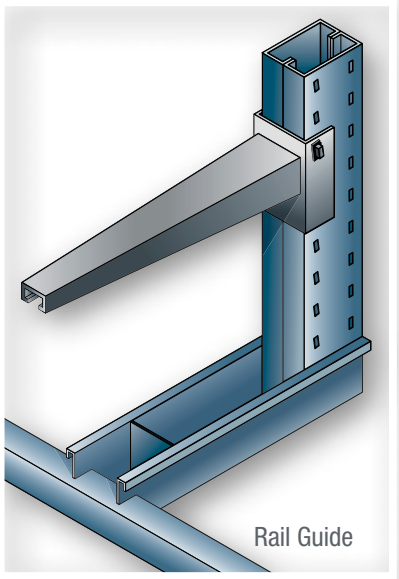
Welded one-piece column and base systems make assembly a snap. Cantilever arms lock into the down position and are raised into place as a single unit.



Tapered columns prevent arms from protruding into the aisles under maximum load deflection.

### Slotted Base Design

The slotted base design notches around rail systems to maximize aisle width and help operators move lift trucks safely through narrow aisles.



### Tapered Arms

Improved vertical load clearance



### Key-Wedge Pin

Positive-locking rectangular pin allows a fast-track installation and a larger bearing area than round pins or bolts.

## SINGLE OR DOUBLE-SIDED STORAGE

### Flexibility

Columns are pre-punched on both sides to allow conversion from single-sided unit to double-sided unit.



### Custom Storage Accessories

Optional material trays can hold bar and cylindrical stock.



### Lumber Yard

Convert your lumber yard into a covered showroom with UNARCO's canopy arms.

pallet rack

gravity flow

drive in/drive thru

cantilever

retail

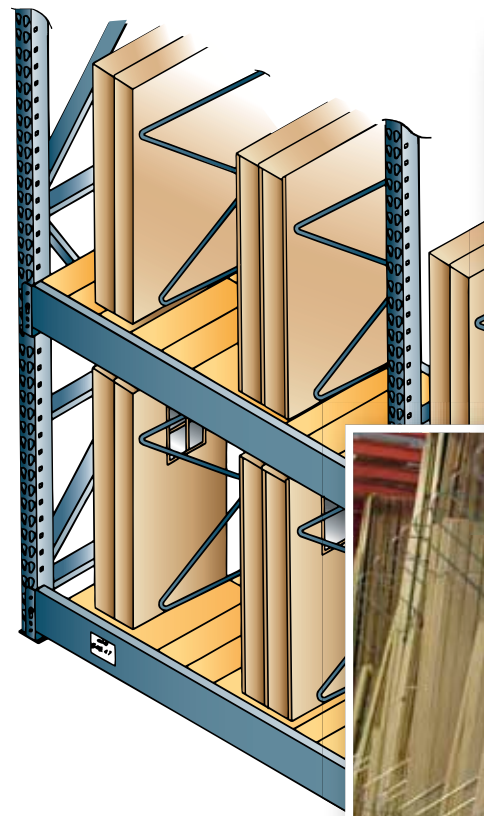
rack safety options

rack repair - safety



# Retail

UNARCO has been supplying retail for many years, not only on the distribution center side but also on the sales floors of home centers and warehouse style stores. Our store fixtures are versatile and space saving to feature your product with maximum room for the stock levels that you need. Inventive designs lead to simple installation and allow for flexibility as your product changes.



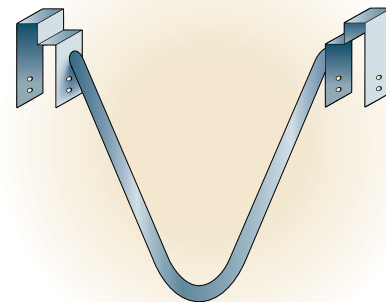
Separate wooden boards stored vertically



Separate pipe or tubing stored vertically

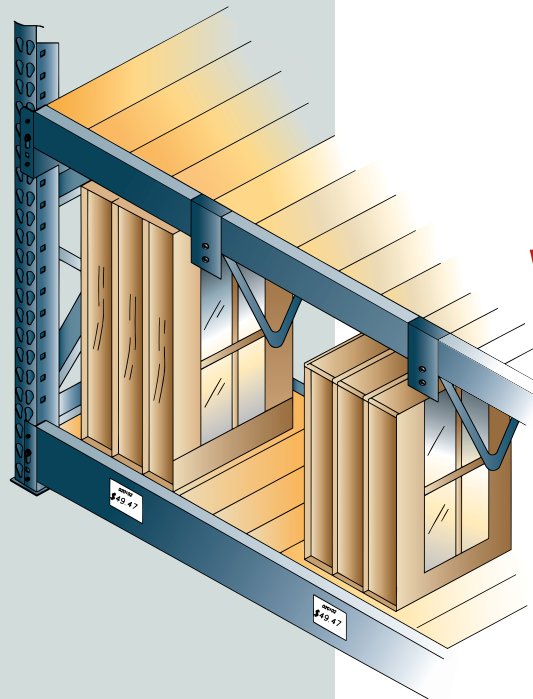
## M-DIVIDERS

- Attach to rear beams
- Available up to 72" tall
- Light-duty: 3/8" wire
- Medium-duty: 1" tubing
- Heavy-duty: 2" tubing



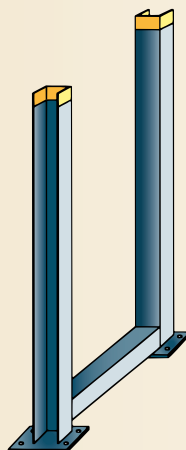
## V-DIVIDERS

- Hang down to separate tall product
- No additional rear beams required
- Sturdy 1" tubing
- Brackets molded to beam shape to allow for decking above



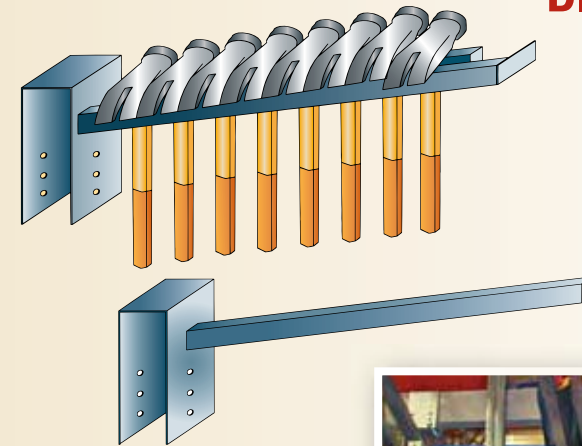
## LUMBER CRADLE

- Keeps lumber in orderly stacks
- Two separate units to contain any length product
- Customers able to pick product without worry of stacks falling



## TOOL HOLDERS AND DIVIDER ARMS

- Single arm
- Double arm
- Available with price signage plate



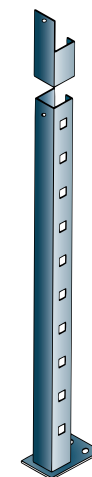
Divider Arms separate vertically stored product.

Double-Arm tool holders provide support and organization for both long and short handled tools.

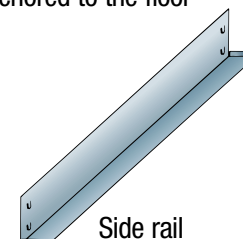


## VERTICAL POST SYSTEM

- For maximum storage versatility within a bay when carton sizes are not uniform
- Can be added to existing rack
- Displays merchandise variety without adding a beam level



Vertical posts may be mounted to the beam below or anchored to the floor

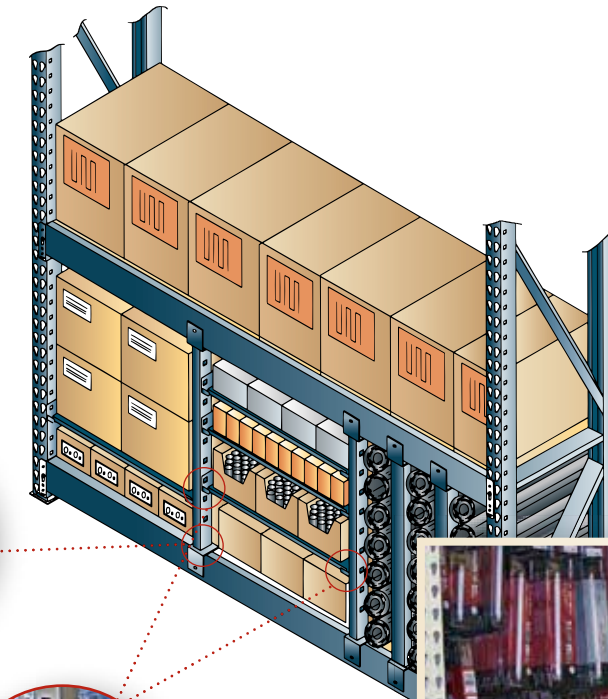


Side rail



A pair of side support rails with snap-in tabs make a shelf

Plywood or other decking surface rests on either side



pallet rack

gravity flow

drive in/drive thru

cantilever

Retail

rack safety options

rack repair - safety

- **M-Dividers**
- **V-Dividers**
- **Lumber Cradles**
- **Tool Holders**
- **Divider Arms**
- **Vertical Post Systems**



UNARCO



# Upright Rack Safety Options

## STRUCTURAL DURABILITY OPTIONS

13

STRADDLE PROTECTOR  
(welded)

7

ANGLED COLUMN PROTECTOR  
(welded)

12

REINFORCED POST WITH SLOPED DEBRIS CAP  
(welded)

10

DOUBLE COLUMN  
(welded)

1

LATERAL TIE

2

STRUCTURAL CROSSBAR

STRUCTURAL INTERCHANGEABLE

4

5

6

7

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12

13

14

15

16

17

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17

STANDARD STRUCTURAL

1. Lateral Tie

2. Structural Crossbar

3. Overlap Crossbar\*

4. Drop-In Crossbar\*

5. Roll-Formed Beam\*

6. Structural Beam

7. Angled Column Protector

8. Heavy-Duty Horizontal

9. Seismic Base Plate

10. Double Column

11. Anchored Column Protector

12. Reinforced Post/Debris Cap

13. Straddle Protector

14. Bolt-On End Of Aisle Guard

15. Anchored End Of Aisle Guard

16. Wall Tie

17. Row Spacer

\* Accessories for use with structural interchangeable uprights and roll-formed beams.

# ROLL-FORMED DURABILITY OPTIONS

10

DOUBLE COLUMN

- Two posts welded together help protect against damage

13

WOOD-FILLED UPRIGHTS

- UNARCO's patented design lets the wood absorb the shock of impact and limits damage to column

11

FRONT STRADDLE PROTECTOR ADD ON

- Welded to uprights during manufacturing
- Protects upright from damage
- Durable 1/4" thick steel

11

COLUMN PROTECTORS

- Provides impact resistance
- Available in 2 designs:
  - Anchored to floor: for designs with no side punching
  - Bolted to upright: for interchangeable rack with side punching
- Available in 12", 18" or 24" high
- Fits around standard 3-1/4" base plate

ANCHORED

BOLT-ON

## Rack Hardware

### CROSSBARS

- Overlap crossbars provide pallet support
- Pre-galvanized (not painted)
- Available in a variety of gauges depending on required capacity

### BACK CONNECTORS

- Available in 6", 8", 10", 12", 18"
- Pre-galvanized (not painted)
- Includes (2) T-Bolts and Whiz nuts

### SHIM PLATES

- All rack on unlevelled floors should be leveled with shims

Available in multiple sizes and thickness

pallet rack

gravity flow

drive in/drive thru

cantilever

retail

rack safety options

rack repair - safety

WEATHER RESISTANT

Hot dipped galvanized finish available on any pallet rack order for freezer or outdoor usage

UNARCO

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www.unarcorack.com



# Upright Rack Repair



**SLOPED LEG**  
Bolt-on sloped leg option gets the upright out of the forklift traffic path to prevent repetitive damage.



**STRAIGHT LEG**  
Roll-formed option on straight leg allows beams to be inserted at lower repaired levels.



Welded option available for uprights with no side holes

## RACK SAFETY

Trained technicians can install bolt-on options to fix low-level damage with specially designed repair kits.

- IN MOST CASES NO WELDING IS REQUIRED
- INSTALLS EASILY INTO EXISTING RACK OF MOST MANUFACTURERS
- AVAILABLE IN STRUCTURAL CHANNEL OR TUBULAR ROLL-FORMED VERSIONS

### SAFETY

MINIMAL FACILITY INTERRUPTION  
REDUCE MAINTENANCE COSTS

Before attempting to repair damaged rack and to insure rack capacities are adequate, please consult UNARCO Engineering in Springfield.

Rack repair kits should only be installed by trained personnel.

*Let UNARCO set up a scheduled inspection and maintenance program to help insure the safety of your warehouse.*

## UNARCO Standard Colors

High-quality powder coated finishes for durability and rust resistance



Contact a UNARCO representative for special finish requests.  
Hot-dipped galvanized finish also available.