Product Support Guide

Selective Rack

Roll Formed Beams and Frames

interlake

Selective Roll Formed Beams and Frames

Welded Frames

Roll Formed Beams

GENERAL INFORMATION

This support guide covers technical information for Selective Roll Formed Beams and Frames. Selective Roll Formed Beams and Frames are a very cost-effective design solution for medium-heavy loads.

The tear drop design, in tandem with our patented piston lock end plates, allow for a simple, secure and very quick installation. As beams do not require bolts to connect to uprights, the beam elevations can be modified as product changes - allowing for a very versatile design without the need of reordering material.

Interlake Mecalux storage systems are designed in compliance with the 2012 edition of the Specification for the Design, Testing and Utilization of Industrial Steel Storage Rack published by the Rack Manufacturers Institute (RMI). This specification has been adopted by the American National Standards Institute (ANSI-MH16.1) as a national standard and is referenced by the 2006 International Building Code (IBC). Our designs also comply with the 2007 American Iron and Steel Institute s (AISI) North American Specification for the Design of Cold-Formed Steel Structural Members. In addition, the Mecalux Group follows the standards set forth by IAS (International Accreditation Service), the City of Los Angeles, the City of Phoenix and Clark County.

Interlake Mecalux frames and accessories are manufactured and distributed from our plants located at:

701 Interlake Drive
Pontiac, IL 61764

1600 N. 25th Avenue
Melrose Park, IL 60160

Blvd. Bellas Artes 9001
22444 Tijuana, B.C.
Mexico

Las Rusias 2700,
Industrial del Norte
Matamoros Tamaulipas,
Matamoros 87316

ISO 9001:2000 certified, ISO 9001:2000 certified Matamoros, Mexico 87310 and Tijuana, Mexico 22444.

Commonly ordered products are available from our Interlake Mecalux Quick Ship Program from our distribution centers:

701 Interlake Drive
Pontiac, IL 61764

12301 N Stemmons Fwy
Suite # 110
Farmers Branch,
TX 75234

8607 Ave de la Fuente
San Diego, CA 92154

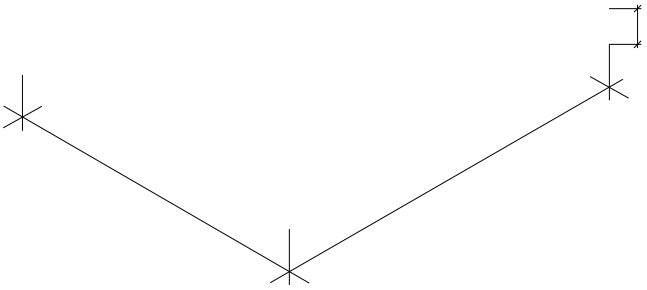
1600 N. 25th Avenue
Melrose Park, IL 60160

GENERAL DESIGN CONSIDERATIONS

Pallets are flat transport structures that support goods in a stable fashion while being lifted by a forklift. They supply the structural foundation of the unit load and as such are an important consideration for the design of any warehouse.

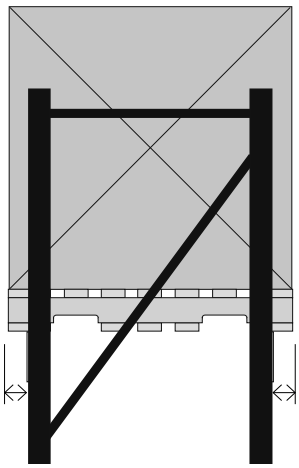
Interlake Mecalux products are optimized to the dimensions of the standard pallet used in the U.S., the Grocery Manufacturers Association or GMA pallet.

GMA Pallet

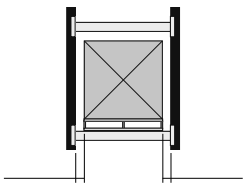


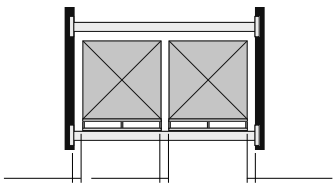
In any design, it is important to consider the vertical clearances required to successfully lift the load and pallet off the rack using a forklift or pallet jack. As an industry standard, the distance from the top of the pallet load overhead is 4" to 6".

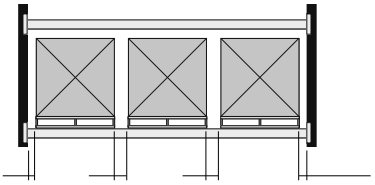
The pallet must extend 3" beyond the frame depth on either side to ensure proper pallet support.

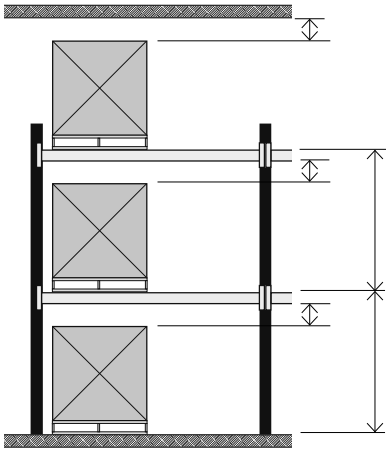


Each pallet should be positioned 3" or 4" from any adjacent post or pallet, unless the bay has a 3" pallet width. In this case, a 5" clearance should be provided between pallets and 4" between post and pallet.







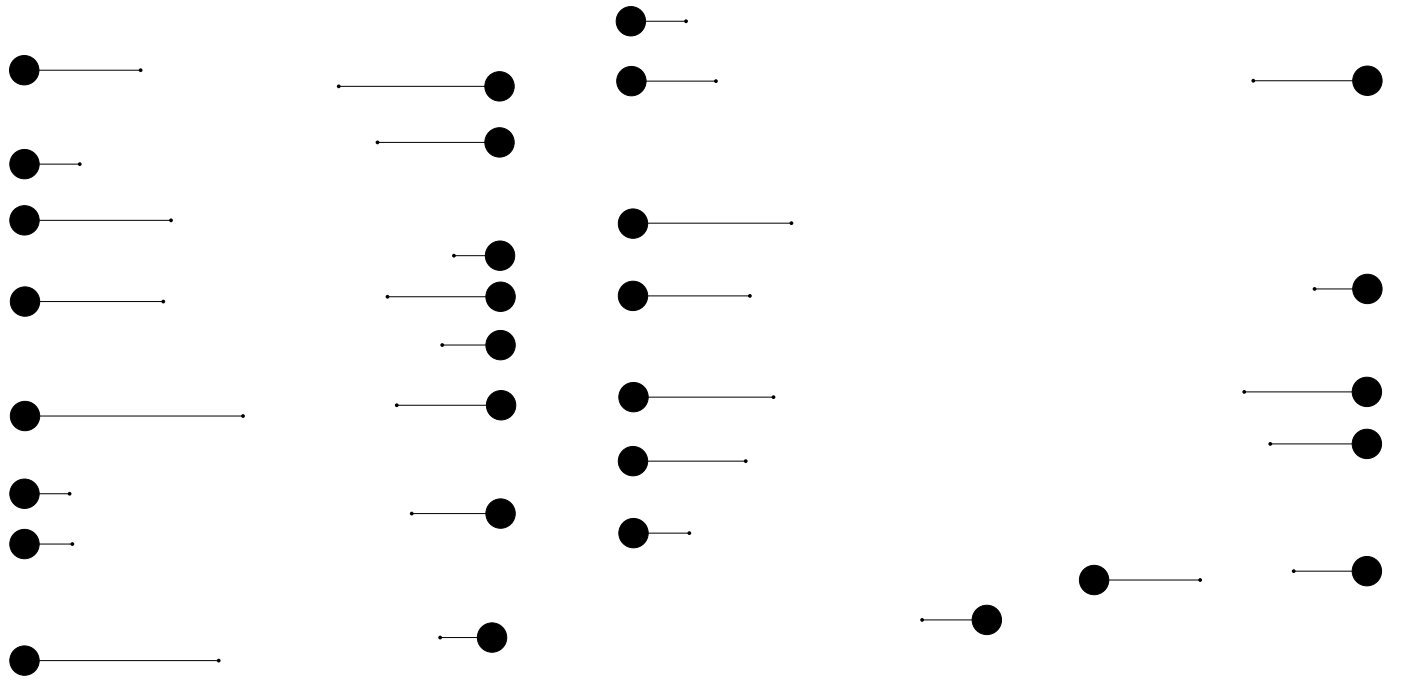


SELECTIVE ROLL FORMED BEAMS AND FRAMES

Selective rack is the most common type of storage solution found across the United States. It is a static system combining beams and frames to provide proper storage for pallets and other large items. Selective rack also comes with a variety of accessories and options, which are detailed in this guide.

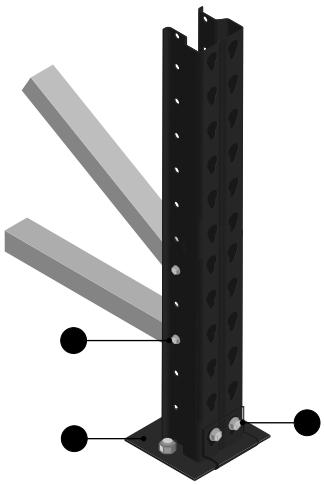
Frames are the vertical elements of the racks. They are rectangular in shape and come in a variety of heights, widths and depths depending on the load being stored and the model of frame being used. A standard frame consists of two posts connected by a series of horizontal and diagonal struts and includes a foot plate welded or bolted to the bottom of each post.

Beams are the horizontal elements of the system and are typically orange. Interlake Mecalux offers several different sizes and profiles of beams with varying capacities to fit the needs of the customer and the items being stored. Pallets are placed directly on the beams. Special accessories can be added to help support loads or store specialty loads such as drum coils.



BOLTED ROLL FORMED FRAMES

Bolted selective frames are available in a standard cataphoresis blue (RAL-5003) finish and adhere to RMI 2012 standards. Foot plates and bracing are bolted into place. In special cases, foot plates may be welded using a 1/8" (0.125") fillet weld. Please note that Interlake Mecalux Bolted and Welded frames have updated strutting patterns.



A. Post (315, 314, 313, 312, 101, 102, 122, UA10)

B. Foot Plate U (077/080, 3P, 100, 120 model) or
Foot Plate J U and FJ U (3P, 100 and 120 model) or
Foot Plate M U and FM U (3P, 100 and 120 model) or
Foot Plate PP and PP 8X8 or
Foot Plate UA10 / FUA10 (UA10 model).

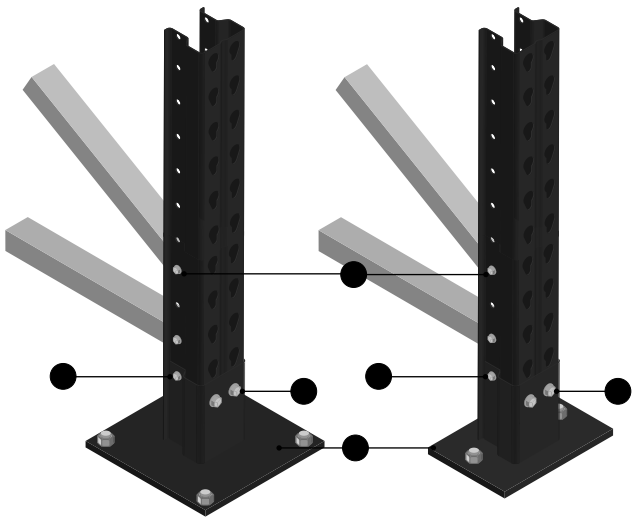
C. Horizontal Strut (U C456G, U C715G, U C915G or U C502G)

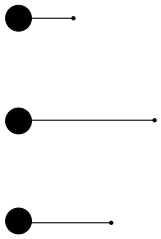
D. Diagonal Strut (U C456G, U C715G, U C915G or U C502G)

E. Bolts W 5/16 x 2 3/8" D931 G5 B TE1A (T0201564 - 315, 314 and 312)
Bolts W 5/16 x 3 7/16" D931 G5 B TE1A (T0029094 - 101 and 102)
Bolts W 5/16 x 4 7/32" D931 G5 B TE1A (T0029095 - 5122)
Bolts W 5/16 x 2 5/8" D931 G5 B TE1A (T0029080 - UA10)

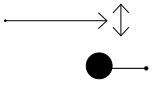
F. 2 Washer Cups - Foot Plate TD U (T0043168)
2 Bolts W 3/8 x 1" D933 G5 B TE1A (T0029082)

G. 1 Bolt W 5/16 X 2 3/4" D931 G5 B TE1A (T0029098 - 314 and 312)
1 Bolt W 5/16 X 3 3/4" D931 G5 B TE1A (T0203315 - 101 and 102)
1 Bolt W 5/16 X 4 3/4" D931 G5 B TE1A (T0203317 - 5122)
2 Bolts W 5/16 X 3" D931 G5 B TE1A (T0208041 - UA10) +
2 Bolts W 3/8 X 3 3/4" D931 G5 B TE1A (T0208042 - UA10)





The front of the frame is located where the first two struts are adjacent to each other.



Standard frames are manufactured in even 12" increments for height and 2" increments for depth. Custom options are available at 2" increments for height. For more details, contact your Interlake Mecalux representative.

Standard depths: 36", 42" and 48".

Available in a standard cataphoresis blue (RAL-5003) or green (RAL-6033) finish.

Assembled frames available through KI-FR parts.

Special frame sizes available upon request.

KI-FR.2.312 G BJ 24' X 42"

- KI = Kit (Frame ships assembled, If KI does not appear, frame Is shipped loose / knock down)
- Frame
- 2022 Strut Pattern
- Post width and frame model
  - 315 = 2.98" wide 15 GA
  - 314 = 3.00" wide 14 GA
  - 313 = 3.03" wide 13 GA
  - 312 = 3.06" wide 12 GA
  - 101 = 3.97" wide 13 GA
  - 102 = 4.01" wide 12 GA
  - 122 = 4.80" wide 12 GA
- G = Galvanized Struts
  Nothing = Painted Struts (same as post color)
- Foot Plate Model: J, M or PP
- Frame Height (ft)
- Frame Depth (in)

I2312G28842NJ00000

- I = Kit, T = Knock Down
- 2 = 2022 Strut Pattern
- Column Model: 315, 314, 313, 312, 101, 102 or 122
- G = Galvanized Strut
- Frame Height (in)
- Frame Depth (in)
- Post Color: N = Blue, G = Green
- Foot Plate: 0 = Std, J , M, PP or PP 8 X 8
- 0 = Standard or 2 = Flush Foot Plate
- 0 = Selective or 1 = Drive-in strutting
- Reinforcement Height

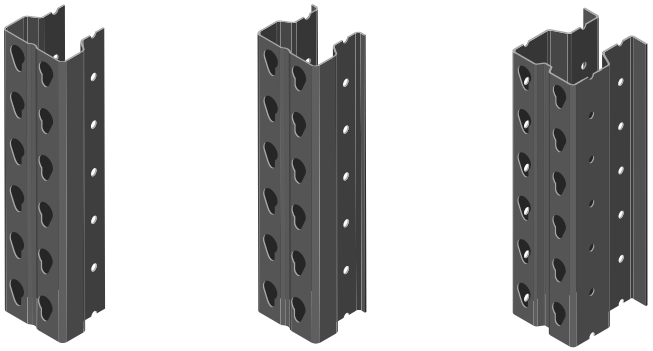
Bolted Frame Capacities (lbs)

	Model	2.315	2.314		2.313		2.312		2.101	2.102	2.122	UA10
	Gauge	15 GA (0.067")	14 GA (0.075")		13 GA (0.090")		12 GA (0.105")		13 GA (0.090")	12 GA (0.105")	12 GA (0.105")	12 GA (0.105")
	Height	5' - 16'	21'	> 21'	21'	> 21'	21'	> 21'				
Maximum Unsupported Span (HbL)				25,847		31,133		36,322				
				23,924		28,900		33,717				
				21,832		26,286		30,667				
				19,680		23,778		27,742				
				17,563		21,166		24,694				
				15,400		18,755		21,881				
				13,535		16,392		19,125				
				11,571		14,104		16,455				
	84"	7,493	9,758	10,075	11,892	12,291	13,875	14,340	22,800	27,000	36,700	46,900
				8,848		10,705		12,490				
	96"	5,722	7,597	7,795	9,174	9,414	10,703	10,984	18,300	21,700	31,500	37,200
				6,918		8,435		9,841				
	108"	4,619	6,086	6,216	7,368	7,527	8,596	8,782	14,600	17,200	26,500	29,600
				5,601		6,690		7,805				
	120"	3,732	4,989	5,074	5,979	6,087	6,976	7,102	11,900	14,000	21,800	24,000

BOLTED FRAMES - GENERAL INFORMATION

Bolted Frames for Selective Pallet Rack Dimensions			
	FR. 2.315 G	FR.2.314 G, FR.2.312 G, FR.2.313 G FR. 2.101 G, FR.2.102 G, FR.2.122 G, TD UA10	Standard Intervals

Bolted Frames With Standard Components (Selective Pallet Rack)							
Frame	Frame Family	Post	Post Familiy	Heavy Foot Plate	Hardware for Foot Plate Connection	Strut	Hardware For Strut To Post Connection
FR.2.315 G	BU315G	TD U315	PU315TD	U077/080 T0052501 (galvanized)	2 Washer Cup - Foot Pate TD U (T0043168) + 2 Bolts W 3/8 X 1" D933 G5 B TE1A (T0029082)	U C456G	BOLTS W 5/16 X 2 3/8" D931 G5 B TE1A (T0201564)
FR.2.313 G	B2313G	TD U313					
			PU101TD	U100 T0029078 (blue)			
						U C915G	BOLTS W 5/16 X 4 7/32" D931 G5 B TE1A (T0029095)



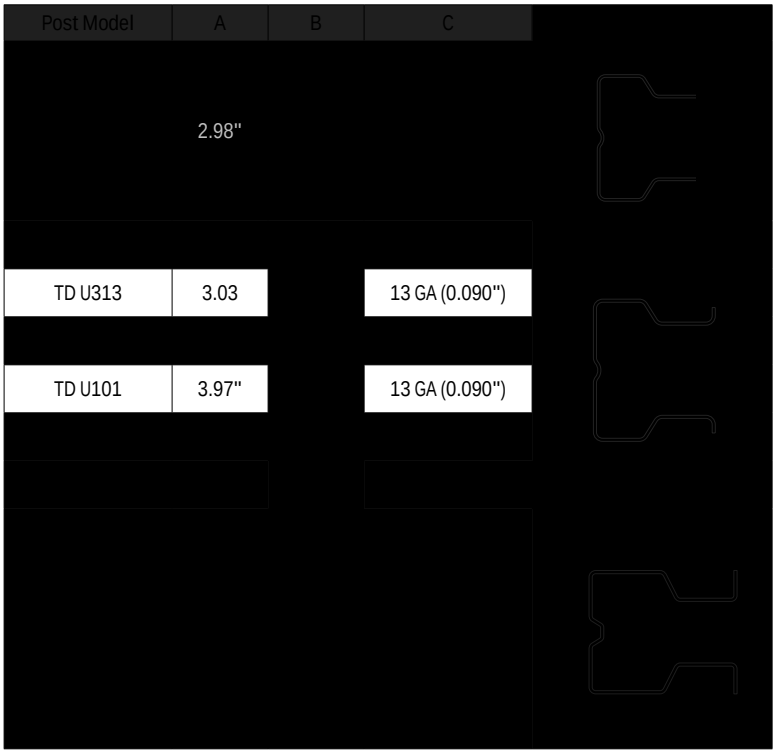
Post profiles are available in various sizes. Each profile has 7 to 9 bends, depending on the model. Post profiles have perforations every 2" on the face and the sides.

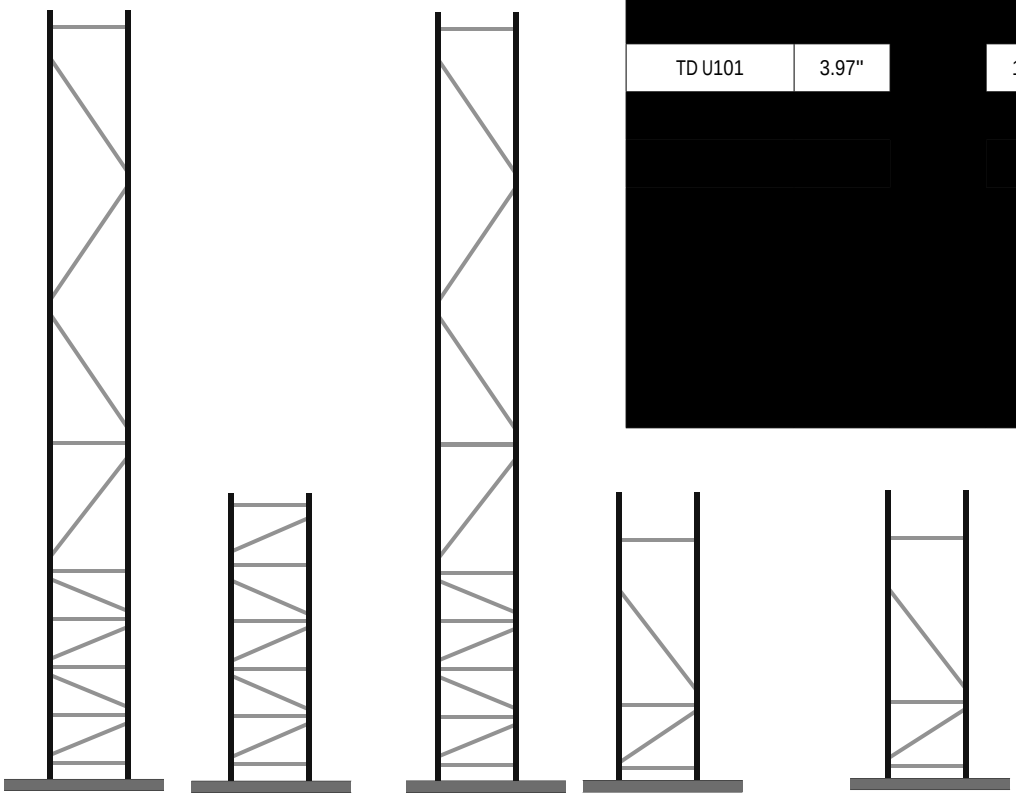
The tear drop perforations on the face are designed to secure beam placement, with the narrow section facing downwards, as shown in the drawing.

Side perforations are used for fitting struts and accessories, such as row spacers and column protectors, using $\frac{5}{16}$" (0.3125") diameter grade 5 bolts.

There are different models of uprights, which vary in dimensions and gauges.

Available in a standard cataphoresis blue (RAL-5003).





2.101 - 2.122
(48" - 480")

2.314 - 2.312
(48" - 480")

2.315
(60"- 192")

Standard bracing distribution for bolted frames varies by model according to the required height of the frame; however, the following guidelines may be applied. For more details, contact your Interlake Mecalux representative.

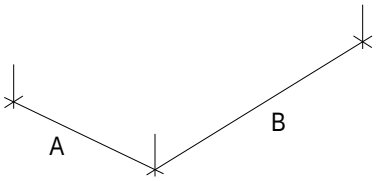
STANDARD FOOT PLATES

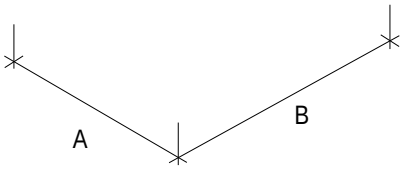
Frames are secured to the ground using foot plates that are bolted to the bottom of the posts. Foot plates are anchored to the floor using HILTI Anchor W 1/2 X 5 1/2" (U0074596).

J and M foot plates are commonly used in seismic areas or in locations with less than desired floor structures.

If a different foot plate is used, the number of anchors will be determined by the calculation. Additional anchors provided by special request.

All foot plates come with holes that allow the frame to be bolted into the floor. Each hole is 5/8" (0.625") in diameter.





Bolted Foot Plates							
Foot Plate	Frame	Frame Family	Foot Plate Part Number	Finish	A	B	Gauge
U 077/080							

Foot plates should be attached to the posts using:

(2) Bolts W 3/8 X 1" D933 G5 B TE1A (T0029082) and
(2) Washer Cup-Foot plate TD U (T0043168)

Shims are metal plates with the same dimensions as foot plates. They help to level out racks that are placed on irregular surfaces. There are different shims for each type of foot plate.

Two thicknesses are available to enable accurate leveling. When ordering shims the following guidelines should be kept in mind:

Gauge 11 (0.120")

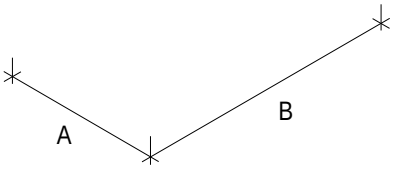
2 x Frame quantity
1 x Post quantity (if individual posts are quoted)

Gauge 18 (0.048")

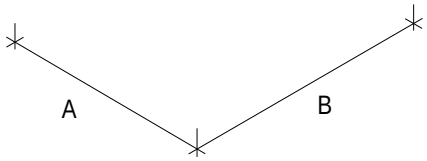
1 x Frame quantity
1 x Post quantity (if individual posts are quoted)

Gauge 13 (0.090") are available upon request.

All Shims are made in a standard galvanized finish.



Shim Model	A	B



Shim Model	A	B
		5 3/32"(5.09")
U 120		6 57/64"(6.89")

Standard Bolted Foot Plate Shims

Shim	Frame	Part Number	Gauge	Quantity per Frame	Finish

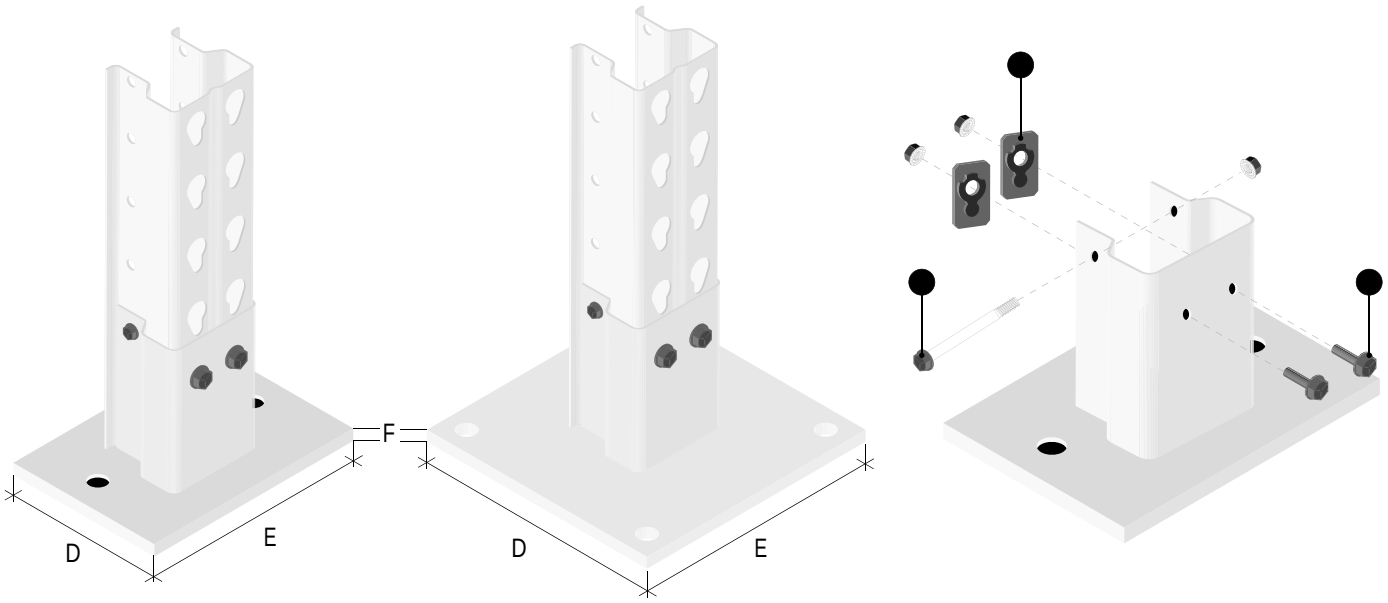
BOLTED HEAVY-DUTY FOOT PLATES

In special instances, bolted frames require heavy-duty foot plates. In those situations, BJ and BM foot plates and shims are used. Bolted oversized foot plates are available in a standard cataphoresis blue (RAL-5003) or green (RAL-6033) finish; the shims have a galvanized finish.

Contact your Interlake Mecalux representative for more information.

Heavy-duty foot plates hardware requirements:

A. (2) Washer Cup TD U (T0043168)
B. (2) Bolts W 3/8 x 1" D933 GF B TE1A (T0029082)
C. (1) Bolt W 5/16 x 2 3/4" D931 G5 B TE1A (T0029098) for 314 & 312;
3 3/4" (T0203315) for 101 & 102 OR 4 3/4" (T0203317) for 122



Heavy Foot Plate J U and M U Options						
Heavy Foot Plate	Frame	Frame Family	Foot Plate Part Number	D	E	F (Thickness)
J U120	FR.2.122 BJ G	BU122GJ	T0200801 (blue)			
M U3P	FR.2.314 BM G FR.2.313 BM G FR.2.312 BM G	BU314GM BU313GM BU312GM				
M U100	FR.2.101 BM G FR.2.102 BM G	BU101GM BU102GM	T0200803 (blue)		7.874"	
M U120	FR.2.122 BM G	BU122GM	T0200804 (blue)			

Heavy-duty F (flush) foot plates will only be used when the anchors cannot interfere with the aisle and/or cannot be placed out of the frame limits.

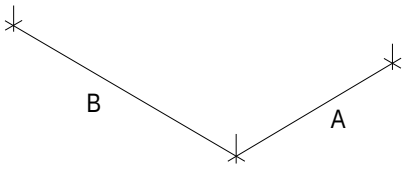
Heavy-duty foot plates hardware requirements:

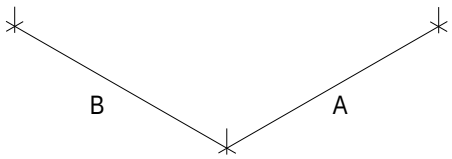
(2) Washer Cup TD U (T0043168)
(2) Bolts W 3/8 x 1" D933 GF B TE1A (T0029082)
(1) Bolt W 5/16 x 2 3/4" D931 G5 B TE1A (T0029098) for 314 & 312;
3 3/4" (T0203315) for 101 & 102 OR 4 3/4" (T0203317) for 122

Available in a standard cataphoresis blue (RAL-5003) finish.

The frame is mounted flush to the front of the foot plate.

They will be quoted by components and only by request.





Heavy Foot Plate F J U and F M U Options

Heavy Foot Plate	Frame	Frame Family	Foot Plate Part Number	A	B	Thickness
F J U120	FR.2.122 BJF G	BU122GJF	T0203281 (blue)			
F M U100	FR.2.101 BMF G FR.2.102 BMF G	BU101GMF BU102GMF	T0203279 (blue color)			

Heavy-duty foot plate shims will be the same dimensions as their corresponding foot plates.

Two thicknesses are available to enable accurate leveling.
When ordering shims the following guidelines should be kept in mind:

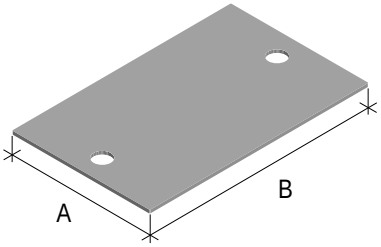
Gauge 11 (0.120")

2 x Frame quantity

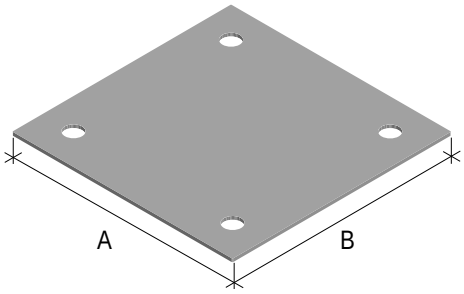
1 x Post quantity (if individual posts are quoted)

Gauge 16 (0.060")

Only available upon request.

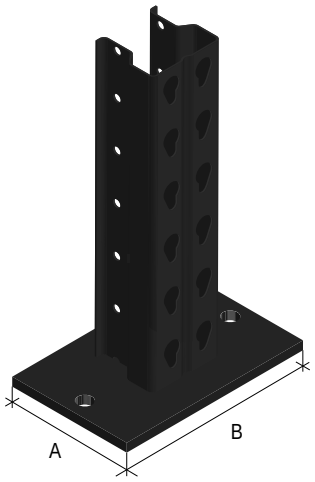


Shim Model	A	B
		7.283"
J U120		9"



A	B
	7.874"

Shim Options for Heavy Foot Plate BJ, BM, BJ F and BM F				
Foot Plate	Part Number	A	B	Gauge
J U120	T0200808 T0200806	5.118"	9"	G11 (0.120") G16 (0.060")
M U	T0200824 T0200823	7.874"	7.874"	G11 (0.120") G16 (0.060")



Based on seismic calculations, some installations may require the use of oversized welded foot plates to the frames.

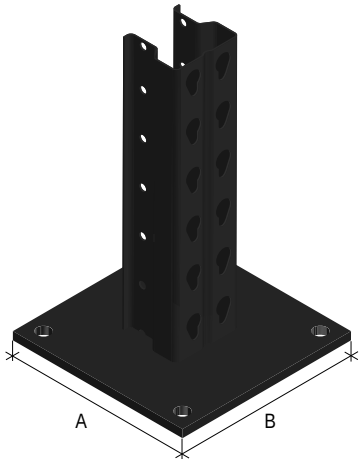
The following descriptions are used for these types of frames:

FR.2.314 G PP, FR.2.313 G PP, FR.2.312 G PP

FR.2.101 G PP, FR.2.102 G PP

FR.2.122 G PP

Welded PP Foot Plate Sizes						
Frame	Frame Family	Post Model	Post Family	A	B	Thickness



Additionally, based on seismic calculations, an 8" x 8" option is also available as a welded foot plate on the bolted frames.

The following descriptions are used for these types of frames:

FR.2.314 G P8, FR.2.313 G P8, FR.2.312 G P8

FR.2.101 G P8, FR.2.102 G P8

FR.2.122 G P8

Welded PP 8X8 Foot Plate Size						
Frame	Frame Family	Post Model	Post Family	A	B	Thickness

HEAVY-DUTY (PP) FOOT PLATE SHIMS

Heavy-duty foot plate shims will be the same dimensions as their corresponding foot plates.
Two thicknesses are available to enable accurate leveling.

When ordering shims the following guidelines should be kept in mind:

Gauge 11 (0.120")

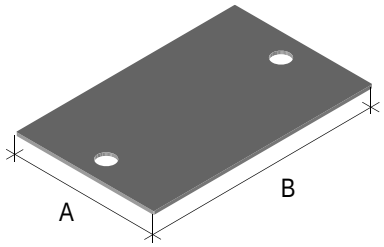
2 x frame quantity

1 x post quantity

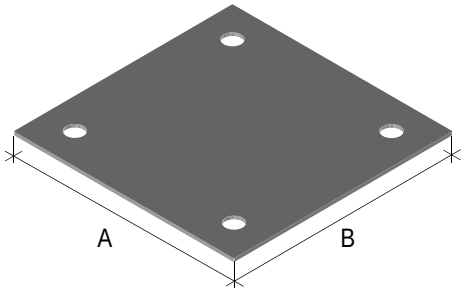
(if individual posts are quoted)

Gauge 16 (0.060")

Only available upon request.



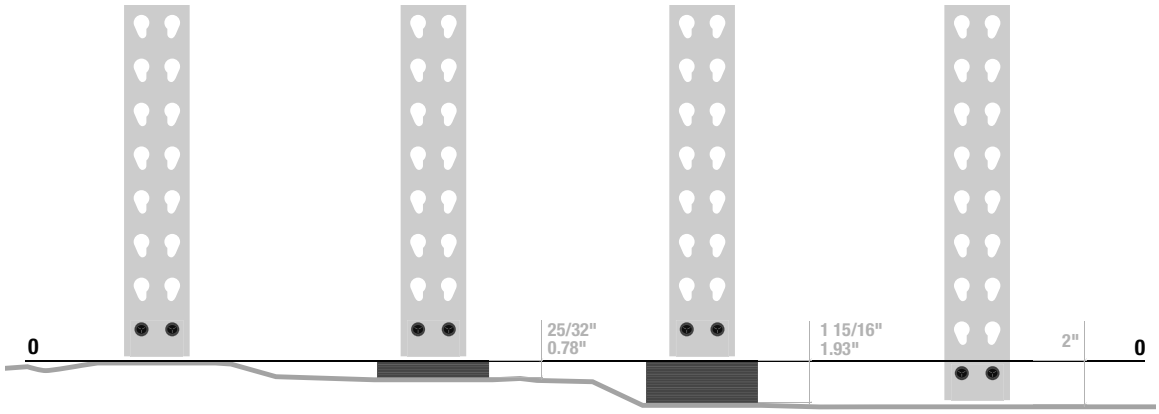
Shim Model	A	B
		7 3/4" (7.75")
TD U 120 PP		9"



Shim Options for Heavy Foot Plate M U & J U				
Foot Plate	Part Number	A	B	Gauge
2.122PP	T0037435 T0037442	5"	9"	G11 (0.120") G16 (0.060")
2.___PP 8X8	U0075052 U0075036	8"	8"	G11 (0.120") G16 (0.060")

A	B
	8"

In installations with very uneven floors, the maximum shim height should not exceed 1 15 16" (1.93"). If the unevenness of the floor exceeds this dimension, the post is to be repositioned vertically using a hole punch as a reference for the distance (– 2"). Note that shimming may require longer anchors to maintain minimum embedment.

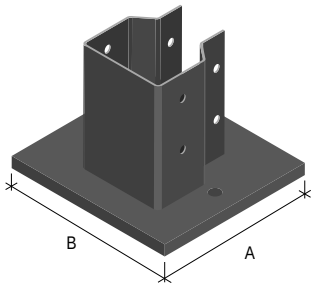


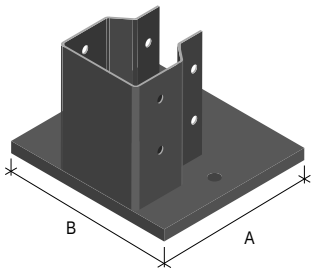
These foot plates are designed to work exclusively with POST TD UA10. Frames UA10 have no standard codes, they must be ordered as individual components.

Heavy-duty foot plates UA10 AND F UA10 hardware requirements:

(2) Bolts W 5/16 x 3" D931 G5 B TE1A (T0208041) AND
(2) Bolts W 3/8 x 4 3/4" D931 G5 B TE1A (T0208042)

Available in a standard cataphoresis blue (RAL-5003) finish.





Heavy Foot Plate UA10 and F UA10 Options					
Heavy Foot Plate	Frame	Foot Plate Part Number	A	B	Thickness

Heavy-duty foot plate UA10 shims are designed to work exclusively with UA10 and F UA10 foot plates. Two thicknesses are available to enable accurate leveling.

When ordering shims the following guidelines should be kept in mind:

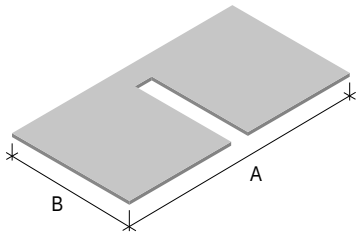
Gauge 11 (0.120")

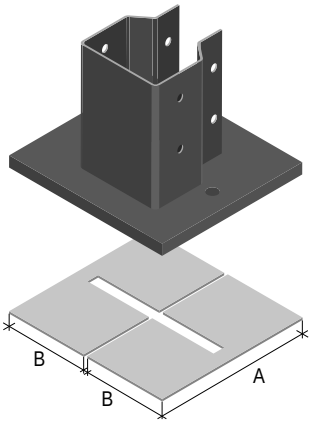
4 x Frame quantity

2 x Post quantity (if individual posts are quoted)

Gauge 16 (0.060")

Only available upon request.





Shim Options for Heavy Foot Plate BJ, BM, BJ F and BM F				
Foot Plate	Part Number	Gauge	A	B
	T0207925	G16 (0.060")		

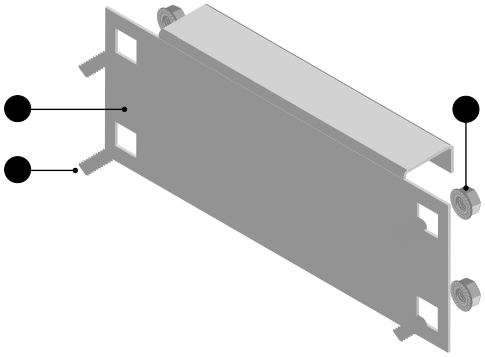
This row spacer is used when connecting UA10 columns in a face-to-face arrangement, the hardware below is supplied with the IK501 Row Spacer.

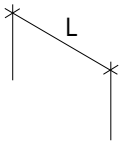
A. (1) Row Spacer IK501.
B. (4) Bolt 3/8-16 x 5/8" FLNG G5 Z (Part number U0074648).
C. (4) Locknut Flange 3/8-16 Z (Part number U0074687).

Row Spacer 501 Length should be 1/4" (0.25") shorter than the required distance between UA10 posts (L).

e.g. Required post separation is 6":

6" - 0.25" = 5.75"
Part Number: UM010842 (VL-ROW SPAC.IK501 5 3/4")

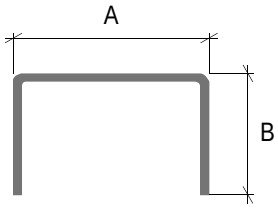


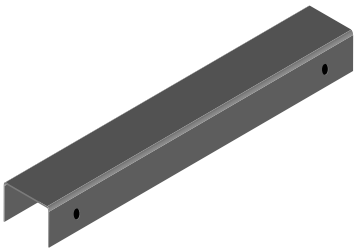


STRUTS

Bolted struts are C shaped profiles that are bolted to the posts of a frame. When struts are placed diagonally, they are referred to as diagonals. When placed horizontally, they are referred to as horizontals.

Available in a standard galvanized or blue (RAL-5003) finish.





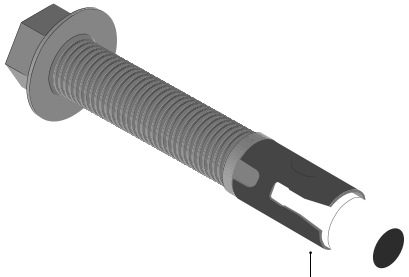
Bolted Struts						
Model	Strut Family	Frame Model	Gauge	Hardware	A	B
C915G	DBUC915G	2.122 G		(2) BOLTS W5/16 x 4 7/32" D931 G5 B TE1A (T0029095)		

ANCHORS

Every column in a selective pallet rack installation should be anchored to the floor with at least one $1\frac{1}{2}$" diameter expansion anchor that has a minimum embedment of $2\frac{1}{2}$".

Some installations require additional heavier anchorage due to seismic or wind load considerations.

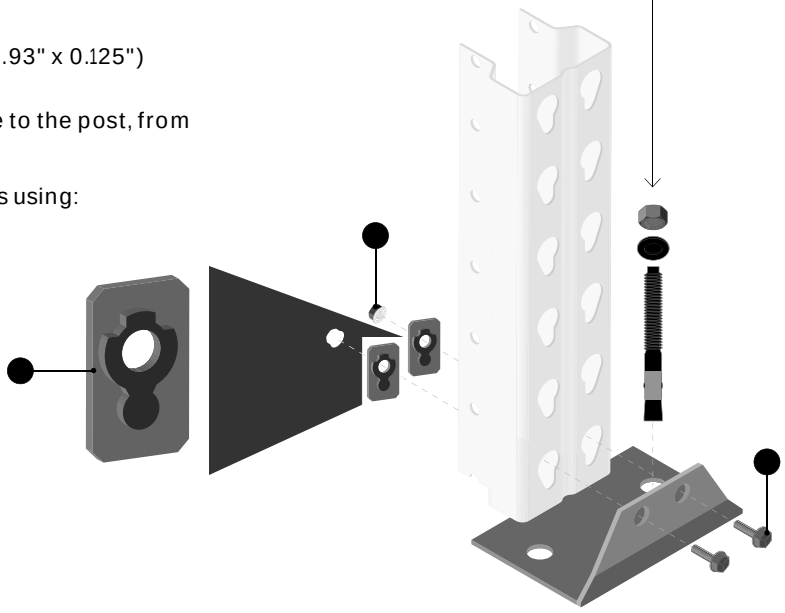
The standard anchor provided for roll formed selective pallet rack installations is HILTI Anchor $1\frac{1}{2}$-13 X $5\frac{1}{2}$" (U0074596).



Rectangular plates of $1\frac{9}{16}$" x $\frac{15}{16}$" x $\frac{1}{8}$" thick (1.56" x 0.93" x 0.125") with a through hole.
They help prevent the bolt, which fixes the foot plate to the post, from moving.

Standard foot plates should be attached to the posts using:
A. (2) Washer Cup - Foot Plate TD U (T0043168).
B. (2) Bolts W $\frac{3}{8}$ X 1" D933 G5 B TE1A (T0029082).
C. (2) Washer Cup-Foot plate TD U (T0043168).

Available in a galvanized finish.



BOLTED REINFORCED FRAMES

Reinforced frames increase their capacity when both columns are reinforced up to just above certain beam levels (usually required in seismic areas).
This first-of-its-kind, entirely bolted solution eliminates the need for welding on reinforced posts by using bolted reinforcement brackets.

Each post can only be reinforced with the same model of post.

The required distance between each bolted reinforcement bracket is 24".

The Top Reinforcement Bracket (4 holes) should only be used at the top of the reinforcement.

The height of the reinforced post should be rounded up to the next 12" increment (e.g. 116" post rounds up to 120").

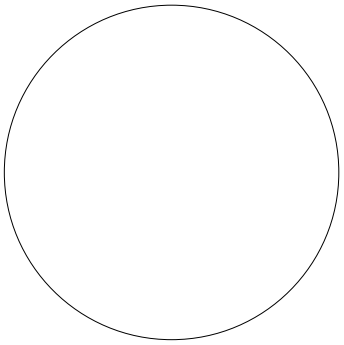
A bracket that interferes with a beam level should be moved, and the rest of the brackets should be adjusted to maintain a maximum spacing of 24".

The foot plate will have to be a bolted seismic R2T model.

In some cases, it may be recommended to use a welded reinforced option, this will require the backer and foot-plates to be welded, but the strutting will still be bolted to the frame.

BOLTED REINFORCEMENT COMPONENTS

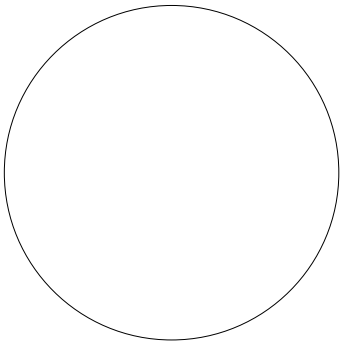
Required when reinforcing a bolted frame.
They are placed on the lower ends of the uprights
to facilititate the frame-to-floor connection.



R2T Seismic Foot Plate				
Reinforce Post Model	Part Number	A	B	Hardware
TD U100	U0200668			(4) Bolts W 5/16 x 4 3/4" D931 G5 B TE1A (T0203317)
TD U120	U0200669			(4) Bolts W 5/16 x 5 5/8" D931 G5 B TE1A (T0203318)

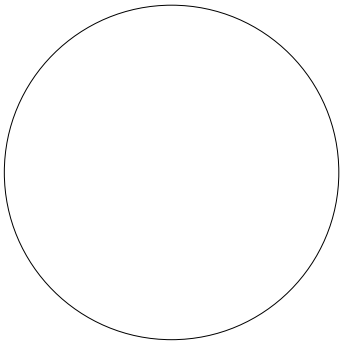
Shims for Heavy Foot Plate R2T				
Foot Plate	Part Number	A	B	Gauge
R2T	T0200824 T0200823	7.87"	7.87"	G11 (0.120") G16 (0.060")

Galvanized metal sections with two drill holes;
will be placed every 24" on the reinforced post.

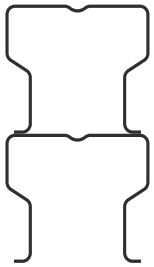


Galvanized metal sections with four drill holes;
will be placed at the top of the reinforced post.

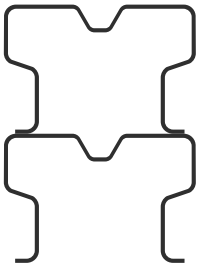
STANDARD & TOP REINFORCEMENT BRACKET			
Reinforced Post Model	Part Number	Description	Hardware
TD U120			(2) Bolts W 5/16 x 4 1/2" D931 G5 B TE1A (T0203316)



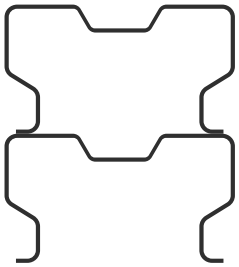
BOLTED REINFORCED FRAME CAPACITIES



314 + 314
312 + 312



101 + 101
102 + 102



122 + 122

Reinforced Bolted Frame Capacities (lbs)*								
Model		314 + 314		312 + 312		101 + 101	102 + 102	122 + 122
Gauge		14 GA (0.075")		12 GA (0.105")		13 GA (0.090")	12 GA (0.105")	12 GA (0.105")
Height		21'	> 21'	21'	> 21'			
Maximum Unsupported Span (HbL)		49,140	51,690		72,640			
			47,840		67,430			
		41,730	43,660		61,330			
			39,360		55,480			
		33,690	35,120		49,380			
			30,800		43,760			
		25,960	27,070		38,250			
			23,140		32,900			
	84"	19,510	20,150	27,750	28,680	46,000	54,000	73,300
			17,690		24,970			
	96"	15,190	15,590	21,400	21,960	36,900	43,400	62,900
			13,830		19,680			
	108"	12,170	12,430	17,190	17,560	29,300	34,500	52,900
			11,200		15,600			
	120"	9,970	10,140	13,950	14,200	23,800	28,000	43,500

SPLICING

If it is necessary to increase the frame height, another frame must be spliced to the existing frame using a frame splice.

These frame splices can be used with the following bolted post models: U314, U313, U312, U101, U102 or U122 and are 13 25/32" (13.78") long by 1/8" (0.125") thick.

315 frames are not designed to be spliced.

The position of the last horizontal bracing on the bottom frame, and the first one of the top frame, should be adjusted in order to ensure that they do not interfere with the splicing area.

The minimum height of the bottom frame in a splice should be 14 .

There should be at least two beam levels up to the splice.

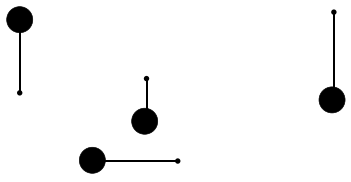
A beam level cannot be placed in the splice section.

The distance between the splice to the top part of the next beam level (16" or 18") depends on the type of beam.

Available in a galvanized finish

The splice set for a single bolted post (T0039687) includes:
A. (2) Piece Splice Frame U96 (T0032373), which is bolted to the inside of the post
B. (14) 5/16" diameter x 3/4" D933 G5 B T.2A Bolts (T0032927)
C. (8) 3/8" diameter x 3/4" D933 G5 B TE1A Bolts (T0032935)
D. (8) Washers Cup-Footplate TD U (T0043168)

The splice set for a bolted frame (T0039905) includes:
A. (4) Piece Splice Frame (T0032373), which is bolted to the inside of the posts
B. (28) 5/16" diameter x 3/4" D933 G5 B T.2A Bolts (T0032927)
C. (16) 3/8" diameter x 3/4" D933 G5 B TE1A Bolts (T0032935)
D. (16) Washers Cup-Footplate TD U (T0043168)



ROW SPACERS AND WALL TIES

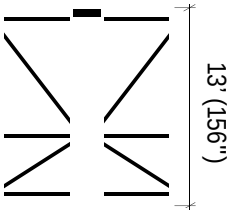
Rack stability can be increased by adding row spacers and/or wall ties, depending on the height and depth of the rack, the type of walls in the building and the location of the installation.

Row Spacer Placement and Quantity Guide	
Frame Height	Row Spacer Quantity

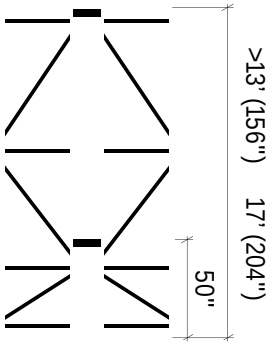
Row spacers are used to join racks together back to back. This adds rigidity to the system and provides even spacing between racks. Choosing the correct row spacer is based entirely on the frames in the system. Row spacers come with a standard galvanized finish.

The following are recommendations for the placement of row spacers:
In all cases, care must be taken to avoid interference with beams, struts or any other installation components.

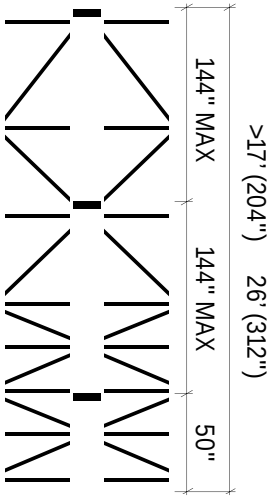
Intermediate row spacers should be located close to strut connections and should maintain equal distances between spacers, with no more than 144" between them.

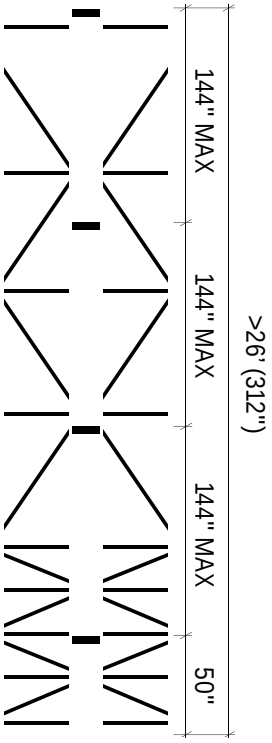


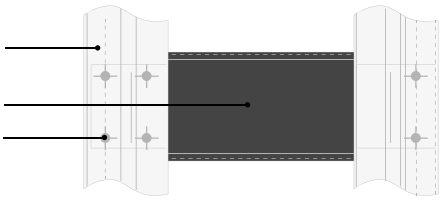
The top row spacer should be installed next to the highest horizontal strut.

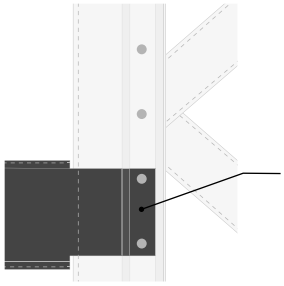


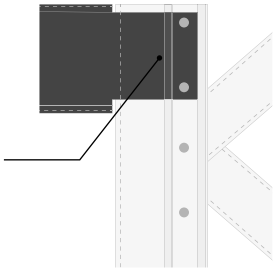
The bottom row spacer must be installed no higher than 50" from the floor.



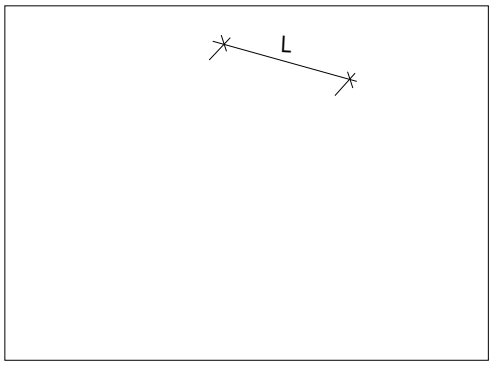








BOLTED FRAME ROW SPACERS



This part is designed to be attached securely to the posts of a frame or to a wall tie. It is made with 13 gauge steel ($\frac{3}{32}$" or 0.09" thick).

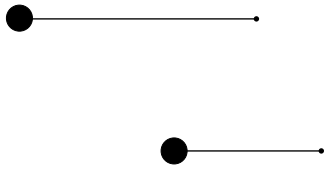
The row spacers are bolted to the post using the side holes in the post, the same holes that are used for the bracing of the frame. For this process, (4) $\frac{5}{16}$" dia. x $\frac{3}{4}$" long grade 5 bolts (T0032927) are required.

Available in a standard galvanized finish.

In order to facilitate the ordering process, row spacer U96 sets have been created. These sets include the components below. Row spacer sets are available through the St. Row Spacer part.

A. (1) U96 Row Spacer
B. (4) W $\frac{5}{16}$ x $\frac{3}{4}$" D933 G5 B TE1A Bolts (T0032927)

Row Spacer U96 Sets					
Length	Set Number	Length	Set Number	Length	Set Number
4"	T0047971	10"	T0047974	16"	T0047977
6"		12"		Sets include connection hardware for Standard Bolted Frames	
8"	T0047973	14"	T0047976		



In instances where frames are reinforced, a loose row spacer should be quoted, in addition to the corresponding through bolts based on the frame model where the row spacer will be used.

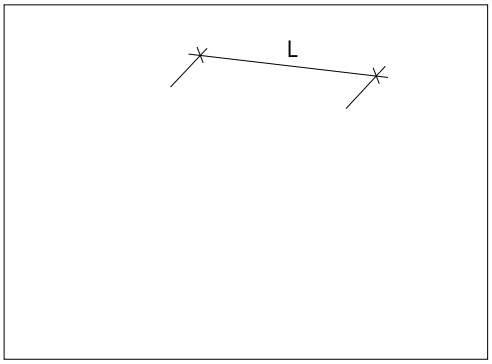
Loose Row Spacer U96 Standard Lengths*					
Length	Part Number	Length	Part Number	Length	Part Number
*4"	T0032359	10"	T0032362	16"	T0032365
6"		12"		Loose Row Spacers are used when quoting Reinforced Frames	
8"	T0032361	14"	T0032364		

Hardware for Row Spacers on Reinforced Frames			
Column	Qty.	Bolt Description	Part Number
U3P	4	BOLT W $\frac{5}{16}$ X 2 $\frac{5}{8}$" D931 G5 B TE1A	T0029080
U100			
U120	4	BOLT W $\frac{5}{16}$ X 4 $\frac{1}{2}$" D931 G5 B TE1A	T0203316

*Note: When using 2" - 4" bolted row spacers check the chart below for foot plate compatibility.

Foot Plate	U	BJ U	BM U	PP	PP 8 X 8
Row Spacer U96 2"	×	×	×	×	×
Row Spacer U96 4"	✓	✓		✓	

BOLTED FRAME ROW SPACERS



This part is designed to be attached securely to the posts of a frame or to a wall tie. It is made with 13 gauge steel ($\frac{3}{32}$" or 0.09" thick).

The row spacers are bolted to the post using the side holes in the post, the same holes that are used for the bracing of the frame. For this process, (4) $\frac{5}{16}$" dia. x $\frac{3}{4}$" long grade 5 bolts (T0032927) are required.

Available in a standard galvanized finish.

In order to facilitate the ordering process, row spacer U96 sets have been created. These sets include the components below. Row spacer sets are available through the St. Row Spacer part.

(1) U96 Row Spacer
(4) W5/16 x 3/4 D933 G5 B TE1A Bolts (T0032927)

Row Spacer U96 Sets					
Length	Set Number	Length	Set Number	Length	Set Number
2"	T0069492	24"	T0047980	36"	T0047983
18"		28"		40"	
20"	T0047979	32"	T0047982		

In instances where frames are reinforced, a loose row spacer should be quoted, in addition to the corresponding through bolts based on the frame model where the row spacer will be used.

Loose Row Spacer U96 Standard Lengths*					
Length	Part Number	Length	Part Number	Length	Part Number
*2"	T0056465	24"	T0032368	36"	T0032371
18"		28"		40"	
20"	T0032367	32"	T0032370	Loose Row Spacers are used when quoting Reinforced Frames	

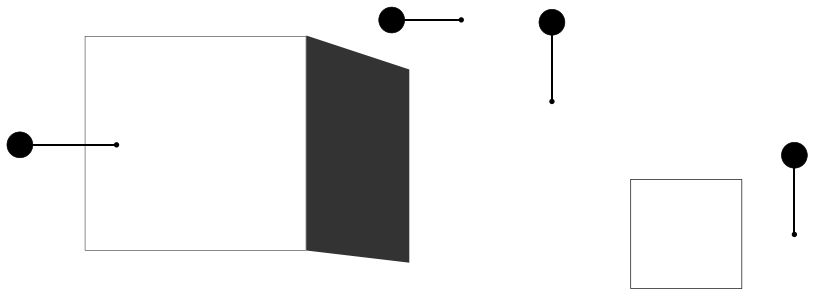
Hardware for Row Spacers on Reinforced Frames			
Column	Qty.	Bolt Description	Part Number
U3P	4	BOLT W $\frac{5}{16}$ X 2 $\frac{5}{8}$" D931 G5 B TE1A	T0029080
U100			
U120	4	BOLT W $\frac{5}{16}$ X 4 $\frac{1}{2}$" D931 G5 B TE1A	T0203316

*Note: When using 2" - 4" bolted row spacers check the chart below for foot plate compatibility.

Foot Plate	U	BJ U	BM U	PP	PP 8 X 8
Row Spacer U96 2"	×	×	×	×	×
Row Spacer U96 4"	✓	✓		✓	

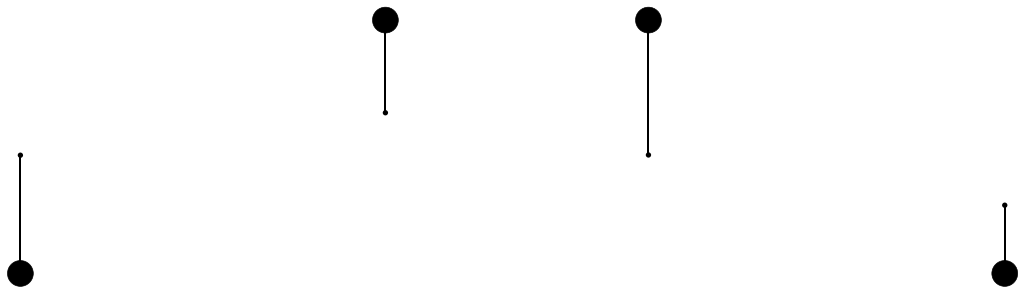
FIXING FRAME CLIPS

In instances where frames are more than 40" apart, fixing frame clips are utilized to tie frames together. These clips bolt onto the column and use a strut that is bolted in place. The size of the frame determines the size of the strut that is used. Contact your Interlake Mecalux representative for more information.

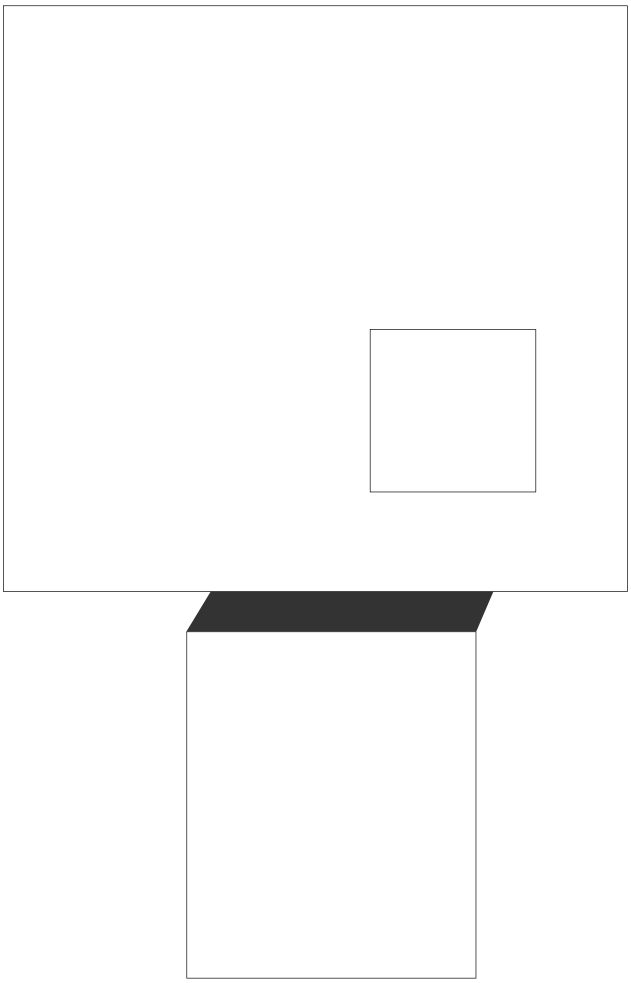


A. Additional Post
B. Frames
C. Diagonals
D. U96 Frame Front Brackets

The additional post should be joined to the frames using sets of 1 diagonal and 2 U96 Frame Front Brackets.



WALL TIES



This L shaped component allows the rack to be attached to a wall of a warehouse or storage facility. This type of wall tie should be used with bolted frames. To tie the rack to the wall, a U96 wall tie must be used in conjunction with a U96 row spacer. It is made with 13 gauge ($\frac{3}{32}$" or 0.09") steel.

The single hole on the end ties the frame to the wall using a $\frac{1}{2}$" diameter anchor. Two slots on the other side attach to the U96 row spacer using (2) $\frac{5}{16}$" dia. x $\frac{3}{4}$" grade 5 bolts. The row spacer should be sized to be 4" short of the wall to accommodate the wall tie adapter.

For wall tie lengths greater than 2", you will need a wall tie plus a row spacer.

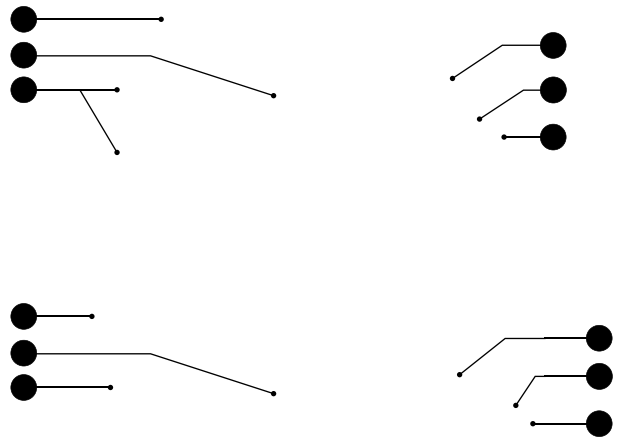
For example: For a 12" wall tie, you will need 1 wall tie plus an 8" row spacer (with hardware).

Available in a standard galvanized finish.

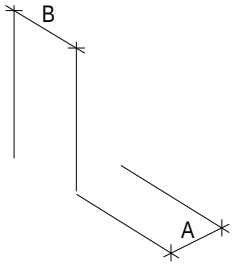
Due to uncertainty in wall structure, wall anchors are not included.

Wall Tie U96 Standard Part Number		
Length	Part Description	Part Number
4		

A. Frame Post
B. Row Spacer U96 (from 2"-40" length)
C. Wall Tie (adjustable: 2 $\frac{17}{32}$" 3 $\frac{5}{8}$")
D. Customer Provided Anchor*
E. Wall
F. W $\frac{5}{16}$" x $\frac{3}{4}$" D933 G5 B T.2A Bolt (T0032926)



POST PROTECTORS



Bolt on post protectors are used to prevent damage to the posts that are facing an aisle. They offer protection in a variety of heights, as these protectors are not anchored to the floor, but rather bolted directly to the post of a frame.

Bolt on post protectors protrude 2 $\frac{9}{32}$" from the face of the post toward the aisle. Vertical holes allow the protectors to be bolted to a post, using $\frac{5}{16}$" diameter x 1 $\frac{1}{2}$" long bolts (T0034223). The number of bolts needed depends on the length of the protector. There are three sets:

All column protector sets come with $\frac{5}{16}$" diameter x 1 $\frac{1}{2}$" D603 G2 BT1A Bolts (T0034223).

The folded metal V shape plates are 11 gauge ($\frac{1}{8}$" or 0.125" thick) and can be 12", 24", 36", 48" and 60" long.

Available in a standard blue (RAL-5003) finish.

Bolt On Post Protector Sets

Bolt On Post Protector	Set Number	Length	Frame	A	B

For standard frame connections, the bolt on post protector should be attached to the post as shown in the diagram, using $\frac{5}{16}$" diameter x 1 $\frac{1}{2}$" long bolts.

For reinforced frames, use a through bolt compatible with the bolted frame model (see page 29).

Bolt On Protector - Bolt Requirements

Length of Protector	Number of Bolts Standard Frame	Number of Bolts Reinforced Frame

POST PROTECTORS

Since only 3 available sets for bolt on post protectors are available, in order to quote other lengths or if they are to be used on reinforced frames, use the chart below in order to add the loose column protector part plus the corresponding number of bolts based on whether the connection frame is standard or reinforced.

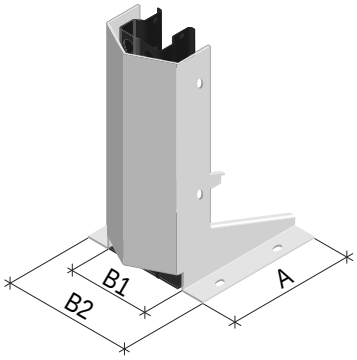
Loose Bolt On Post Protector						
Bolt On Post Protector	Part Number	Length	Standard Frame Hardware	Standard Hardware Quantity	Reinforced Frame Hardware	Reinforced Hardware Quantity

This floor mounted protector is anchored to the floor to protect the lower part of a single post.

Offered in gauge 3 ($\frac{1}{4}$" or 0.25" thick) steel, these protectors are 16" high and have four holes in the base that allow them to be anchored to the floor. They also have additional side holes on each side of the protector that can be used to bolt a 4" C channel to protect the end of an aisle.

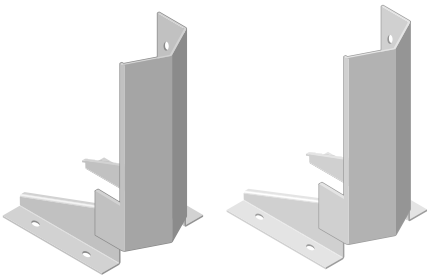
Available in yellow (RAL-1021) or orange (RAL-2001) finish.

Anchor with (4) $\frac{1}{2}$" diameter x 4 $\frac{1}{4}$" bolts (T0034139).



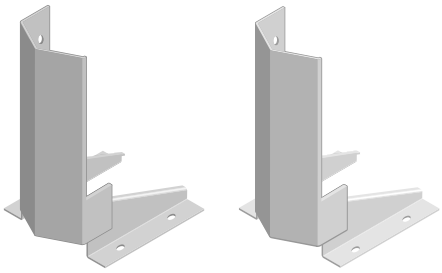
Post Protector U Pro les and Sets

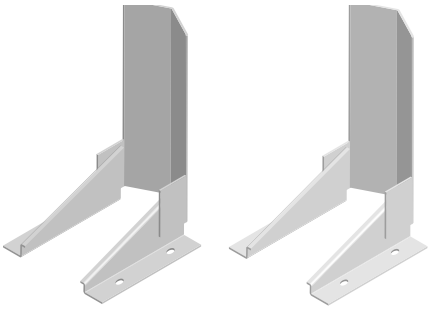
Post Protector	Loose Part Number	Frame	Size A	Size B1 (inside)	Size B2 (outside)



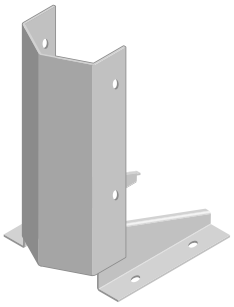
Loose Left, Right and Center Post Protector U Pro les

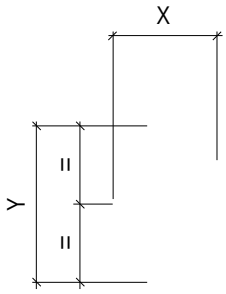
Loose Part Number	Position	Frame	Description



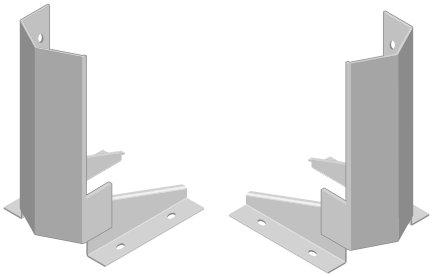


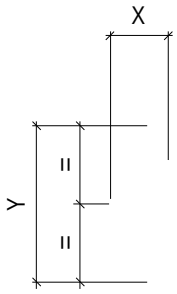
The charts below show the recommended distances that the frame should have from the standard floor mounted column protector "U" and "Left / Right" versions.





Column protectur U-S____			
Post	Post Protector	X	Y



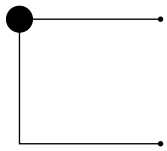


Column protectur U-S____ Right and Left			
Post	Post Protector	X	Y

This floor mounted protector is anchored to the floor between the depth of the frames; allows the creation of End of Aisle protectors longer than 236".

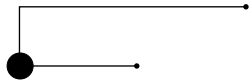
These protectors are 15" high and have two holes in the base that allow them to be anchored to the floor. Profiles are C4" x 5.4, welded to a 9.5" x 3" x 0.375" foot plate.

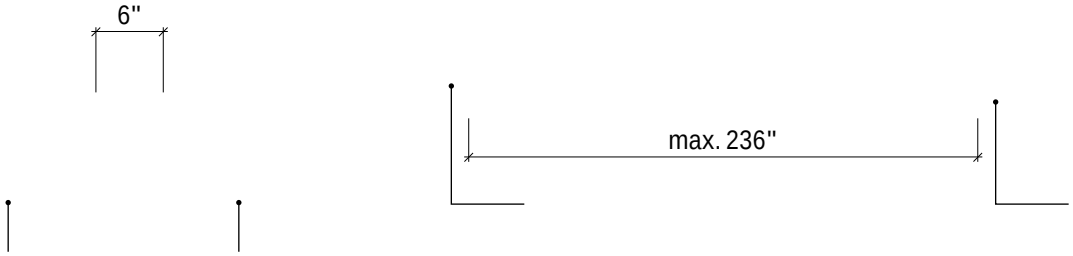
Available in orange finish.



A. Rail connection requires (1 or 2) $\frac{1}{2}$" diameter x $1\frac{13}{16}$" bolt (T0032936) these bolts are included in End of Aisle Rail Sets.

B. Anchored with (2) $\frac{1}{2}$" diameter x $4\frac{1}{4}$" anchor bolts (T0034139) Not included.





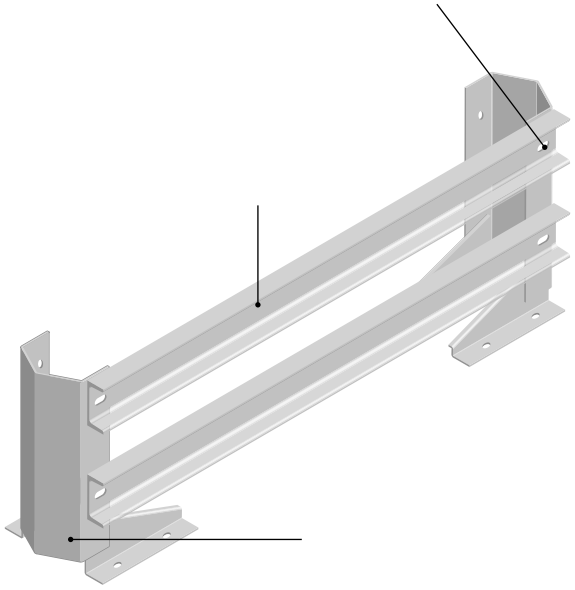
The end aisle protector features (2) floor mounted post protectors tied together with a 4" high x 1 19/32" wide x 3/16" thick channel rail. The rail ends are cut to a 45° angle to ensure aisle clearances.

It is bolted into the frame by (2) 1/2" diameter x 1 13/16" long grade 5 bolts and anchored to the floor with (4) 1/2" x 4 1/4" long anchor bolts U MSA (T0034139).

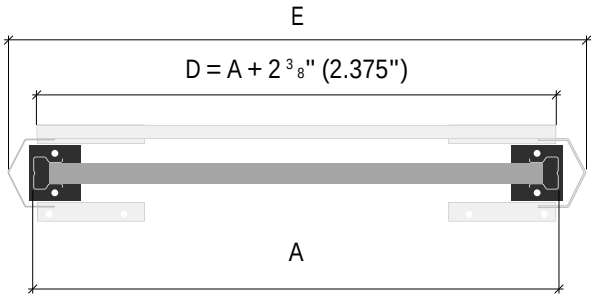
Column protector to be ordered separately.

Longer length protectors require a custom design.

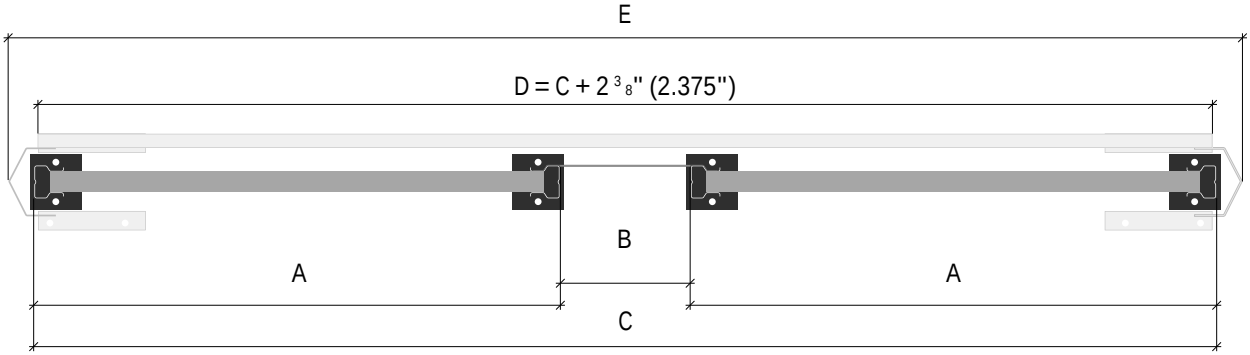
Available in a standard orange (RAL-2001) or yellow (RAL-1021) finish.



The length of the 4" rail will depend on the depth of the frame and length of the row spacers. To get the total length of the 4" rail, always add 2 3/8" (2.375") to the length of the protected area.



A. Depth of Frame
B. Length of Row Spacer
C. Total Length (Frame + Row Spacer + Frame)
D. Length of the 4" Rail
E. Total length of the end of aisle protection, which varies in accordance with upright type



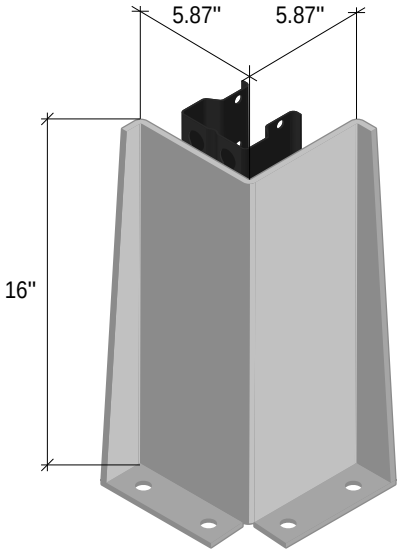
The following codes include: 1 protection rail U4" and 2 Bolts W 1/2 X 1 13/16" D933 G5 B T.2A (T0032936).

[redacted]

Corner guards protect the corner or the end of the aisle post and fit any type of post.

They are gauge 3 (1/4" or 0.25" thick) by 5 7/8" x 5 7/8" x 16" high and have four holes in the base that allow them to be anchored to the floor with four 1/2" x 4 1/4" long anchor bolts U MSA (T0034139).

Available in a standard orange (RAL-2001) finish.



CROSS AISLE TIES

Cross aisle ties are an assembly of posts and brackets used to provide additional rigidity for racks not attached to the wall, but whose height (at the level of the top loaded shelf) to depth ratio is equal to, or greater than 8. In back-to-back rows, the depth will be the sum of the two individual frame depths, plus the row spacer s length.

Rack with a height to depth ratio of 8 or greater can also be addressed with larger base plates and deeper anchors. Have your account representative contact Interlake Mecalux Engineering for specifics on this application.

When the rack is more than 32' high (384"), cross aisle ties are recommended.

The number of cross aisle ties to be used depends on the length of the beams of the bay and on the height/depth ratio.

Cross aisle ties do not eliminate the need to anchor a frame to the floor.

Frames on both sides of the aisle that are joined together by cross aisle ties should be higher than the rest of the frames in a row because they need to allow the forklifts to go through.

You can use the following formula to calculate the height of a cross aisle tied frame:

Height of cross aisle tied frame = Distance from oor to last beam level + Height of the load for the last beam level + 16"

Examples of Depth Ratio Calculations for Cross Aisle Ties:

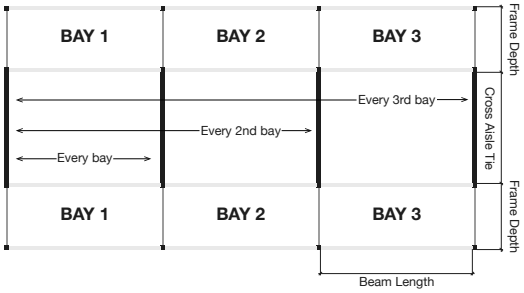
For a frame that is 360" high x 42" deep:
Height/depth ratio = 360" / 42" = 8.5. In this case, cross aisle ties are required.

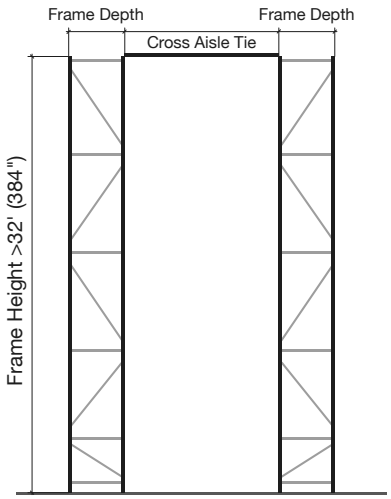
For a back-to-back row with (2) 360" high x 36" deep frames connected by a 6" row spacer:

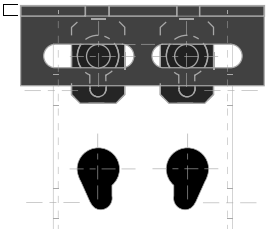
Height/depth ratio = 360" / (36" + 6" + 36") = 4.6.
In this case, cross aisle ties are not required.

Frame Height / Top Load Level	Frame Depth	Height/Depth Ratio
24' (288")	36"	8
29' 4" (352")	44"	8

Recommended Cross Aisle Tie Quantity Based On Beam Length and Height To Depth Ratio		
Length of Beam	Height/Depth Ratio	Number of Cross Aisle Ties
48" to 72"	8 to 10	One cross aisle tie every third consecutive bay
More than 108"	8 to 10	One cross aisle tie per bay







Each arm bracket is a Gauge 7, $\frac{17}{16}$"(1.43") x 2 $\frac{11}{16}$"(2.68") x $\frac{3}{16}$"(0.18") angle, with two slots on each of its wings. One side is attached to the frame, the other is connected to the cross aisle post. See kit for connector details.

It should be noted that the position of the arm bracket differs slightly between welded and bolted frames. For bolted frames, the distance between the top of the frame and the top of the arm bracket is 0.072"; for welded frames, this distance is 0.276".

Arm Portal U Standard Part Number	
Part Description	Part Number

In order to facilitate the ordering process, cross aisle bracket TD U sets have been created. This set includes the following components:

A. (2) Arm Brackets (Arm Portal, T0032605)
B. (8) W $\frac{5}{16}$ x $\frac{3}{4}$" D933 G5 B TE1A Bolts (T0032927)
C. (8) Washer Cup-Foot Plates TD UU (T0043168)

Cross Aisle Tie Bracket TD U Set	
Part Description	Part Number

The components of the cross aisle ties are: POST TD U314 (Family code PU314TD, for frames with 315, 314, 313, 312, 101, 102, 122 and UA10 upright) Profile available in different lengths in 2" increments. They should be attached to the cross bracket using two $\frac{5}{16}$" diameter x $\frac{3}{4}$" long grade 5 bolts on each side. Standard posts matching the upright model are typically used. Adding 6" (or rounding to the next whole foot) to aisle width allows for variance/modification in the field. They have a blue electro deposition finish.

PALLET STOPS

Pallet stops for bolted frames are systems made of metal profiles used to stop pallets from sliding off the back of the rack.

Using this system helps to avoid the risk of any pallets falling, striking other objects or pushing pallets in the opposite bay out of place when they are being manipulated during loading and unloading.

It is recommended to use pallet stops for the following applications:

Pallet stops should be used inside cold storage rooms, on the racks next to walls, to avoid causing serious damage to the installation by any poor handling of pallets.

When there is a fire sprinkler system, to avoid damaging the fire alarm s components.

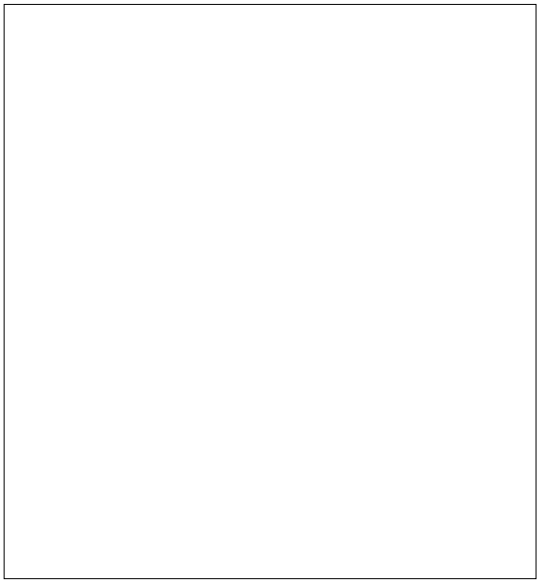
If back-to-back rows are very close to each other.

Busy aisles.

The pallet stop rail profile C.Brac.H.U97 is designed for lengths 72" or longer. Rail profiles come in standard lengths up to 208".

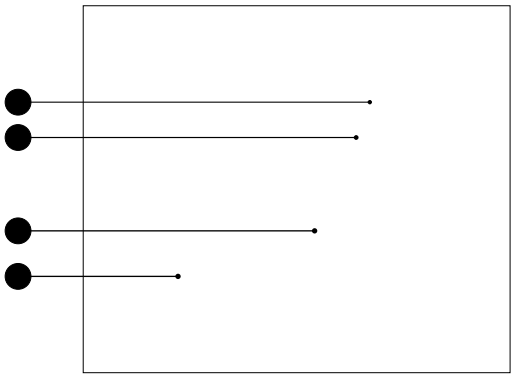
They are drilled along their wider face every 2" with 2 holes next to each other.

Available in a standard blue (RAL-5003) finish.



The pallet stop arms (profile U97) are bolted to the side holes of the posts. The pallet stop rail is then bolted to the arms to form the pallet stop assembly. Separate arms are needed to accommodate right and left posts.

Available in a standard galvanized finish.



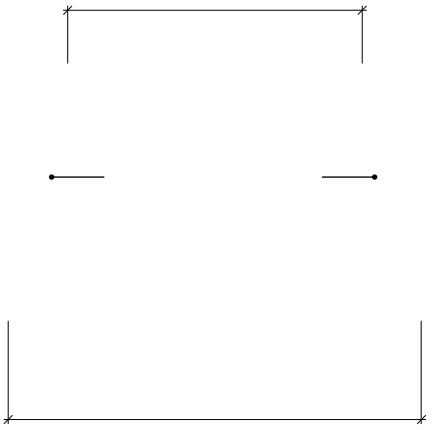
A. Pallet Stop Arm
B. Pallet Stop Arm Rail
C. $\frac{5}{16}$" x $\frac{3}{4}$" Bolt
D. $\frac{3}{8}$" x $\frac{3}{4}$" Bolt

The way in which the rail attaches to the arm depends on the amount of pallet overhang required. The type and location of the connection of the pallet stop arm is determined by how much the pallet overhangs from the frame.

Load Overhang	Pallet Stop Offset	Position
0" 1.5"	1 $\frac{5}{8}$" (1.62")	1
> 2.5" 3"	3 $\frac{1}{8}$" (3.12")	3

In single or back-to-back configurations, the following options can be used. For typical flue spaces, contact your Interlake Mecalux representative.

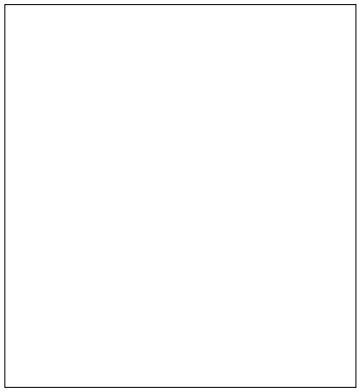
Position 1	Position 2	Position 3	Position 4
1 5/8"	2 3/4"	3 1/8"	4 1/4"



The maximum length of the pallet stop rail is 208".

The length of the standard pallet stop rail is related to the beam where the pallet stop will be installed. The pallet stop rail is equal to the length of the beam plus 3". It is recommended that the maximum length of the pallet stop rail used is the same as the height of the frames. Other rail lengths must be ordered as VL's using family code PERFATHU (hardware must be added separately).

Pallet Stop Rail Sets & Actual Rail Length			
Beam Length	Description	Part Number	Pallet Stop Rail Length
90"	St. Arm Stop Pal 90"	T0054057	93"
144"	St. Arm Stop Pal. 144"	T0071204	147"



The backstop is a single piece that does not require accessories, since it is directly fastened to the uprights with a piston-lock at each end.

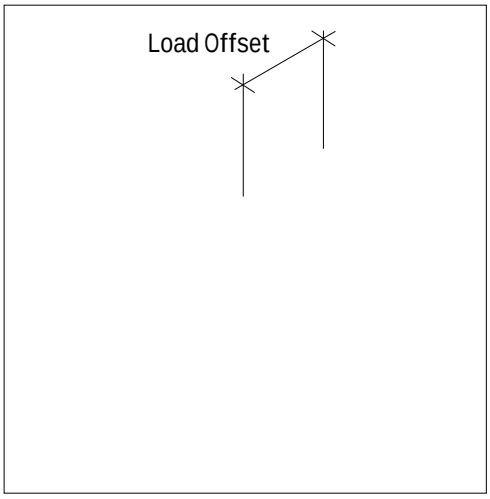
Must be installed 12" from the top of the support load beam.

Standard overhangs: 0", 3", 4" and 6"

Standard lengths: 48", 96", 108", 120" and 144"

For other bay widths, back stops can be ordered as VL using Family Codes: LATF3M0, LATF3M3, LATF3M4 & LATF3M6.

Backstop Part Numbers							
Part Number	Length	Load Offset	Family	Part Number	Length	Load Offset	Family



WELDED ROLL FORMED FRAMES

COMPONENTS

Welded selective frames are painted standard cataphoresis green (RAL-6033) finish and adhere to the latest RMI 2012 standards.

Foot plates and bracing are welded to the post using $\frac{1}{8}$" (0.125") fillet welds.

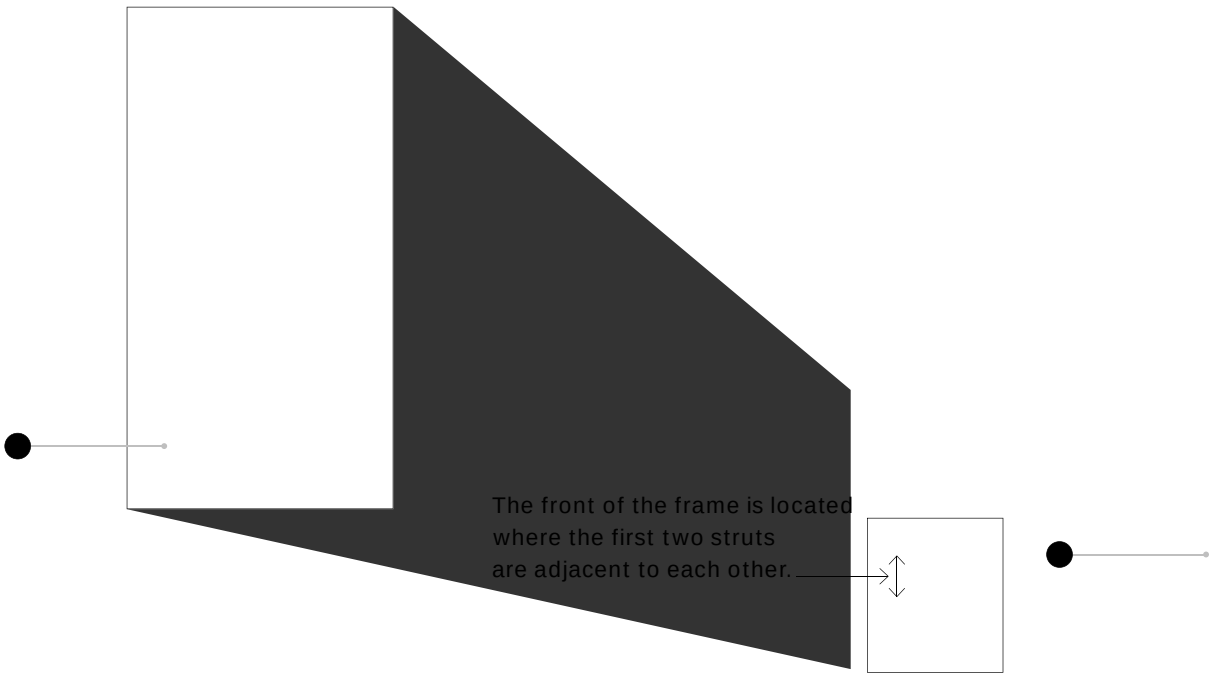
A. Post (070F, 075F, 077F, 079F, 095F or 099F)

B. Horizontal Bracing (IHAFZ or IHAFW)

C. Diagonal Bracing (IHAFZ or IHAFW)

D. Foot Plates (0, J or M)

IK1907_F Frame with J foot plate shown



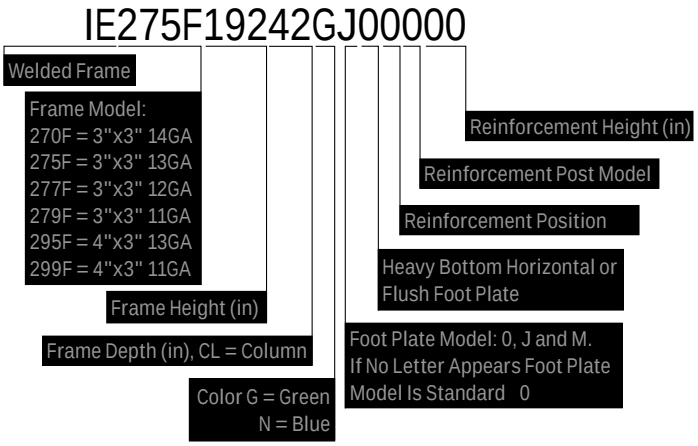
PRODUCT CODE DESCRIPTION

Standard frames are manufactured in even 12" increments for height and 2" increments for depth. Custom options are available on 2" increments. Contact your Interlake Mecalux representative for more information.

Standard depths: 36", 42", 44", and 48".

Available in standard vista green (RAL-6033) and cataphoresis blue (RAL-5003) finishes.

Special frame sizes and finishes available upon request.

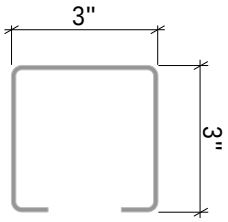


Welded Frames			
	FR.2.7_F	FR.2.9_F	Standard Intervals

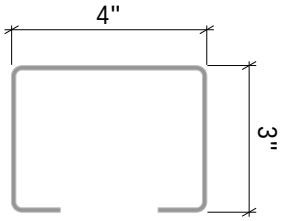
* Custom height intervals are available every 2".
Contact your Interlake Mecalux representative for more information.

Welded Frames With Standard Components					
Frame	Post	Foot Plate	Bracing	Height	Available Depths
FR.2.7_F	IE070F, IE075F, IE077F & IE079F	0	IHAFW	3’ (min) to 40’ (max) Every 12" *	
FR.2.7_F M		M			
FR.2.9_F J		J			

* Custom height intervals are available every 2"
** As a special order, depths of 18"-72" are available for all frame models.
Contact your Interlake Mecalux representative for more information.



IE070F = 14 GA (0.075")
IE075F = 13 GA (0.090")
IE077F = 12 GA (0.105")
IE079F = 11 GA (0.120")



IE095F = 13 GA (0.090")
IE099F = 11 GA (0.120")

Welded Frame Capacities (lbs)											
Model		FR.2.70F		FR.2.75F		FR.2.77F		FR.2.79F		FR.2.95F	FR.2.99F
Gauge		14 GA (0.075")		13 GA (0.090")		12 GA (0.105")		11 GA (0.120")		13 GA (0.090")	11 GA (0.120")
Height		21'	> 21'	21'	> 21'	21'	> 21'	21'	> 21'		
Maximum Unsupported Span (HbL)			29,300		34,900		40,400		45,700		
			27,400		32,600		37,600		42,600		
			25,300		30,000		34,700		39,200		
			23,100		27,400		31,600		35,600		
			20,900		24,700		28,500		32,100		
			18,700		22,100		25,400		28,500		
			16,500		19,500		22,400		25,100		
			14,400		17,000		19,400		21,800		
	84"	12,000	12,600	14,100	14,800	16,100	16,900	18,100	18,900	26,900	34,900
			11,000		12,900		14,800		16,600		
	96"	9,400	9,700	11,000	11,400	12,600	13,100	14,100	14,600	22,300	28,900
			8,600		10,200		11,600		13,000		
	108"	7,500	7,700	8,800	9,100	10,100	10,400	11,300	11,700	18,000	23,300
			6,900		8,200		9,400		10,500		
	120"	6,100	6,300	7,200	7,400	8,300	8,500	9,300	9,500	14,700	18,900

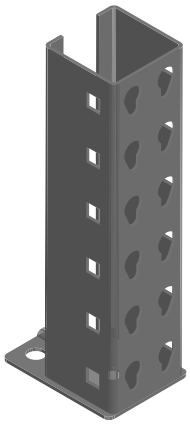
*NOTE:
Capacities are per the 2012 RMI and 2001 AISI specifications.
Frame capacities shown include product load plus dead load (dead load = 2% of product load).
Maximum unsupported height (Height between levels) is the maximum beam spacing or the distance between the floor and the top of the first beam (whichever is greater).
Capacities are only valid when used with Interlake Mecalux published beam sizes.
Capacities are valid for static load only.
These capacities assume that all component parts are: (1) Manufactured by Interlake Mecalux. (2) In good condition. (3) Properly installed.

WELDED POST PROFILES AND FRAMES

Welded posts are offered in 2 different profiles and a variety of gauges. Perforations are located every 2" on both the face and sides of each profile.

The perforations on the face (tear drop, F style) are designed to allow the fitting of beams, with the narrow section of the punch facing downwards, as shown in the drawing.

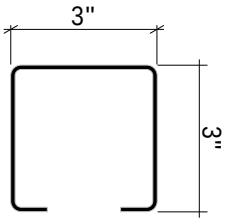
Side perforations are used for fitting accessories, such as row spacers and column protectors, using $\frac{3}{8}$" (0.375") or $\frac{7}{16}$" (0.4375") diameter grade 5 bolts.



IE07_F - 3" x 3" F Punch Post
0 Foot Plate

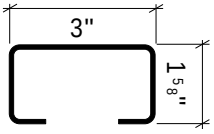
SIDE HOLE ONLY PUNCHED POST

Columns and frames can be ordered with only side hole punching upon request. Place R in position 6 of the product code. This option is available for DR rails for welded Drive-In systems or Pallet Stops.



IK070R = 14 GA (0.075")
IK075R = 13 GA (0.090")
IK077R = 12 GA (0.105")
IK079R = 11 GA (0.120")

IK07_ R Punch Post (DR Rail)
no foot plate
Family Code IKIE07_R



IK025R = 13 GA (0.090")

IK025 R Punch Post (DR Rail)
no foot plate
Family Code IKIE025R

STANDARD FOOT PLATES AND SHIMS

FOOT PLATES

Frames are secured to the ground using foot plates that are welded to the bottom of the posts with a 1/8" (0.125") fillet weld. Foot plates are then anchored to the floor.

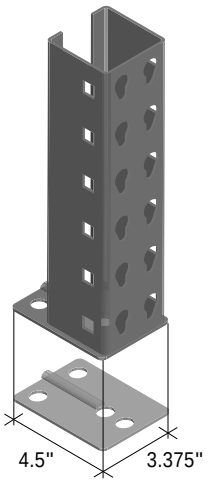
All foot plates come with holes that allow the frame to be anchored into the floor. Each hole is 5/8" (0.625") in diameter.

The standard foot plate is 0 . For other foot plate option types, the frame requires an alternative part number.

J and M foot plates are commonly used in the event of seismic loading or in locations with less than desired floor structures.

Different foot plates and projects requiring seismic analysis may require additional or special anchors.

Standard 0 Foot Plates & Shims



Frame	Family
Part No.	Description

SHIMS

Shims are metal plates with the same dimensions as foot plates. They help to level out frames that are placed on irregular surfaces. There are different shims for each type of foot plate.

Two thicknesses are available to enable accurate leveling. The IHASB shim is an 11 gauge (0.120") thick option. The IHASA shim is a 16 gauge (0.060") thick option.

When ordering shims, the following guidelines are typically used:

IHASB

2 x frame quantity

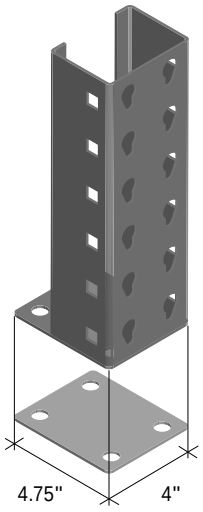
1 x post quantity*

IHASA

1 x frame quantity

1 x post quantity*

Available in a standard galvanized finish.

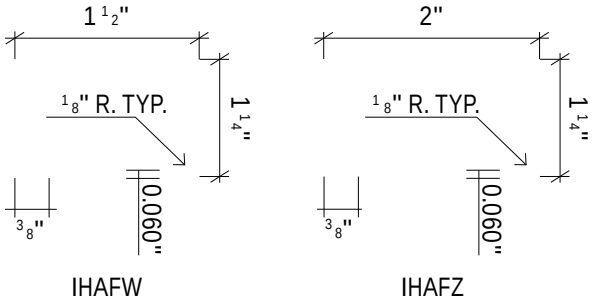


Frame	Family
Part No.	Description

WELDED FRAME STRUTS

Welded struts are C shaped profiles that are welded to the post using 1/8" (0.125") fillet welds. When struts are placed diagonally, they are referred to as diagonals. When placed horizontally, they are referred to as horizontals.

Welded Struts		
Model	Frame Model	Gauge



DEFENDER BASES

90° DEFENDER BASE

The 90° defender base design moves the front column back 12" from the aisle, reducing the likelihood of forklift contact. It has a bolt-on design for easy installation. The front column of the base is made of tubular steel with a 3/16" (0.1875") thick wall, which is thicker and more abuse resistant than standard rack.

It ships unassembled.

SLOPE LEG BASE

The slope leg base recesses the column 12" from the aisle at the floor level, where most fork truck damage typically occurs.

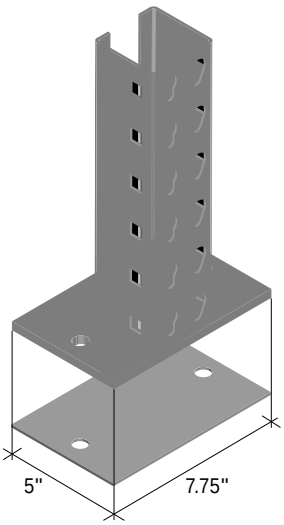
They can be used for both bolted and welded frames.
The frame needs to be created using flush "M" footplates (FR.2.31_ BMF G, FR.2.10_ BMF G, FR.2.122 BMF G, FR.2.7_F MF and FR.2.9_MF), with the standard strut pattern.

90 Defender Base				Slope Leg Base			
Blue (RAL-5003)		Green (RAL-6033)		Blue (RAL-5003)		Green (RAL-6033)	
Part Number	Description	Part Number	Description	Part Number	Description	Part Number	Description
U0200961	DEFENDER 36"	U0200974	DEFENDER 36" I02	U0200987	SLOPE LEG 36"	U0201000	SLOPE LEG 36" I02
U0200964	DEFENDER 42"	U0200977	DEFENDER 42" I02	U0200990	SLOPE LEG 42"	U0201003	SLOPE LEG 42" I02
U0200965	DEFENDER 44"	U0200978	DEFENDER 44" I02	U0200991	SLOPE LEG 44"	U0201004	SLOPE LEG 44" I02
U200967	DEFENDER 48"	U0200980	DEFENDER 48" I02	U0200993	SLOPE LEG 48"	U0201006	SLOPE LEG 48" I02
U0200973	DEFENDER 60"	U0200986	DEFENDER 60" I02	U0200999	SLOPE LEG 60"	U0201012	SLOPE LEG 60" I02

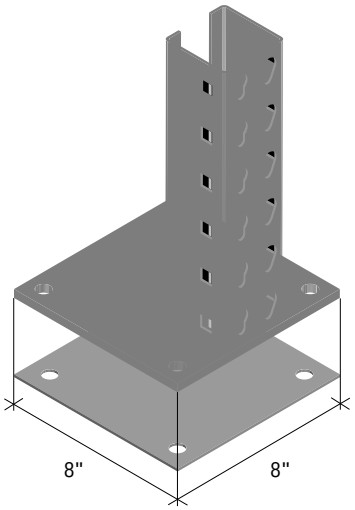
WELDED "JF" AND "MF" FOOT PLATES & SHIMS

Welded F (flush) foot plates will only be used when the anchors cannot interfere with the aisle and/or cannot be placed out of the frame limits. Additionally, flush "M" foot plates are required when quoting Defender Bases.

Heavy-Duty Flush JF & MF Foot Plates & Shims



Frame	Family
Part No.	Description



Frame	Family
Part No.	Description

WELDED FRAME REINFORCEMENT

Both posts of a frame can be reinforced to increase capacity or when seismic analysis is required.

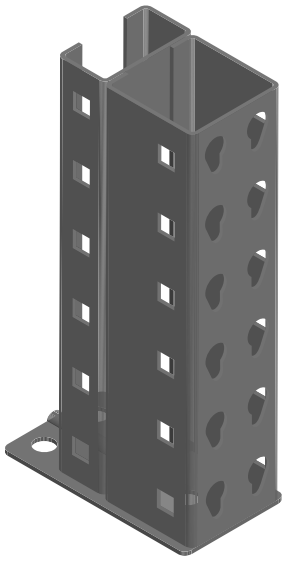
Reinforcement is a custom order. All column widths must be identical.
Contact your Interlake Mecalux representative for further information.

If the reinforced heights are different for the front and rear columns, a customized engineering drawing is required.

Frame 2.70F is not designed to be reinforced.

IE070F posts are not designed to be used as reinforcement.

Welded Frame Reinforcement Product Code		
Code Position 15	Code Position 16	Code Position 17
Reinforcement Option	Post Model Number	Reinforcement Height Code (in)
		G = 160
		U = 280



2.75F Frame with IE025 reinforcement

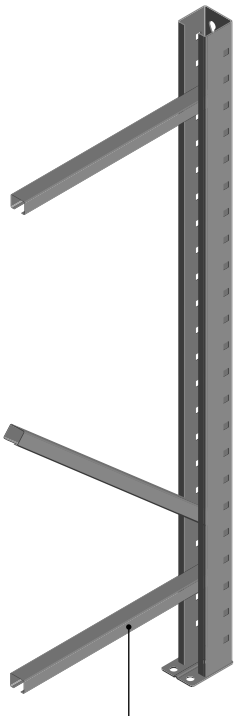
HEAVY BOTTOM HORIZONTAL STRUT

To provide extra rigidity and resistance to fork truck abuse, the standard welded bottom strut may be substituted for an unpunched (plain) column section.

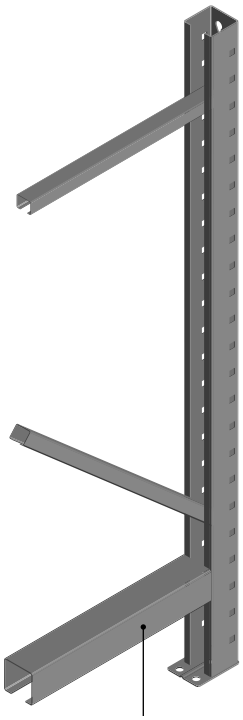
Typically, the model used for the strut matches the model used as the post.

Heavy Bottom Horizontal Strut Product Code*	
Code Position 14	
Post (Strut) Model Number	
Post IE075F	B

*Heavy bottom struts may or may not have hole punches, depending on availability.



Frame With Normal Bottom Strut



Frame With Heavy Bottom Horizontal Strut

POST CAP (FIELD INSTALLED)

Available from Pontiac, IL only.

Adhesive is not included.

Available in black plastic only.

IHACN10770DP000000
FOR 025F COLUMN

IHACN10771DP000000
FOR 07_F COLUMNS

Post Cap Options Product Codes											
Column Model	Interlake Mecalux	Item	Qty/Pkg	Style	Size	Code A	Code B	Color	Part No.	Description	Weight (lbs) Per Unit
	1	2	3	4	5	6-10	11	12			

SPLICING

Splices are used to extend the height of new or existing frames. Contact your Interlake Mecalux representative for more information on usage and possible limitations.

Standard splicing piece for 3" x 1 5/8"; 3" x 3"; and 4"x3" roll formed frame posts.

(2) splices are required per frame.

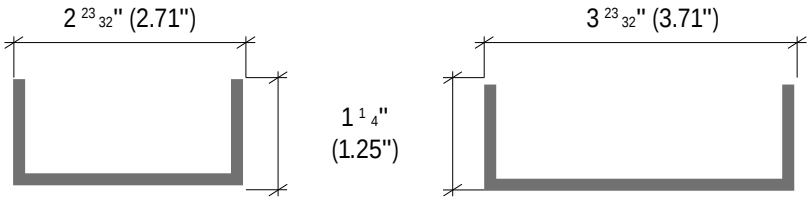
Splice kit for 3" post (U0075865) ships with:

A. (1) splice (post)
B. (4) 7/16"-14 x 3 1/2" bolts - U0074666
C. (4) 7/16" flanged locknuts - U0074690

Splice kit for 4" post (U0077717) ships with:

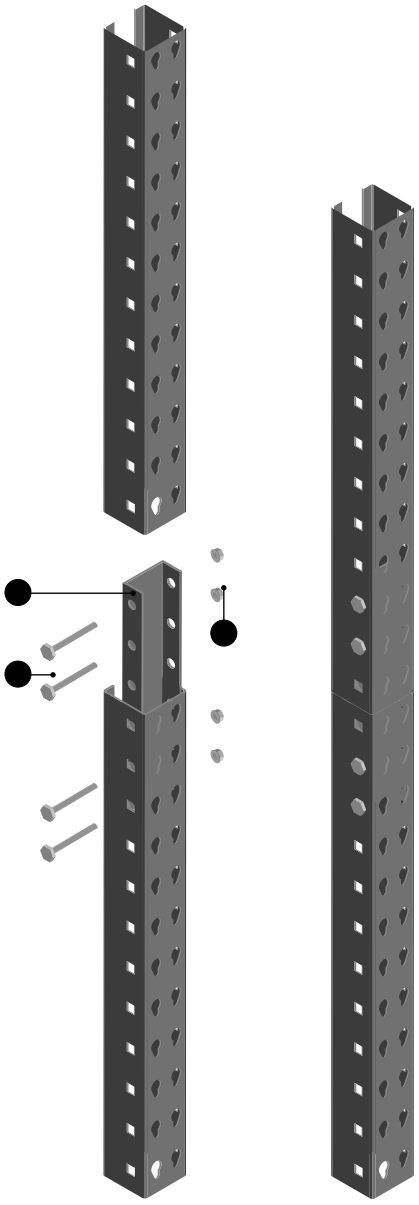
A. (1) splice (post)
B. (4) 7/16"-14 x 4 1/2" bolts - U0074669
C. (4) 7/16" flanged locknuts - U0074690

These splices are good for a maximum of 10,000 lbs. above the splice level (5,000 lbs. per column).



Model IA551
Splice for 3"
Roll Formed Columns

Model IA552
Splice for 4"
Roll Formed Columns



Internal Post Splicing Sets Product Codes									
Column Model	Interlake Mecalux	Item	Model	Style	Length	Color	Part No.	Description	Weight (lbs) Per Unit
Code Position	1	2	3-5	6	7-11	12			

SHELF PANELS IK IA108N (6") AND IK IA114N (12") CAPACITY CHARTS

*NOTE:
Capacity values are per individual shelf.
Take into account that a slotted beam will be used when beam length is over 90" with one IK025B Crossbar.
These capacities assume that all component parts are: (1) Manufactured by Interlake Mecalux. (2) In good condition. (3) Properly installed.

IK IA114

IK IA108

SHELF L-USU (6" AND 12")

The shelf panels are placed perpendicular to the beams and will sit inside of the beam's $1\frac{5}{8}$" step ledge and have a bend that will go over. They also have a flange that will hang over the edge of beams and are available for use with slotted or unslotted beams.

Available in a standard pre-galvanized finish.

Gauge 18 (0.04") thick.

36"	T0055491	T0055487
48"	T0055494	T0055490

771
440