

Product Support Guide

Selective Rack

Roll Formed Beams and Frames

Interlake
MECALUX



Selective Roll Formed Beams and Frames

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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.

PRODUCT DESCRIPTION

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.

CODE COMPLIANCE

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.



AVAILABILITY AND SHIPPING LOCATIONS

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**

**Bvd. 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**

**3333 W University Dr
Building 2
Denton, TX 76207**

**8607 Ave de la Fuente
San Diego, CA 92154**

**1600 N. 25th Avenue
Melrose Park, IL 60160**

GENERAL DESIGN CONSIDERATIONS

PALLETS

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.

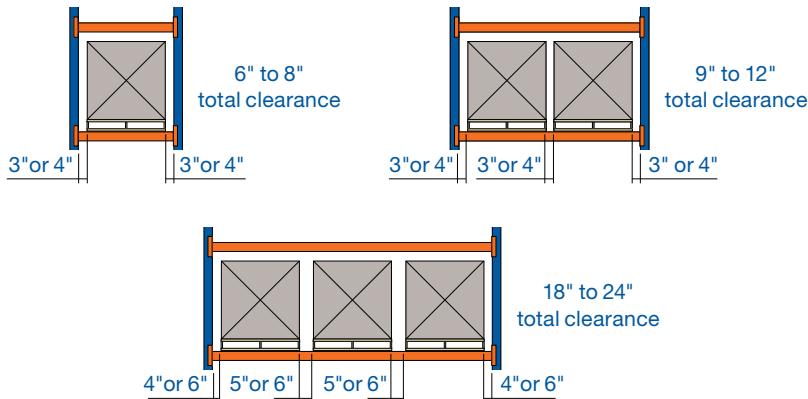
CLEARANCES

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".

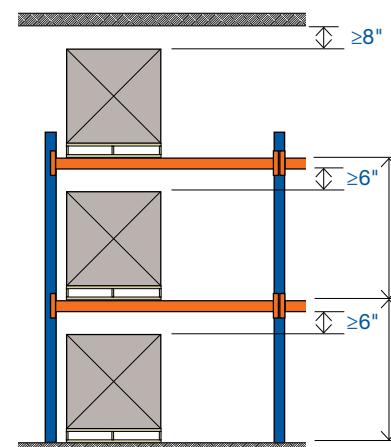
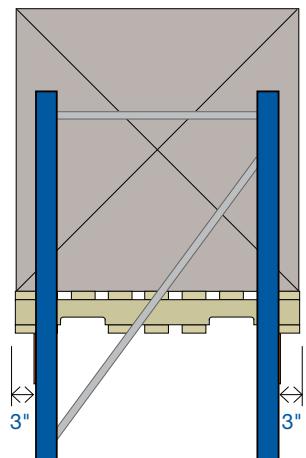
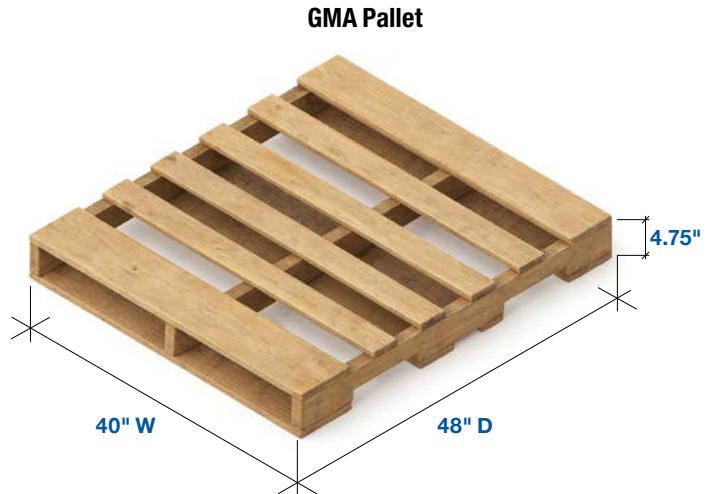
The pallet must extend 3" beyond the frame depth on either side to ensure proper pallet support.

CLEARANCES BETWEEN PALLETS AND POSTS

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" or 6" clearance should be provided between pallets and 4" or 6" between post and pallet.



Pallet Quantity per Level	Pallet Width / Entry Side				
	40" W Pallet	42"	44"	46"	48"
1 per level	48"	48"	54"	54"	54"
2 per level	96"	96"	102"	102"	108"
3 per level	144"	144"	150"	156"	162"



SELECTIVE ROLL FORMED BEAMS AND FRAMES

OVERVIEW

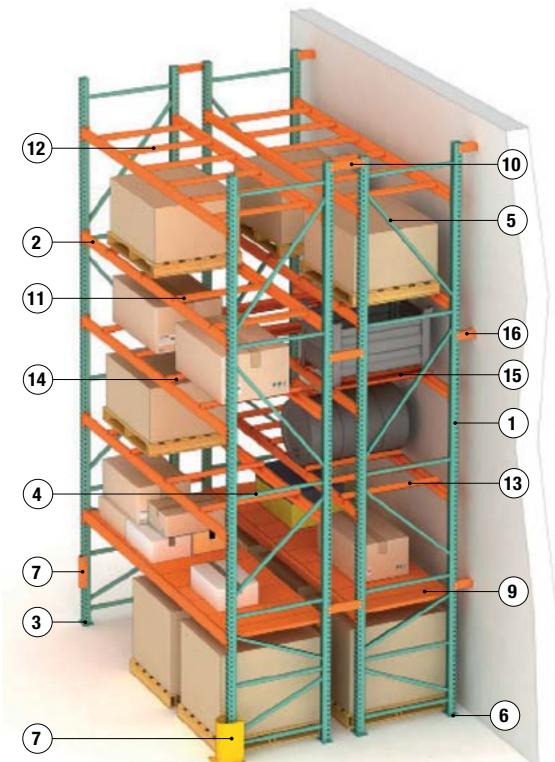
Selective rack is the most common type of storage solution found across the United States. It is a static system combining beams and frames to provide proper storage for pallets and other large items. Selective rack also comes with a variety of accessories and options, which are detailed in this guide.

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.

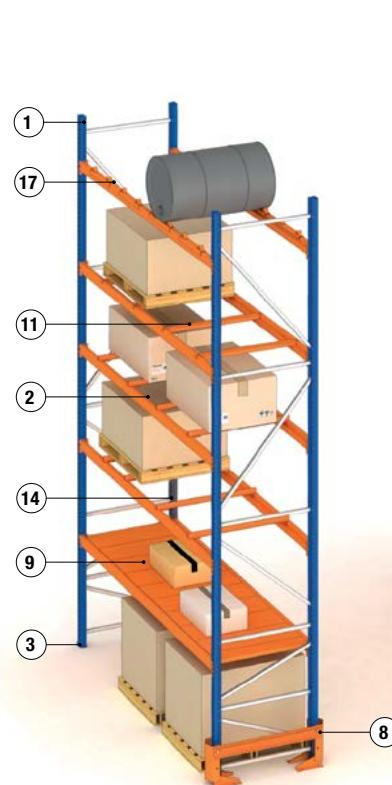
Beams are the horizontal elements of the system and are typically orange. Interlake Mecalux offers several different sizes and profiles of beams with varying capacities to fit the needs of the customer and the items being stored. Pallets are placed directly on the beams. Special accessories can be added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

Components

1. Frame	4. Horizontal strut	9. Shelf panel	14. Fork clearance bar
2. Beam	5. Diagonal strut	10. Row spacer	15. Skid channel
3. Foot plate	6. Shim	11. Roll-in pallet support	16. Wall tie
	7. Post protector	12. Double flanged pallet support	17. Drum cradle
	8. End aisle protector	13. Drum/coil bed	18. Corner protector



Welded Selective Pallet Rack



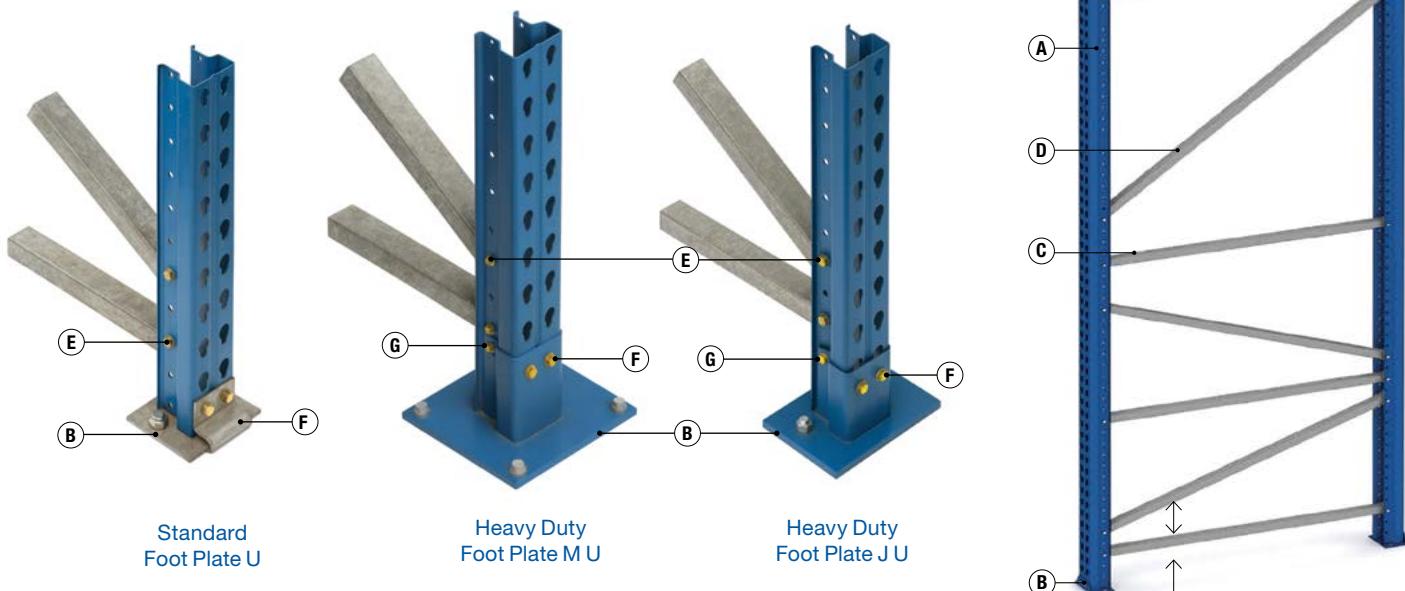
Bolted Selective Pallet Rack

BOLTED ROLL FORMED FRAMES

COMPONENTS

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

Bolted Frame Components						
A	B		C & D	E	F. Front	G. Side
Post	Std. Foot Plate	Heavy Duty Bolted	Horizontal & Diagonal Struts	Strut Hardware	Foot Plate Hardware	
U314	U3P T0200868	J U3P T0200874 F J U3P T0203269 M U3P T0200876 F M U3P T0203271	U C456G	T0201564	2 WASHER CUPS T0043168 + 2 BOLTS T0029082	1 BOLT T0029098
U313						1 BOLT T0203315
U312						1 BOLT T0203317
U101	U100 T0029078	J U100 T0200800 F J U100 T0203277 M U100 T0203315 F M U100 T0203279	U C715G	T0029094	2 WASHER CUPS T0043168 + 2 BOLTS T0029082	1 BOLT T0203315
U102						1 BOLT T0203317
U122		J U120 T0200801 F J U120 T0203281 M U120 T0200804 F M U120 T0203283				1 BOLT T0203317
UA10	UA10 T0206656 F UA10 T0206657		U C915G	T0029095	N/A	2 BOLTS T0208041 + 2 BOLTS T0208042



PRODUCT CODE DESCRIPTION

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) 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
	Frame Depth (in)
	Frame Height (ft)
	Foot Plate Model: J, M or PP
	G = Galvanized Struts Nothing = Painted Struts

I2312G28842NJ00000

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

Bolted Frame Capacities (lbs)										
Model	2.314		2.313		2.312		2.101	2.102	2.122	UA10
Family	B2314G		B2313G		B2312G		B2101GGC	B2102GGC	B2122GGC	N/A
Gauge	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	≤ 21'	> 21'	≤ 21'	> 21'	≤ 21'	> 21'	Maximum Unsupported Span (HbL)			
36"	24,571	25,847	29,583	31,133	34,514	36,322				
42"	22,807	23,924	27,531	28,900	32,120	33,717				
48"	20,867	21,832	25,741	26,286	30,032	30,667				
54"	18,849	19,680	22,753	23,778	26,546	27,742				
60"	16,849	17,563	20,288	21,166	23,670	24,694				
66"	14,784	15,400	17,994	18,755	20,994	21,881				
72"	12,982	13,535	15,705	16,392	18,323	19,125				
78"	11,156	11,571	13,584	14,104	15,849	16,455				
84"	9,758	10,075	11,892	12,291	13,875	14,340				
90"	8,595	8,848	10,397	10,705	12,130	12,490				
96"	7,597	7,795	9,174	9,414	10,703	10,984				
102"	6,761	6,918	8,240	8,435	9,614	9,841				
108"	6,086	6,216	7,368	7,527	8,596	8,782				
114"	5,496	5,601	6,562	6,690	7,656	7,805				
120"	4,989	5,074	5,979	6,087	6,976	7,102				

HbL = Height between levels

NOTE:

- Capacities are according to the most important RMI guidelines and ANSI MH16.1-2012 specifications.; Steel strength: FY = 55 KSI.
- Capacities for static loads only, including product load plus dead load (dead load = 2% of product load).

- Capacities are only valid when used with Interlake Mecalux published beam sizes.
- These capacities assume that all component parts are: (1) Manufactured by Interlake Mecalux. (2) In good condition. (3) Properly installed.
- 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) assuming equally spaced levels.

BOLTED FRAMES - GENERAL INFORMATION

Bolted Frames for Selective Pallet Rack Dimensions		
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	
Height minimum	48" (4')	Every 12" ***
Height maximum	480" (40')	
Depth minimum (standard)*	36" (3')	36", 42" and 48" ****
Depth maximum (standard)**	48" (4')	

* Min. custom depth = 18", contact your Interlake Mecalux representative for more information.

** Max. custom depth = 72", contact your Interlake Mecalux representative for more information.

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

**** Custom depth intervals are available every 1", contact your Interlake Mecalux representative for more information.

Bolted Frames With Standard Components (Selective Pallet Rack)								
Frame	Frame Family	Post	Post Family	Heavy Foot Plate	Hardware for Foot Plate Connection	Strut	Hardware For Strut To Post Connection	
FR.2.314 G	B2314G	TD U314	PU314TD	U3P T0200868 (galvanized)	2 Washer Cup - Foot Plate 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	PU313TD					
FR.2.312 G	B2312G	TD U312	PU312TD					
FR.2.101 G	B2101GGC	TD U101	PU101TD	U100 T0029078 (galvanized)	2 Bolts W 3/8 x 1" D933 G5 B TE1A (T0029082)	U C715G	BOLTS W 5/16 X 3 7/16" D931 G5 B TE1A (T0029094)	
FR.2.102 G	B2102GGC	TD U102	PU102TD					
FR.2.122 G	B2122GGC	TD U122	PU122TD	U120 T0029079 (galvanized)	2 BOLTS W 5/16 X 3" D931 G5 B TE1A (T0208041) + 2 BOLTS W 3/8 X 4 3/4" D931 G5 B TE1A (T0208042)	U C915G	BOLTS W 5/16 X 4 7/32" D931 G5 B TE1A (T0029095)	
N/A	N/A	TD UA10	PUA10TD	UA10 T0206656 (blue)				
				F UA10 T206657 (blue)				
						U 502 G	BOLTS W 5/16 X 2 5/8" D931 G5 B TE1A (T0029080)	

BOLTED POST PROFILES AND FRAMES

Post profiles are available in various sizes. Each profile has 9 bends. 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).


 Post TD U314,
U313 & U312

 Post TD U101
& U102

Post TD U122

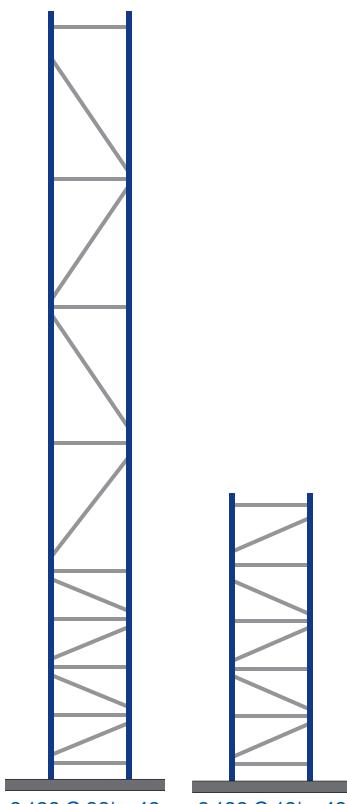
Post TD UA10

Post Model	Family	A	B	C	
TD U314	PU314TD	3"	2.71"	14 GA (0.075")	
TD U313	PU313TD	3.03		13 GA (0.090")	
TD U312	PU312TD	3.06"		12 GA (0.105")	
TD U101	PU101TD	3.97"		13 GA (0.090")	
TD U102	PU102TD	4.01"		12 GA (0.105")	
TD U122	PU122TD	4.8"		12 GA (0.105")	
TD UA10	PUA10TD	4.01	4.85	12 GA (0.105")	

BRACING DISTRIBUTION

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.



2.122 G 32' x 42 2.122 G 12' x 42

 2.101 - 2.122
(48" - 480")

These frames will have a consistent strut pattern.

2.312 G 32' x 42

 2.314 - 2.312
(48" - 480")

2.314, 2.313 and 2.312 Frames have 2 strut patterns, one used when frames are <21' and another for frames >21'

STANDARD FOOT PLATES

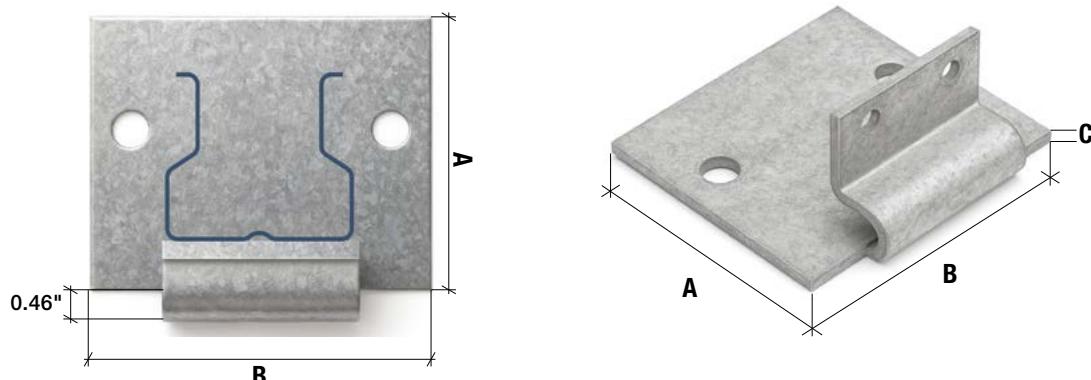
STANDARD FOOT PLATES

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.



Foot Plate U3P / U100 / U122

Standard Bolted Foot Plates								
Foot Plate	Frame	Frame Family	Foot Plate Part Number	Description	Finish	A	B	C Gauge
U3P	FR.2.314 G FR.2.313 G FR.2.312 G	B2314G	T0200868	HEAVY FOOTPLATE U3P	Galvanized	4 15/64" (4.23")	5 7/64" (5.10")	6 (0.194")
		B2313G						
		B2312G						
U100	FR.2.101 G FR.2.102 G	B2101GGC	T0029078	HEAVY FOOTPLATE U100	Galvanized	4 19/64" (4.29")	6 7/64" (6.10")	6 (0.194")
		B2102GGC					6 57/64" (6.89")	
U122	FR.2.122 G	B2122GGC	T0029079	HEAVY FOOTPLATE U120	Galvanized			

Standard 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**)

STANDARD FOOT PLATE SHIMS

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")

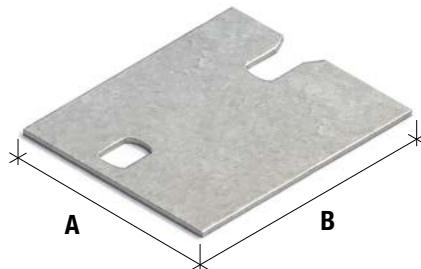
2 x Frame quantity
1 x Post quantity (if individual posts are quoted)

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
U 3P	$4 \frac{11}{32}''$ (4.34")	$5 \frac{3}{32}''$ (5.09")
U 100		$6 \frac{7}{64}''$ (6.10")
U 120		$6 \frac{57}{64}''$ (6.89")

Standard Bolted Foot Plate Shims						
Shim	Frame	Part Number	Description	Gauge	Quantity per Frame	Finish
U 3P	FR.2.314 G FR. 2.313 G FR. 2.312 G	T0200872	SHIMS U 3P G=11 IK	G11 (0.120")	X 2	Galvanized
		T0200870	SHIMS U 3P G=18 IK	G18 (0.048")	X 1	
		T0200871	SHIMS U 3P G=13 IK	G13 (0.090")	if requested X 1	
U 100	FR. 2.101 G FR. 2.102 G	T0032355	SHIMS U 100 G=11	G11 (0.120")	X 2	Galvanized
		T0032353	SHIMS U 100 G=18	G18 (0.048")	X 1	
		T0032354	SHIMS U 100 G=13	G13 (0.090")	if requested X 1	
U 120	FR. 2.122 G	T0032358	SHIMS U 120 G=11	G11 (0.120")	X 2	Galvanized
		T0032356	SHIMS U 120 G=18	G18 (0.048")	X 1	
		T0032357	SHIMS U 120 G=13	G13 (0.090")	if requested X 1	

BOLTED HEAVY-DUTY FOOT PLATES

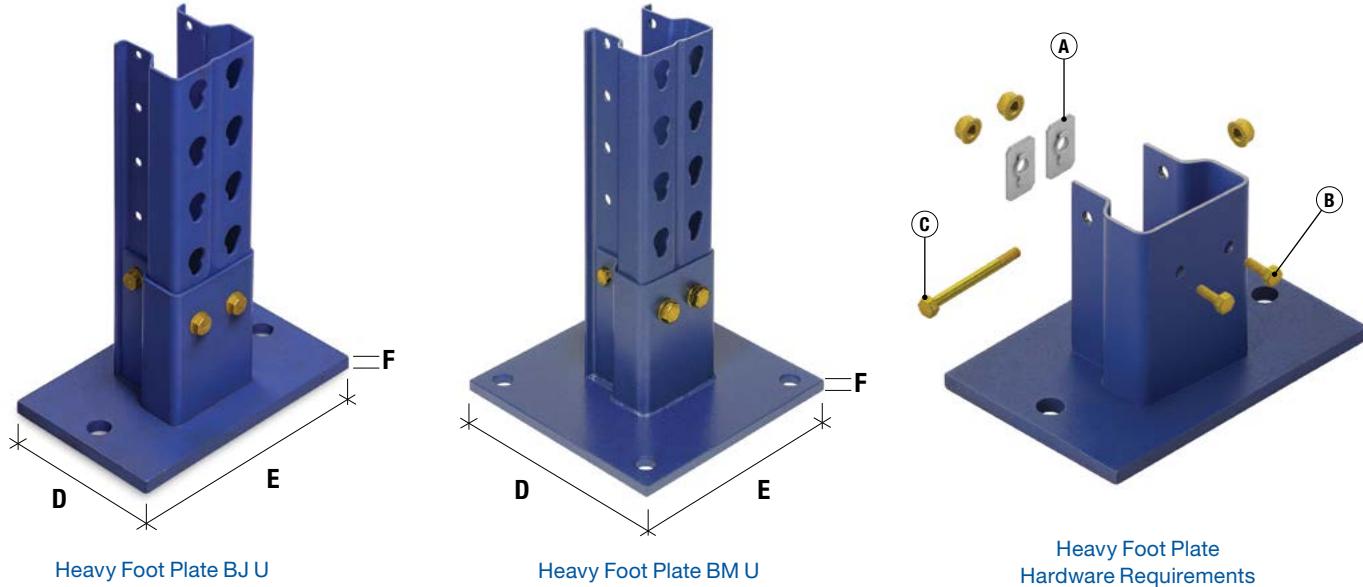
HEAVY-DUTY FOOT PLATES BJ AND BM

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 $\frac{3}{8}$ x 1" D933 GF B TE1A (**T0029082**)
- C. (1) Bolt W $\frac{5}{16}$ x $2\frac{3}{4}$ " D931 G5 B TE1A (**T0029098**) for 314, 313 & 312;
W $\frac{5}{16}$ x $3\frac{3}{4}$ " (**T0203315**) for 101 & 102 OR W $\frac{5}{16}$ x $4\frac{3}{4}$ " (**T0203317**) for 122



Heavy Foot Plate BJ U

Heavy Foot Plate BM U

Heavy Foot Plate
Hardware Requirements

Heavy Foot Plate J U and M U Options						
Heavy Foot Plate	Frame	Frame Family	Foot Plate Part Number	D	E	F (Thickness)
J U3P	FR.2.314 BJ G	B2314GJ	T0200874 (blue)	$5\frac{7}{64}$ " (5.11")	$7\frac{9}{32}$ " (7.28")	0.394"
	FR.2.313 BJ G	B2313GJ				
	FR.2.312 BJ G	B2312GJ				
J U100	FR.2.101 BJ G	B2101GJ	T0200800 (blue)	$5\frac{7}{64}$ " (5.11")	9"	0.394"
	FR.2.102 BJ G	B2102GJ				
J U120	FR.2.122 BJ G	B2122GJ	T0200801 (blue)	$5\frac{7}{64}$ " (5.11")	9"	
M U3P	FR.2.314 BM G	B2314GM	T0200876 (blue)	$7\frac{7}{8}$ " (7.87")	$7\frac{7}{8}$ " (7.87")	0.394"
	FR.2.313 BM G	B2313GM				
	FR.2.312 BM G	B2312GM				
M U100	FR.2.101 BM G	B2101GM	T0200803 (blue)	$7\frac{7}{8}$ " (7.87")	$7\frac{7}{8}$ " (7.87")	0.394"
	FR.2.102 BM G	B2102GM				
M U120	FR.2.122 BM G	B2122GM	T0200804 (blue)			

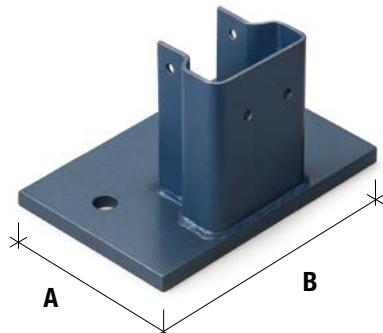
FLUSH HEAVY-DUTY FOOT PLATES BJ F AND BM F

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.

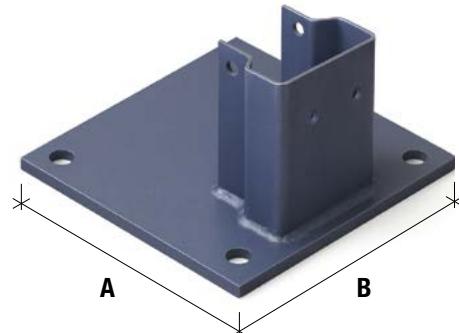
Heavy-duty foot plates hardware requirements:

(2) Washer Cup TD U (T0043168)
 (2) Bolts W $\frac{3}{8}$ x 1" D933 GF B TE1A (T0029082)
 (1) Bolt W $\frac{5}{16}$ x 2 $\frac{3}{4}$ " D931 G5 B TE1A (T0029098) for 314, 313 & 312;
 $3\frac{3}{4}$ " (T0203315) for 101 & 102 OR 4 $\frac{3}{4}$ " (T0203317) for 122

- Available in a standard cataphoresis blue (RAL-5003) finish.
- The frame is mounted flush to the front of the foot plate ($\frac{1}{4}$ " - 0.25").
- They will be quoted by components and only by request.



Heavy Foot Plate F J U



Heavy Foot Plate F M U

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 U3P	FR.2.314 BJF G	B2314GJF	T0203269 (blue)	$5\frac{7}{64}$ " (5.11")	$7\frac{9}{32}$ " (7.28")	0.394"
	FR.2.313 BJF G	B2313GJF				
	FR.2.312 BJF G	B2312GJF				
F J U100	FR.2.101 BJF G	B2101GJF	T0203277 (blue)	$5\frac{7}{64}$ " (5.11")	9.00"	0.394"
	FR.2.102 BJF G	B2102GJF				
F J U120	FR.2.122 BJF G	B2122GJF	T0203281 (blue)	$5\frac{7}{64}$ " (5.11")	9.00"	
F M U3P	FR.2.314 BMF G	B2314GMF	T0203271 (blue)	$7\frac{7}{8}$ " (7.87")	$7\frac{7}{8}$ " (7.87")	0.394"
	FR.2.313 BMF G	B2313GMF				
	FR.2.312 BMF G	B2312GMF				
F M U100	FR.2.101 BMF G	B2101GMF	T0203279 (blue)	$7\frac{7}{8}$ " (7.87")	$7\frac{7}{8}$ " (7.87")	0.394"
	FR.2.102 BMF G	B2102GMF				
F M U120	FR.2.122 BMF G	B2122GMF	T0203283 (blue)			

HEAVY-DUTY FOOT PLATE SHIMS (BJ, BM, BJ F AND BM F)

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:

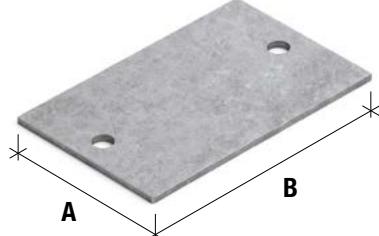
Gauge 11 (0.120")

2 x Frame quantity

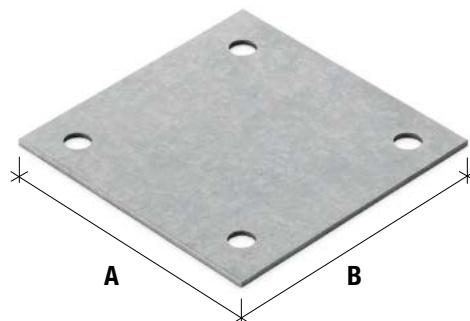
1 x Post quantity (if individual posts are quoted)

Gauge 16 (0.060")

- Only available upon request.



Shim for Heavy Foot Plate J U



Shim for Heavy Foot Plate M U

Shim Model	A	B
J U3P	5 7/64" (5.11")	7 9/32" (7.28")
J U100		
J U120	5 7/64" (5.11")	9.00"

A	B
7 7/8" (7.87")	7 7/8" (7.87")

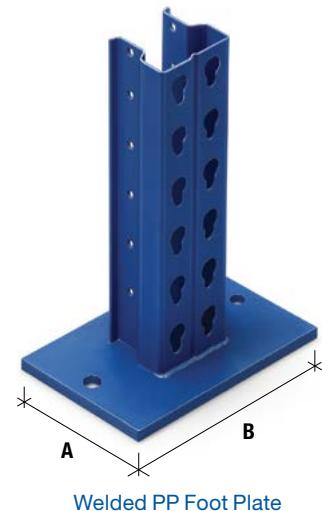
Shim Options for Heavy Foot Plate BJ, BM, BJ F and BM F					
Foot Plate	Part Number	Description	A	B	Gauge
J U3P - J U100 F J U3P - F J U100	T0200807	SHIM PLAT.0.120X5.118X7.283 2H0.551	5 7/64" (5.11")	7 9/32" (7.28")	G11 (0.120")
	T0200805	SHIM PLAT.0.060X5.118X7.283 2H0.551			G16 (0.060")
J U120 F J U120	T0200808	SHIM PLAT.0.120X5.118X9.000 2H0.551	5 7/64" (5.11")	9.00"	G11 (0.120")
	T0200806	SHIM PLAT.0.060X5.118X9.000 2H0.551			G16 (0.060")
M U F M U	T0200824	SHIM PLAT. 0.12X 7.874X 7.874	7 7/8" (7.87")	7 7/8" (7.87")	G11 (0.120")
	T0200823	SHIM PLAT. 0.060X 7.874X 7.874			G16 (0.060")

HEAVY-DUTY FOOT PLATES PP

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



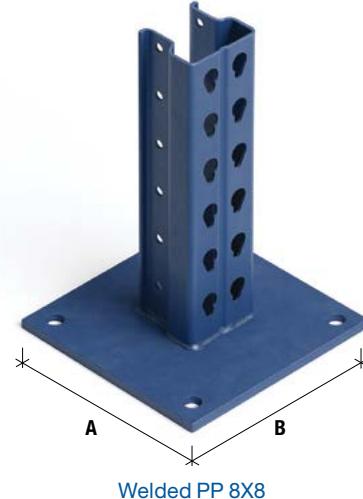
Welded PP Foot Plate Sizes							
Frame	Frame Family	Post Model	Post Family	A	B	Thickness	
FR.2.314 G PP	B2314GPP	TD U314 PP	PU314TDP	5.00"	7 3/4" (7.75")	3/8" (0.375")	
FR.2.313 G PP	B2313GPP	TU U313 PP	PU313TDP				
FR.2.312 G PP	B2312GPP	TD U312 PP	PU312TDP				
FR.2.101 G PP	B2101GPP	TD U101 PP	UP101TDP		9.00"		
FR.2.102 G PP	B2102GPP	TD U102 PP	PU102TDP				
FR.2.122 G PP	B2122GPP	TD U122 PP	PU122TDP				

HEAVY-DUTY FOOT PLATES PP 8X8

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
FR.2.314 G P8	B2314GP8	TD U314 PP 8X8	PU314TD8	8.00"	8.00"	3/8" (0.375")
FR.2.313 G P8	B2313GP8	TD U313 PP 8X8	PU313TD8			
FR.2.312 G P8	B2312GP8	TD U312 PP 8X8	PU312TD8			
FR.2.101 G P8	B2101GP8	TD U101 PP 8X8	PU101TD8			
FR.2.102 G P8	B2102GP8	TD U102 PP 8X8	PU102TD8			
FR.2.122 G P8	B2122GP8	TD U122 PP 8X8	PU122TD8			

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

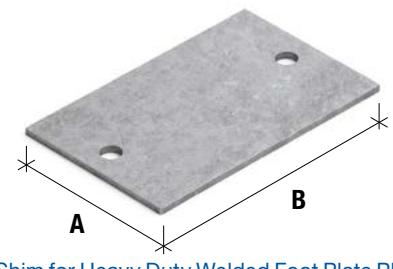
1 x post quantity

(if individual posts are quoted)

Gauge 16 (0.060")

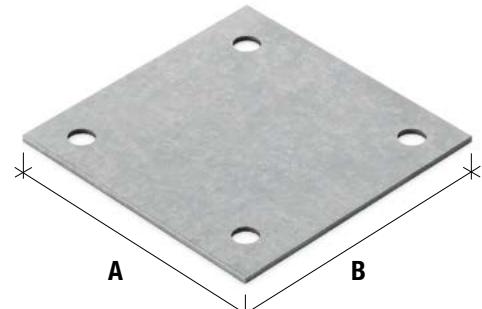
- Only available upon request.

NOTE These shims are only to be used with Welded PP and PP 8X8 Foot Plates (page 16)



Shim for Heavy Duty Welded Foot Plate PP

Shim Model	A	B
TD U 3 PP - TD U 100 PP (IHASB GA11 / IHASA GA16)	5.00"	7 3/4" (7.75")
		9.00"



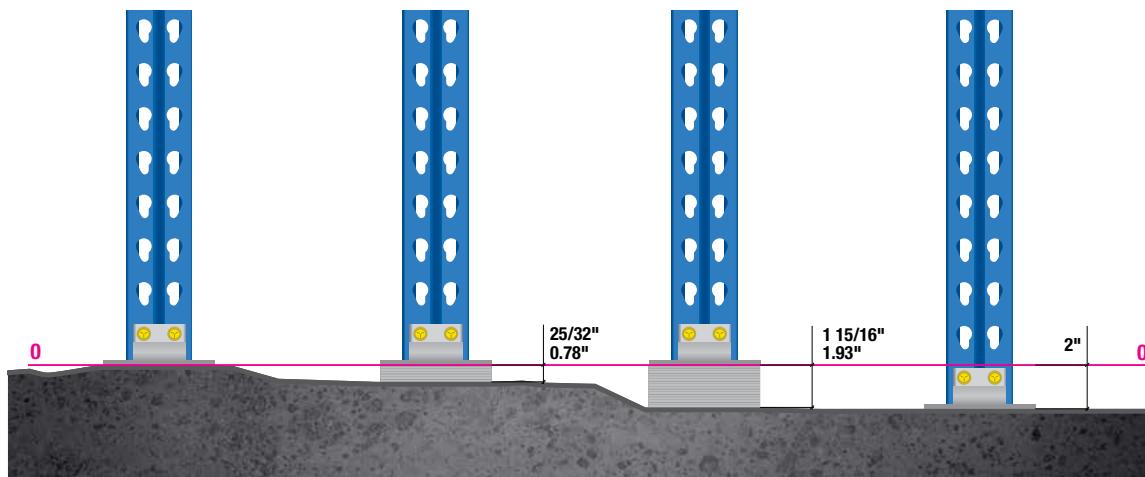
Shim for Heavy Duty Welded Foot Plate PP8X8

A	B
8.00"	8.00"

Shim Options for Heavy Foot Plate PP & PP 8X8					
Foot Plate	Part Number	Description	A	B	Gauge
2.314PP, 2.313PP, 2.312PP, 2.101PP & 2.102PP	U0075048	SHIM IHASB 0.120X 5.000 X 7.750 2H	5.00"	7 3/4" (7.75")	G11 (0.120")
	U0075033	SHIM IHASA 0.060X 5.000 X 7.750			G16 (0.060")
2.122PP	T0037435	SHIMS U 120 G=11 SEISM.	5.00"	9.00"	G11 (0.120")
	T0037442	SHIMS U 120 G=18 SEISM.			G16 (0.060")
2.____PP 8X8	U0075052	SHIM IHASB 0.120X 8.000 X 8.000 4H	8.00"	8.00"	G11 (0.120")
	U0075036	SHIM IHASA 0.060X 8.000 X 8.000 4H			G16 (0.060")

SHIMMING GUIDELINES

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 ($\pm 2"$). Note that shimming may require longer anchors to maintain minimum embedment.



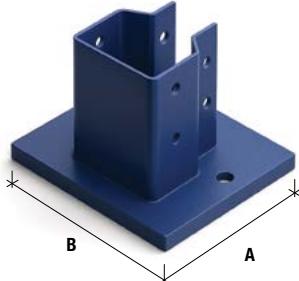
HEAVY-DUTY FOOT PLATES AND SHIMS UA10 AND F UA10

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.

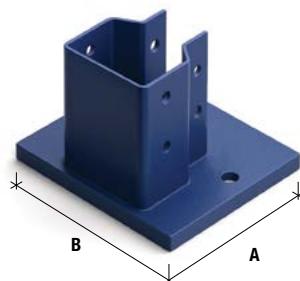
Heavy-duty foot plates UA10 AND F UA10 hardware requirements:

(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-Duty Foot Plate UA10



Flush Heavy-Duty Foot Plate F UA10

Heavy Foot Plate UA10 and F UA10 Options						
Foot Plate	Frame	Part Number	Description	A	B	Thickness
STANDARD UA10	FR.UA10	T0206656	HEAVY FOOTPLATE UA10	$7\frac{7}{8}$ " (7.87")	$8\frac{35}{64}$ " (8.54")	0.591"
FLUSH UA10		T0206657	HEAVY FOOTPLATE F UA10			

HEAVY-DUTY FOOT PLATE SHIMS (UA10 AND F UA10)

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")

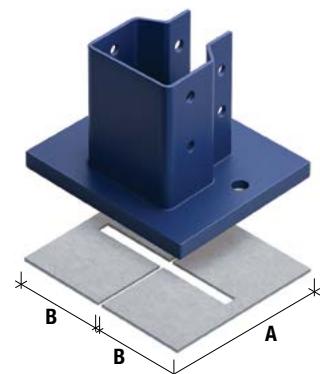
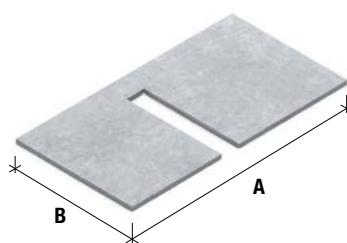
8 x Frame quantity

4 x Post quantity (if individual posts are quoted)

Gauge 16 (0.060")

4 x Frame quantity

2 x Post quantity (if individual posts are quoted)



Shim Options for Heavy Foot Plate UA10 or F UA10					
Foot Plate	Part Number	Description	Gauge	A	B
UA10 or F UA10	T0207926	SHIMS UA10 G=11	G11 (0.120")	$7\frac{7}{8}$ " (7.87")	$4\frac{13}{32}$ " (4.17")
	T0207925	SHIMS UA10 G=16	G16 (0.060")		

FRAME UA10 ROW SPACER: IK501

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 $\frac{3}{8}$ -16 x $\frac{5}{8}$ " FLNG G5 Z (Part number **U0074648**).
- C. (4) Locknut Flange $\frac{3}{8}$ -16 Z (Part number **U0074687**).

Row Spacer 501 Length should be $\frac{1}{4}$ " (0.25") shorter than the required distance between UA10 posts (L).

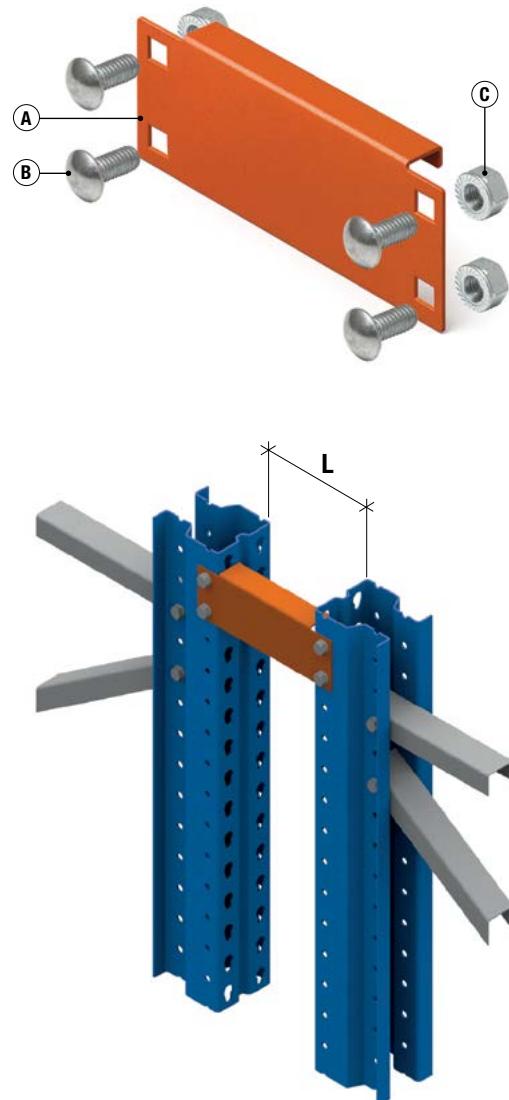
e.g. Required post separation is 6":

$$6" - 0.25" = 5.75"$$

Part Number: **UM010842** (VL-ROW SPAC.IK501 5 $\frac{3}{4}$ ')

Custom lengths must be ordered as VL's up to 60"
using Family Code **IKCJA501** (hardware will be included)
or Family Code **IKIA501** (row spacer without hardware).

UA10 ROW SPACERS: IK501			
Post Separation	Part Number	Description	Required Hardware (not included)
6"	UM010842	VL-ROW SPAC.IK501 5 3/4"	
8"	UL699507	VL-ROW SPAC.IK501 7 3/4"	
13"	UL692407	VL-ROW SPAC.IK501 12 3/4"	
14"	UL537677	VL-ROW SPAC.IK501 13 3/4"	
18"	UM014091	VL-ROW SPAC.IK501 17 3/4"	
21"	UL680912	VL-ROW SPAC.IK501 20 3/4"	
24"	UM012346	VL-ROW SPAC.IK501 23 3/4"	
28"	UL687358	VL-ROW SPAC.IK501 27 3/4"	
33"	UL536141	VL-ROW SPAC.IK501 32 3/4"	
42"	UL677459	VL-ROW SPAC.IK501 41 3/4"	
48"	UL665983	VL-ROW SPAC.IK501 47 3/4"	
54"	UL696278	VL-ROW SPAC.IK501 53 3/4"	



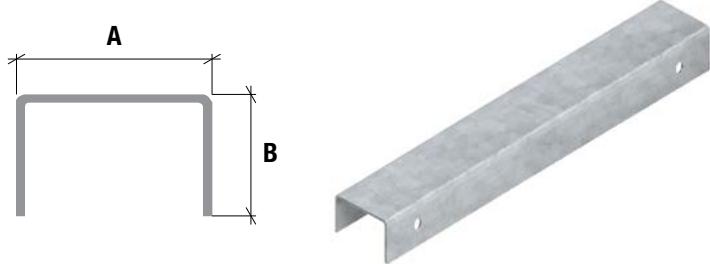
Model 501

L = Space between UA10 posts

STRUTS / DIAGONALS DETAIL

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.
- General tolerances are 0.034" (+/- 1mm).



Bolted Strut Models						
Model	Strut Family	Frame Model	Gauge	Hardware	A	B
C456G	DBUC456G	2.314, 2.313 and 2.312	16 (0.06")	(2) BOLTS 5/16 x 2 3/8" D931 G5 B TE1A (T0201564)	1 25/32" (1.78")	1 3/8" (1.375")
C715G	DBUC715G	2.101 and 2.102		(2) BOLTS W5/16 x 3 7/16" D931 G5 B TE1A (T0029094)	2 3/4" (2.75")	
C915G	DBUC915G	2.122		(2) BOLTS W5/16 x 4 7/32" D931 G5 B TE1A (T0029095)	3 17/32" (3.53")	
C502G	DBUC502G	A10		(2) BOLTS W5/16 x 2 5/8" D931 G5 B TE1A (T0029080)	1 63/64" (1.97")	

2.314, 2.313 and 2.312 Bolted Strut Part Numbers C456G						
Frame Depth	Horizontal	16" Panel	24" Panel	36" Panel	48" Panel	56" Panel
36"	T0203807	T0203808	T0203810	T0203815	T0203819	T0203821
42"	T0203809	T0203811	T0203813	T0203817	T0203820	T0203823
48"	T0203812	T0203814	T0203816	T0203818	T0203822	T0203824

2.101 and 2.102 Bolted Strut Dimensions C715G						
Frame Depth	Horizontal	16" Panel		36" Panel	48" Panel	56" Panel
36"	T0203846	T0203847		T0203857	T0203861	T0203863
42"	T0203849	T0203851		T0203859	T0203862	T0203865
48"	T0203853	T0203855		T0203860	T0203864	T0203866

2.122 Bolted Strut Dimensions C915G						
Frame Depth	Horizontal	16" Panel		36" Panel	48" Panel	56" Panel
36"	T0203876	T0203877		T0203887	T0203891	T0203893
42"	T0203879	T0203881		T0203889	T0203892	T0203895
48"	T0203883	T0203885		T0203890	T0203894	T0203896

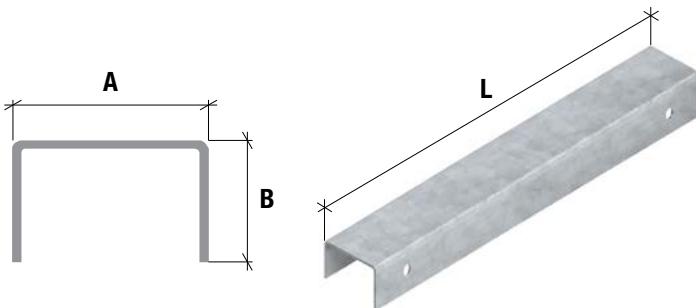
UA10 Bolted Strut Dimensions C502G						
Frame Depth	Horizontal	16" Panel		36" Panel	48" Panel	56" Panel
36"	T0206673	T0206674		T0206679	T0206682	T0206685
42"	T0206675	T0206676		T0206680	T0206683	T0206686
48"	T0206677	T0206678		T0206681	T0206684	T0206687

STRUT DIMENSIONS

The following charts outline the required dimensions for strut components used in standard bolted frame assemblies.

Horizontal struts refer to members positioned parallel to the floor.

Panels correspond to the diagonal panel sections formed within the frame structure.



Bolted Strut Models						
Model	Strut Family	Frame Model	Gauge	Hardware	A	B
C456G	DBUC456G	2.314, 2.313 and 2.312	16 (0.06")	(2) BOLTS 5/16 x 2 3/8" D931 G5 B TE1A (T0201564)	1 25/32" (1.78")	1 3/8" (1.375")
C715G	DBUC715G	2.101 and 2.102		(2) BOLTS W5/16 x 3 7/16" D931 G5 B TE1A (T0029094)	2 3/4" (2.75")	
C915G	DBUC915G	2.122		(2) BOLTS W5/16 x 4 7/32" D931 G5 B TE1A (T0029095)	3 17/32" (3.53")	
C502G	DBUC502G	A10		(2) BOLTS W5/16 x 2 5/8" D931 G5 B TE1A (T0029080)	1 63/64" (1.97")	

2.314, 2.313 and 2.312 Bolted Strut Dimensions C456G						
Frame Depth	Horizontal	16" Panel	24" Panel	36" Panel	48" Panel	56" Panel
36"	34 1/16" (34.06")	37 7/8" (37.87")	42 3/32" (42.09")	50 9/32" (50.28")	59 13/16" (59.81")	66 5/8" (66.62")
42"	40 1/16" (40.06")	43 5/16" (43.31")	47 1/16" (47.06")	54 7/16" (54.43")	63 11/32" (63.34")	69 13/16" (69.81")
48"	46 1/16" (46.06")	48 29/32" (48.90")	52 7/32" (52.21")	58 15/16" (58.93")	67 7/32" (67.21")	73 5/16" (73.31")

2.101 and 2.102 Bolted Strut Dimensions C715G						
Frame Depth	Horizontal	16" Panel		36" Panel	48" Panel	56" Panel
36"	34 1/16" (34.06")	37 7/8" (37.87")		50 9/32" (50.28")	59 13/16" (59.81")	66 5/8" (66.62")
42"	40 1/16" (40.06")	43 5/16" (43.31")		54 7/16" (54.43")	63 11/32" (63.34")	69 13/16" (69.81")
48"	46 1/16" (46.06")	48 29/32" (48.90")		58 15/16" (58.93")	67 7/32" (67.21")	73 5/16" (73.31")

2.122 Bolted Strut Dimensions C915G						
Frame Depth	Horizontal	16" Panel		36" Panel	48" Panel	56" Panel
36"	34 1/16" (34.06")	37 7/8" (37.87")		50 9/32" (50.28")	59 13/16" (59.81")	66 5/8" (66.62")
42"	40 1/16" (40.06")	43 5/16" (43.31")		54 7/16" (54.43")	63 11/32" (63.34")	69 13/16" (69.81")
48"	46 1/16" (46.06")	48 29/32" (48.90")		58 15/16" (58.93")	67 7/32" (67.21")	73 5/16" (73.31")

UA10 Bolted Strut Dimensions C502G						
Frame Depth	Horizontal	16" Panel		36" Panel	48" Panel	56" Panel
36"	30 21/32" (30.65")	34 27/32" (34.84")		48 1/16" (48.06")	58" (58.00")	65" (65.00")
42"	36 21/32" (36.65")	40 3/16" (40.18")		52 1/16" (52.06")	61 5/16" (61.31")	67 15/16" (67.93")
48"	42 21/32" (42.65")	45 23/32" (45.71")		56 11/32" (56.34")	64 31/32" (64.96")	71 1/4" (71.25")

STRUT DIMENSIONS

In order to determine the appropriate strut size for a specific panel, the frame model, depth and diagonal size have to be identified. In this example the frame model is 2.102 with a depth of 42" and height of 32':

A. (9) Horizontal struts

DIAGONAL U C715 G 40 1/16" (**T0203849**)

B. (4) 16" Panel Diagonal struts

DIAGONAL U C715 G 43 5/16" (**T0203852**)

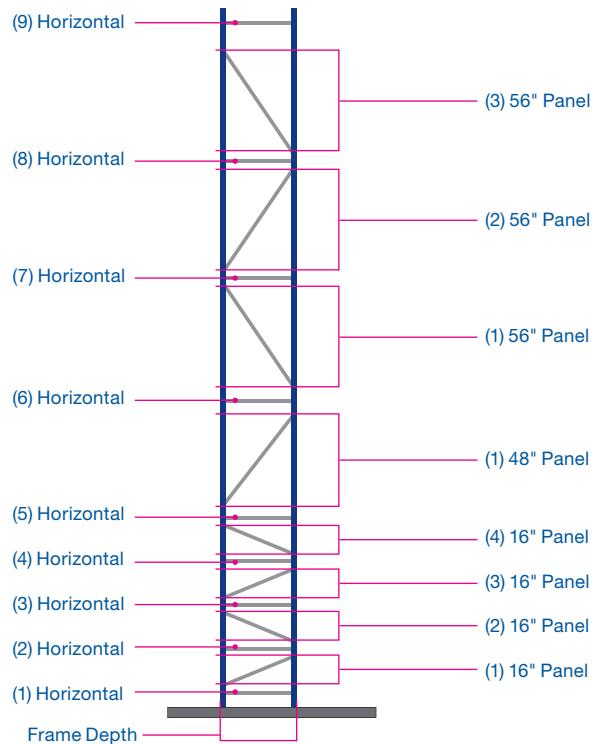
C. (1) 48" Panel Diagonal strut

DIAGONAL U C715 G 63 11/32" (**T0203862**)

D. (3) 56" Panel Diagonal struts

DIAGONAL U C715 G 69 13/16" (**T0203865**)

- Strut Hardware is usually X 2 Total Number of struts, in this example 9+4+1+3=17 X 2 = 34 Bolts (**T0029094**)



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 embedded a minimum of $2\frac{1}{2}$ " (2.50").

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

The standard anchor provided for roll formed selective pallet rack installations is **HILTI Anchor 1/2-13 X 5 1/2" (U0074596)**.



HILTI Anchor 1/2-13 X 5 1/2"
U0074596

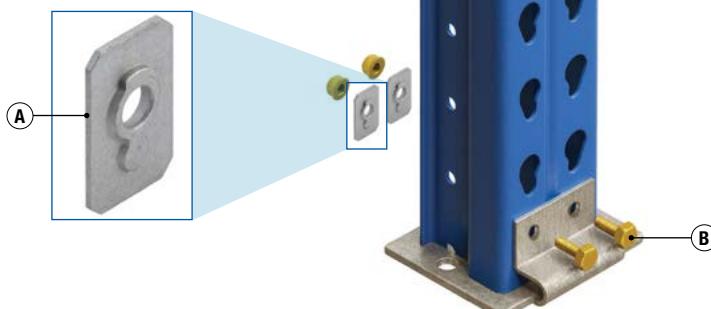
WASHER CUP - FOOT PLATE TD U (T0043168)

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

Standard foot plates should be attached to the posts using:

A. (2) Washer Cup - Foot Plate TD U (**T0043168**)
B. (2) Bolts W $3/8$ " X 1" D933 G5 B TE1A (**T0029082**)

- Available in a galvanized finish.



BOLTED REINFORCED FRAMES

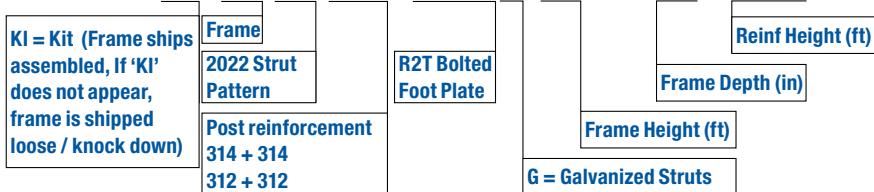
Reinforced frames increase their capacity when both columns are reinforced up to just above certain beam levels (usually required in seismic areas).

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.



KI-FR.2.314 R2T G 16' X 42" R 8'



Reinforced Frame Part Numbers					
Height	Depth	314 + 314		312 + 312	
		8' Rein	10' Rein	8' Rein	10' Rein
16'	42"	T0206632	T0206633	T0206612	T0206613
18'		T0206634	T0206635	T0206614	T0206615
20'		T0206636	T0206637	T0206616	T0206617
22'		T0206638	T0206639	T0206618	T0206619
24'		T0206640	T0206641	T0206620	T0206621
26'		T0206642	T0206643	T0206622	T0206623
28'		T0206644	T0206645	T0206624	T0206625
30'		T0206646	T0206647	T0206626	T0206627
32'		T0206648	T0206649	T0206628	T0206629
34'		T0206650	T0206651	T0206630	T0206631

BOLTED REINFORCEMENT COMPONENTS

R 2T / R 1T SEISMIC FOOT PLATE

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

R1 T Foot Plate can only be added by Engineering.

HEAVY FOOT PLATE R 2T U					
Reinforced Post Model	Part Number	A	B	Hardware	
TD U3P	U0200731	7 7/8" (7.87")	7 7/8" (7.87")	(4) Bolts W 5/16 x 3 3/4" D931 G5 B TE1A (T0203315)	
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 R2 T or R1 T					
Foot Plate	Part Number	Description	A	B	Gauge
R2 T / R1 T	T0200824	SHIM PLAT. 0.12X 7.874X 7.874	7 7/8" (7.87")	7 7/8" (7.87")	G11 (0.120")
	T0200823	SHIM PLAT. 0.060X 7.874X 7.874			G16 (0.060")

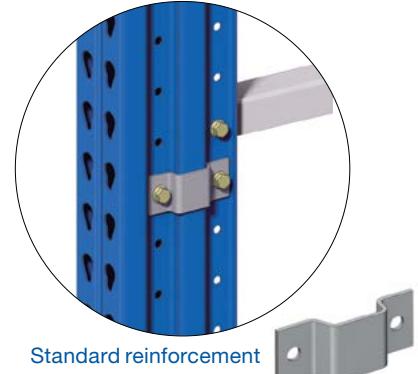
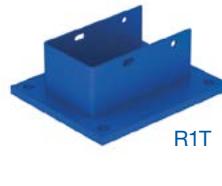
STANDARD REINFORCEMENT BRACKET (U0201013)

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

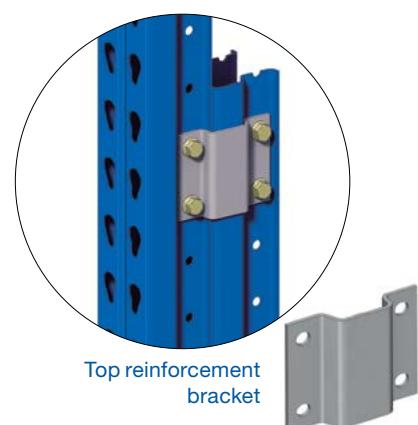
TOP REINFORCEMENT BRACKET (U0201014)

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 U3P	U0201013	Standard Reinforcement Bracket	(2) Bolts W 5/16 x 2 5/8" D931 G5 B TE1A (T0029080)
TD U100			(2) Bolts W 5/16 x 3 3/4" D931 G5 B TE1A (T0203315)
TD U120			(2) Bolts W 5/16 x 4 1/2" D931 G5 B TE1A (T0203316)
TD U3P	U0201014	Top Reinforcement Bracket	(4) Bolts W 5/16 x 2 5/8" D931 G5 B TE1A (T0029080)
TD U100			(4) Bolts W 5/16 x 3 3/4" D931 G5 B TE1A (T0203315)
TD U120			(4) Bolts W 5/16 x 4 1/2" D931 G5 B TE1A (T0203316)

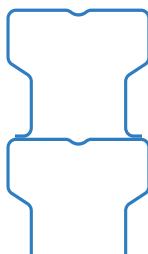


Standard reinforcement bracket

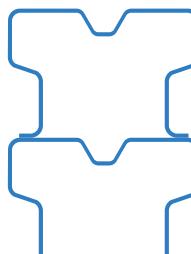


Top reinforcement bracket

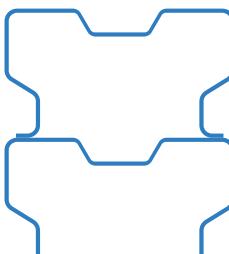
BOLTED REINFORCED FRAME CAPACITIES



314 + 314
313 + 313
312 + 312



101 + 101
102 + 102



122 + 122

Reinforced Bolted Frame Capacities (lbs)*										
Model	314 + 314		313 + 313		312 + 312		101 + 101	102 + 102	122 + 122	
Gauge	14 GA (0.075")		13 GA (0.090")		12 GA (0.105")		13 GA (0.090")	12 GA (0.105")	12 GA (0.105")	
Height	≤ 21'	> 21'	≤ 21'	> 21'	≤ 21'	> 21'				
Maximum Unsupported Span (HbL)	36"	49,140	51,690	58,970	62,033	69,020	72,640	81,900	95,600	109,800
	42"	45,610	47,840	54,737	57,418	64,240	67,430	78,300	91,300	106,400
	48"	41,730	43,660	50,081	52,397	60,060	61,330	74,200	86,600	102,500
	54"	37,690	39,360	45,238	47,232	53,090	55,480	69,900	81,500	98,200
	60"	33,690	35,120	40,438	42,151	47,340	49,380	65,200	76,100	93,600
	66"	29,560	30,800	35,482	36,960	41,980	43,760	60,400	70,700	88,700
	72"	25,960	27,070	31,157	32,484	36,640	38,250	55,600	65,100	83,700
	78"	22,310	23,140	26,774	27,770	31,690	32,900	50,800	59,500	78,500
	84"	19,510	20,150	23,419	24,180	27,750	28,680	46,000	54,000	73,300
	90"	17,190	17,690	20,628	21,235	24,260	24,970	41,500	48,600	68,100
	96"	15,190	15,590	18,233	18,708	21,400	21,960	36,900	43,400	62,900
	102"	13,520	13,830	16,226	16,603	19,220	19,680	32,800	38,600	57,800
	108"	12,170	12,430	14,606	14,918	17,190	17,560	29,300	34,500	52,900
	114"	10,990	11,200	13,190	13,442	15,310	15,600	26,400	31,100	48,100
	120"	9,970	10,140	11,974	12,178	13,950	14,200	23,800	28,000	43,500

HbL = Height between levels

NOTE:

- Capacities are according to the most important RMI guidelines and ANSI MH16.1-2012 specifications.; Steel strength: FY = 55 KSI.
- Capacities for static loads only, including product load plus dead load (dead load = 2% of product load).

- Capacities are only valid when used with Interlake Mecalux published beam sizes.
- These capacities assume that all component parts are: (1) Manufactured by Interlake Mecalux. (2) In good condition. (3) Properly installed.
- 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) assuming equally spaced levels.

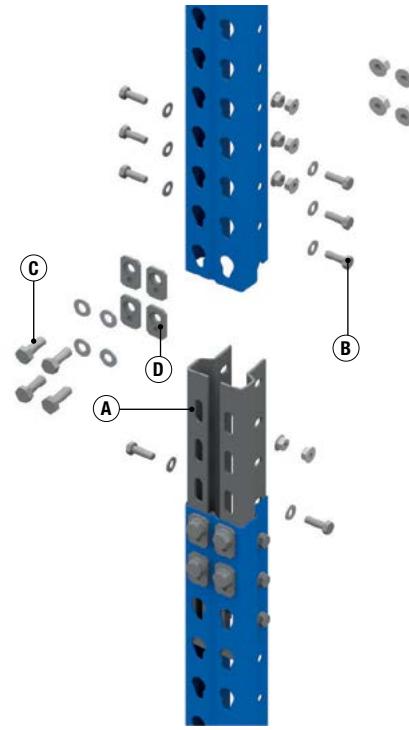
SPLICING

FRAME SPLICES: U96 TD

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 $13\frac{25}{32}$ " (13.78") long by $\frac{1}{8}$ " (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



COMPONENTS

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) $\frac{5}{16}$ " diameter x $\frac{3}{4}$ " D933 G5 B T.2A Bolts (**T0032927**)
C. (8) $\frac{3}{8}$ " diameter x $\frac{3}{4}$ " 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) $\frac{5}{16}$ " diameter x $\frac{3}{4}$ " D933 G5 B T.2A Bolts (**T0032927**)
C. (16) $\frac{3}{8}$ " diameter x $\frac{3}{4}$ " D933 G5 B TE1A Bolts (**T0032935**)
D. (16) Washers Cup-Footplate TD U (**T0043168**)



Frame and Post Splice for Bolted Frames		
Part Number	Description	Compatibility
T0039687	ST.SPLICE UPR.U96 TD	Single Bolted Post
T0039905	ST.SPLICE FRAM.U96 TD	Bolted Frame (2 Posts)

ROW SPACERS AND WALL TIES

OVERVIEW

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 SPACERS

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.

ROW SPACER DISTRIBUTION

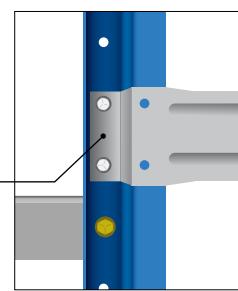
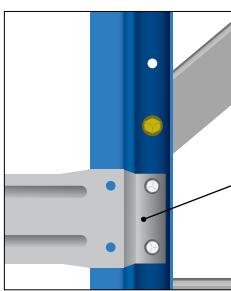
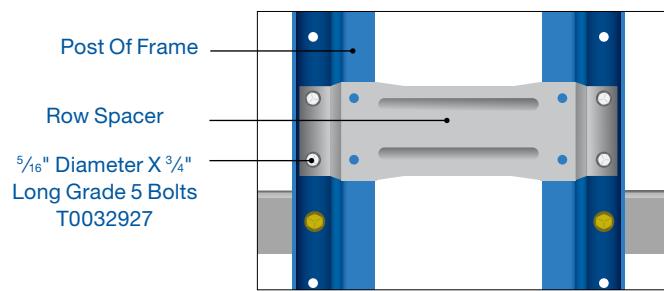
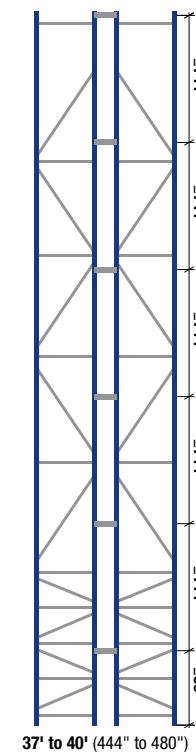
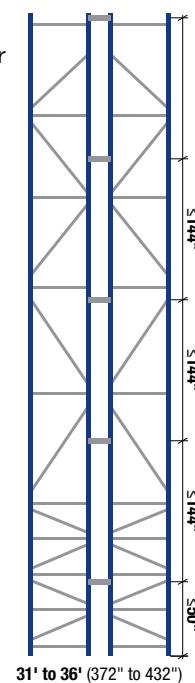
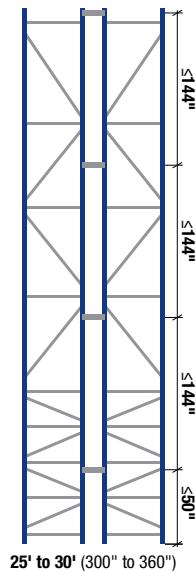
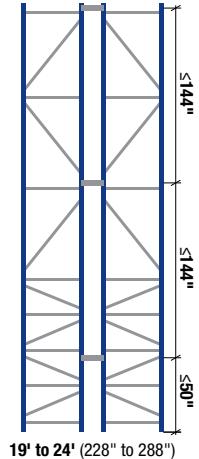
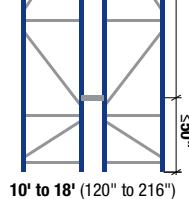
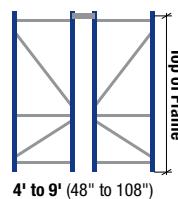
The following are recommendations for the placement of row spacers: In all cases, care must be taken to avoid interference with beams, struts or any other installation components.

Row Spacer Placement and Quantity Guide		
Frame H (ft)	Frame H (in)	RS Quantity
4' to 9'	48" to 108"	1
10' to 18'	120" to 216"	2
19' to 24'	228" to 288"	3
25' to 30'	300" to 360"	4
31' to 36'	372" to 432"	5
37' to 40'	444" to 480"	6

- Intermediate row spacers should be located close to strut connections and should maintain equal distance, 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.



REINFORCED ROW SPACERS

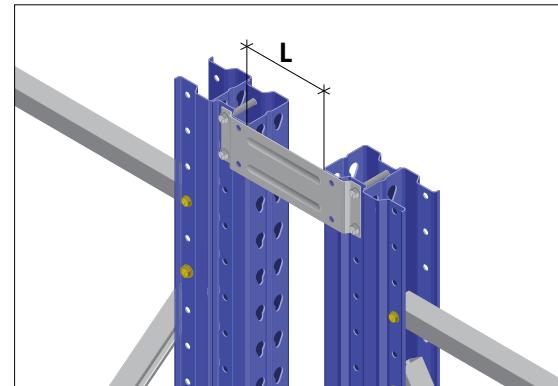
ROW SPACER: U96 SETS REIN. BOLTED FRAMES

In order to facilitate the ordering process when connecting row spacers to reinforced columns, U96 reinforced sets have been created. These sets include the components below.

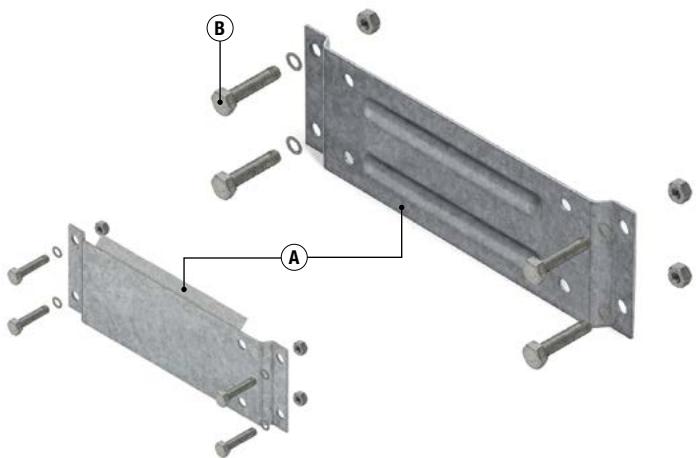
- A. (1) U96 Row Spacer
- B. (4) Through-bolts (based on frame model)

ST.ROW SPACER U96 REIN U____"

Reinforced Row Spacer U96 Sets			
Length	Rein 3" Set U3P	Rein 4" Set U100	Rein 4.8" Set U120
	314 + 314 313 + 313 312 + 312	101 + 101 102 + 102	122 + 122
2"	T0210969	T0210937	T0210953
4"	T0210970	T0210938	T0210954
6"	T0210971	T0210939	T0210955
8"	T0210972	T0210940	T0210956
9"	T0210973	T0210941	T0210957
10"	T0210974	T0210942	T0210958
12"	T0210975	T0210943	T0210959
14"	T0210976	T0210944	T0210960
16"	T0210977	T0210945	T0210961
18"	T0210978	T0210946	T0210962
20"	T0210979	T0210947	T0210963
24"	T0210980	T0210948	T0210964
28"	T0210981	T0210949	T0210965
32"	T0210982	T0210950	T0210966
36"	T0210983	T0210951	T0210967
40"	T0210984	T0210952	T0210968



L = Row Spacer Length



Hardware for Row Spacers on Reinforced Frames			
Column	Qty.	Bolt Description	Part Number
U3P	4	BOLT W 5/16 X 2 5/8" D931 G5 B TE1A	T0029080
U100	4	BOLT W 5/16 X 3 3/4" D931 G5 B TE1A	T0203315
U120	4	BOLT W 5/16 X 4 1/2" D931 G5 B TE1A	T0203316

*Other lengths must be ordered as VL's code up through 40" using Family Code **UNIBASU1** (hardware must be added separately). For UA10 Posts use Row Spacer IK501 (see page 19).

*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

ROW SPACER: U96

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).

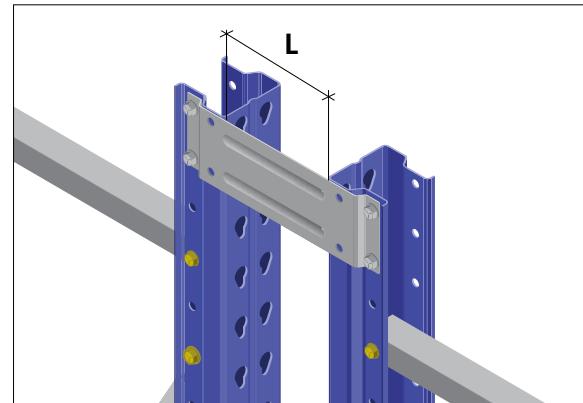
The row spacers are bolted to the post using the side holes in the post, the same holes that are used for the bracing of the frame. For this process, (4) $\frac{5}{16}$ " dia. x $\frac{3}{4}$ " long grade 5 bolts (T0032927) are required.

- Available in a standard galvanized finish.

ROW SPACER: U96 SETS

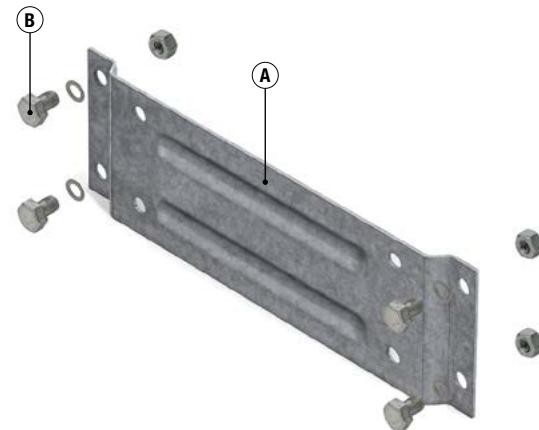
In order to facilitate the ordering process, row spacer U96 sets have been created. These sets include the components below. Row spacer sets are available through the "St. Row Spacer" part.

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



L = Row Spacer Length

Row Spacer U96 Sets			
Length	Set Number	Description	Hardware included
4"	T0047971	ST.ROW SPACER U96 4"	
6"	T0047972	ST.ROW SPACER U96 6"	
8"	T0047973	ST.ROW SPACER U96 8"	
10"	T0047974	ST.ROW SPACER U96 10"	
12"	T0047975	ST.ROW SPACER U96 12"	
14"	T0047976	ST.ROW SPACER U96 14"	
16"	T0047977	ST.ROW SPACER U96 16"	



*Other lengths must be ordered as VL's code up through 40" using Family Code UNIBASU1 (hardware must be added separately). For UA10 Posts use Row Spacer IK501 (see page 19).

*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 8X8
Row Spacer U96 2"	✗	✗	✗	✗	✗
Row Spacer U96 4"	✓	✓	✗	✓	✗

BOLTED FRAME ROW SPACERS

ROW SPACER: U96

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).

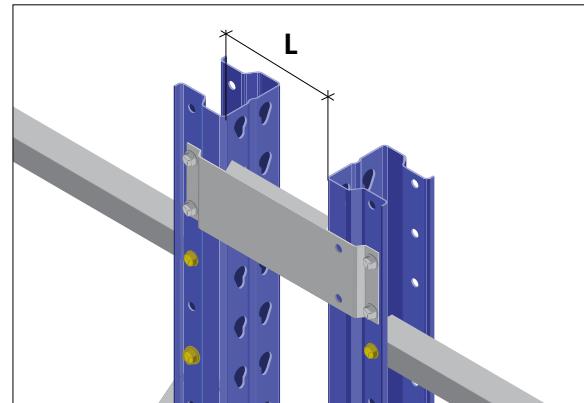
The row spacers are bolted to the post using the side holes in the post, the same holes that are used for the bracing of the frame. For this process, (4) $\frac{5}{16}$ " dia. x $\frac{3}{4}$ " long grade 5 bolts (T0032927) are required.

- Available in a standard galvanized finish.

ROW SPACER: U96 SETS

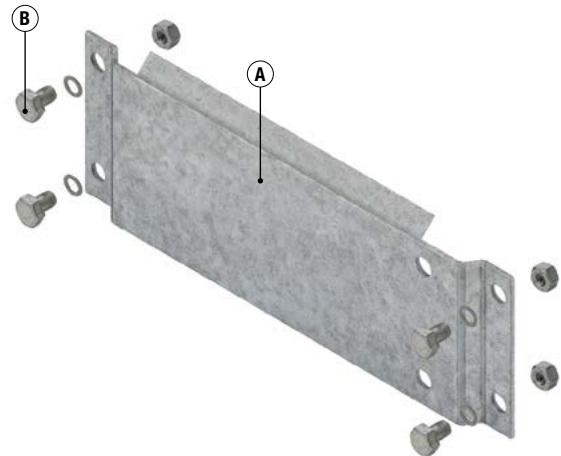
In order to facilitate the ordering process, row spacer U96 sets have been created. These sets include the components below. Row spacer sets are available through the "St. Row Spacer" part.

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



L = Row Spacer Length

Row Spacer U96 Sets			
Length	Set Number	Description	Hardware included
2"	T0069492	ST.ROW SPACER U96 2"	
18"	T0047978	ST.ROW SPACER U96 18"	
20"	T0047979	ST.ROW SPACER U96 20"	
24"	T0047980	ST.ROW SPACER U96 24"	4 - BOLTS W $\frac{5}{16}$ X $\frac{3}{4}$ " D933 G5 B TE1A (T0032927)
28"	T0047981	ST.ROW SPACER U96 28"	
32"	T0047982	ST.ROW SPACER U96 32"	
36"	T0047983	ST.ROW SPACER U96 36"	
40"	T0047984	ST.ROW SPACER U96 40"	



*Other lengths must be ordered as VL's code up through 40" using Family Code UNIBASU1 (hardware must be added separately). For UA10 Posts use Row Spacer IK501 (see page 19).

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

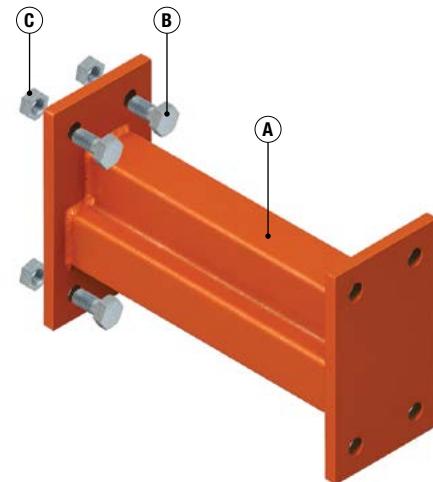


Foot Plate	U	BJu	BMU	PP	PP 8X8
Row Spacer U96 2"	✗	✗	✗	✗	✗
Row Spacer U96 4"	✓	✓	✗	✓	✗

HEAVY DUTY ROW SPACERS

FACE TO FACE HD ROW SPACERS 40E F

These row spacers have been designed using a face to face connector and a 40E profile.



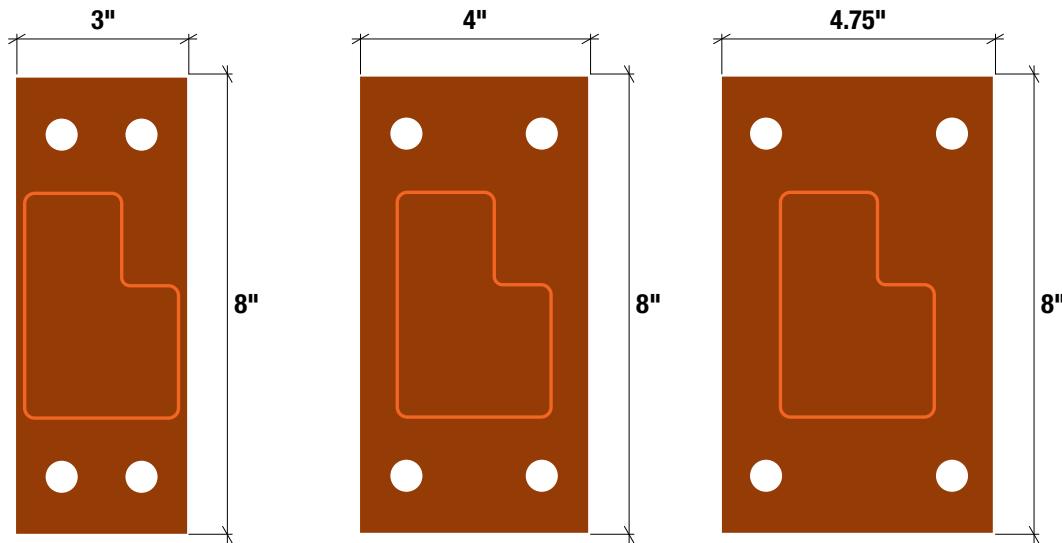
ST.ROW SPACER U HD40E F SETS

In order to facilitate the ordering process, heavy duty row spacer sets have been created. These sets include the components below.

- A. (1) U HD40E F Row Spacer
- B. (8) 1/2-13 x 1" HCC G5 Z Bolts (**U0074608**)
- C. (8) 1/2-13 Z Locknut Flange (**U0074686**)

40E F HD ROW SPACER SETS FOR BOLTED OR WELDED FRAMES						
Part No.	Family	Description	Compatibility	Custom Limits	Profile Type	Connector
U0211234	UBCJEF03	ST.ROW SPACER U HD40E F 3 8"	2.314, 2.313, 2.312, 270, 275, 277 and 279	2" Min 60" Max	40E	Face Plate
U0211235		ST.ROW SPACER U HD40E F 3 12"				
U0211236		ST.ROW SPACER U HD40E F 3 18"				
U0211237	UBCJEF04	ST.ROW SPACER U HD40E F 4 6"	2.101, 2.102, 295 and 299	2" Min 60" Max	40E	Face Plate
U0211238		ST.ROW SPACER U HD40E F 4 8"				
U0211239		ST.ROW SPACER U HD40E F 4 12"				
U0211240		ST.ROW SPACER U HD40E F 4 18"				
U0211241		ST.ROW SPACER U HD40E F 4 24"				
U0211242	UBCJEF05	ST.ROW SPACER U HD40E F 5 8"	2.122	2" Min 60" Max	40E	Face Plate
U0211243		ST.ROW SPACER U HD40E F 5 12"				
U0211244		ST.ROW SPACER U HD40E F 5 18"				

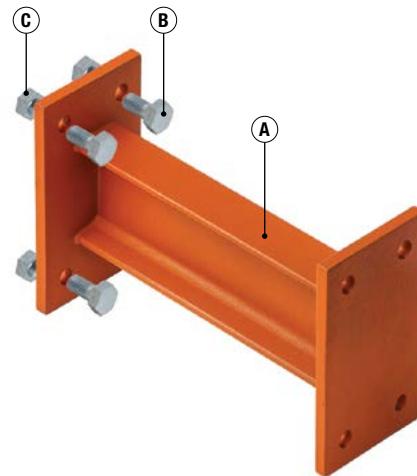
Note that the hardware included in these sets is for un-reinforced columns, for reinforced column hardware, consult with Engineering.



HEAVY DUTY ROW SPACERS

FACE TO FACE HD ROW SPACERS 435 F

These row spacers have been designed using a face to face connector and a structural 435 profile.



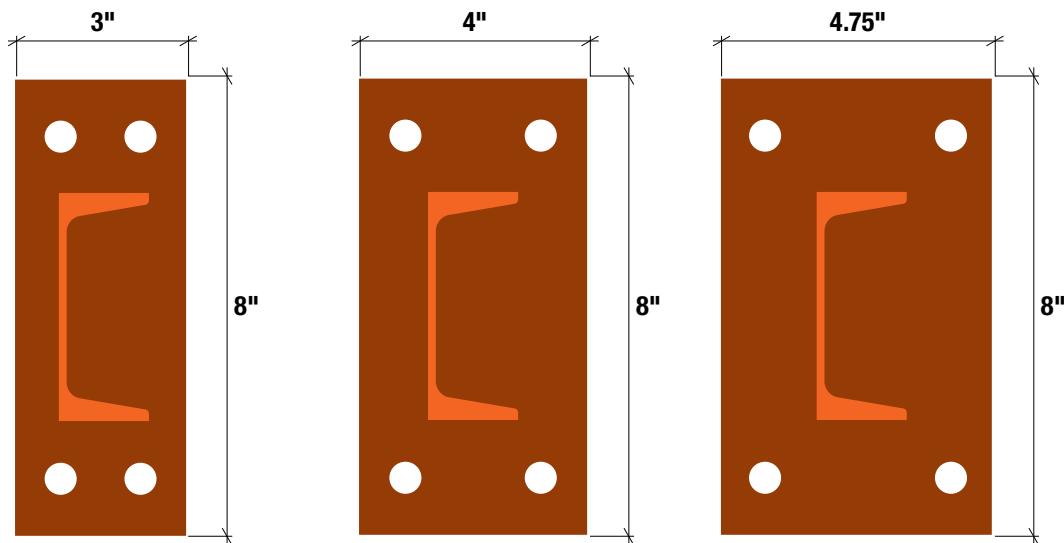
ST.ROW SPACER U HD435 F SETS

In order to facilitate the ordering process, heavy duty row spacer sets have been created. These sets include the components below.

- A. (1) U HD40E F Row Spacer
- B. (8) 1/2-13 x 1" HCC G5 Z Bolts (**U0074608**)
- C. (8) 1/2-13 Z Locknut Flange (**U0074686**)

435 F HD ROW SPACER SETS FOR BOLTED OR WELDED FRAMES						
Part No.	Family	Description	Compatibility	Custom Limits	Profile Type	Connector
U0211264	UBCJ35F3	ST.ROW SPACER U HD435 F 3 8"	2.314, 2.313, 2.312, 270, 275, 277 and 279	2" Min 60" Max	435 (C4 X 4.5)	Face Plate
U0211265		ST.ROW SPACER U HD435 F 3 12"				
U0211266		ST.ROW SPACER U HD435 F 3 18"				
U0211267	UBCJ35F4	ST.ROW SPACER U HD435 F 4 6"	2.101, 2.102, 295 and 299	2" Min 60" Max	435 (C4 X 4.5)	Face Plate
U0211268		ST.ROW SPACER U HD435 F 4 8"				
U0211269		ST.ROW SPACER U HD435 F 4 12"				
U0211270		ST.ROW SPACER U HD435 F 4 18"				
U0211271		ST.ROW SPACER U HD435 F 4 24"				
U0211272	UBCJ35F5	ST.ROW SPACER U HD435 F 5 8"	2.122	2" Min 60" Max	435 (C4 X 4.5)	Face Plate
U0211273		ST.ROW SPACER U HD435 F 5 12"				
U0211274		ST.ROW SPACER U HD435 F 5 18"				

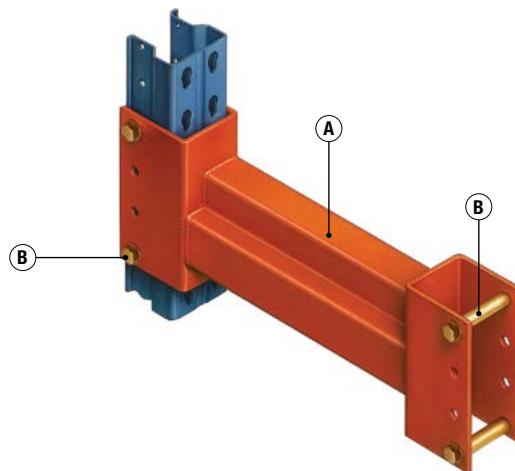
Note that the hardware included in these sets is for un-reinforced columns, for reinforced column hardware, consult with Engineering.



HEAVY DUTY ROW SPACERS

SADDLE HD ROW SPACERS 40E SB

These row spacers have been designed using a saddle connector and a 40E profile.



ST.ROW SPACER U HD40E SB SETS

In order to facilitate the ordering process, heavy duty row spacer sets have been created. These sets include the components below.

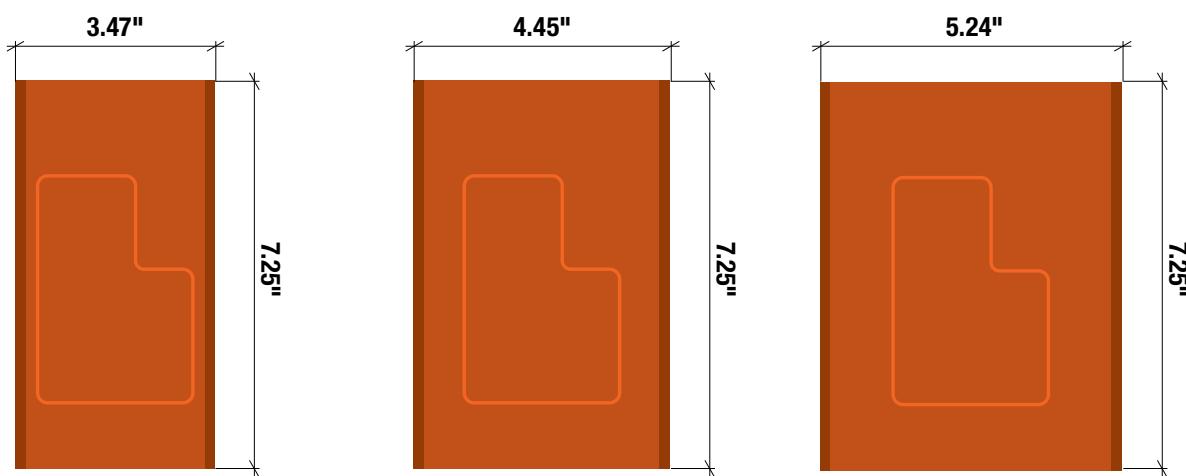
A. (1) U HD40E SB Row Spacer

B. (4) Through-bolts (based on frame model)

40E SB HD ROW SPACER SETS FOR BOLTED FRAMES						
Part No.	Family	Description	Compatibility	Custom Limits	Profile Type	Connector
U0211245	UBCJESB3	ST.ROW SPACER U HD40E SB3 8"	3" BOLTED FRAMES (2.314, 2.313 & 2.312)	2" Min 60" Max	40E	SADDLE
U0211246		ST.ROW SPACER U HD40E SB3 12"				
U0211247		ST.ROW SPACER U HD40E SB3 18"				
U0211248	UBCJESB4	ST.ROW SPACER U HD40E SB4 6"	4" BOLTED FRAMES (2.101 & 2.102)	2" Min 60" Max	40E	SADDLE
U0211249		ST.ROW SPACER U HD40E SB4 8"				
U0211250		ST.ROW SPACER U HD40E SB4 12"				
U0211251		ST.ROW SPACER U HD40E SB4 18"				
U0211252		ST.ROW SPACER U HD40E SB4 24"				
U0211253	UBCJESB5	ST.ROW SPACER U HD40E SB5 8"	4.8" BOLTED FRAMES (2.122)	2" Min 60" Max	40E	SADDLE
U0211254		ST.ROW SPACER U HD40E SB5 12"				
U0211255		ST.ROW SPACER U HD40E SB5 18"				

Note that the hardware included in these sets will work with reinforced or un-reinforced bolted columns.

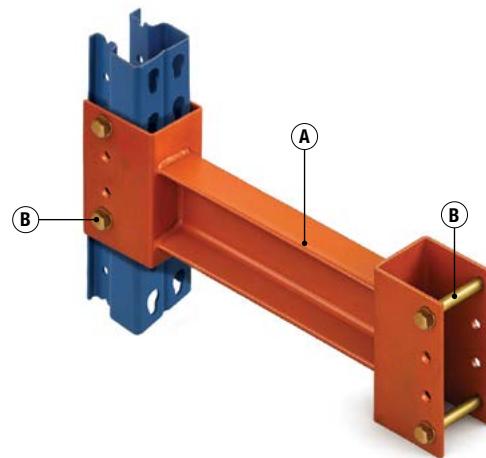
Hardware included on Sets			
Model	Qty.	Bolt Description	Part Number
SB3	4	BOLT W 5/16 X 4 1/4" D931 G5 B TE1A	T0029100
SB4	4	BOLT W 5/16 X 4 3/4" D931 G5 B TE1A	T0203317
SB5	4	BOLT W 5/16 X 5 5/8" D931 G5 B TE1A	T0203318



HEAVY DUTY ROW SPACERS

SADDLE HD ROW SPACERS 435 SB

These row spacers have been designed using a saddle connector and a structural 435 profile.



ST.ROW SPACER U HD435 SB SETS

In order to facilitate the ordering process, heavy duty row spacer sets have been created. These sets include the components below.

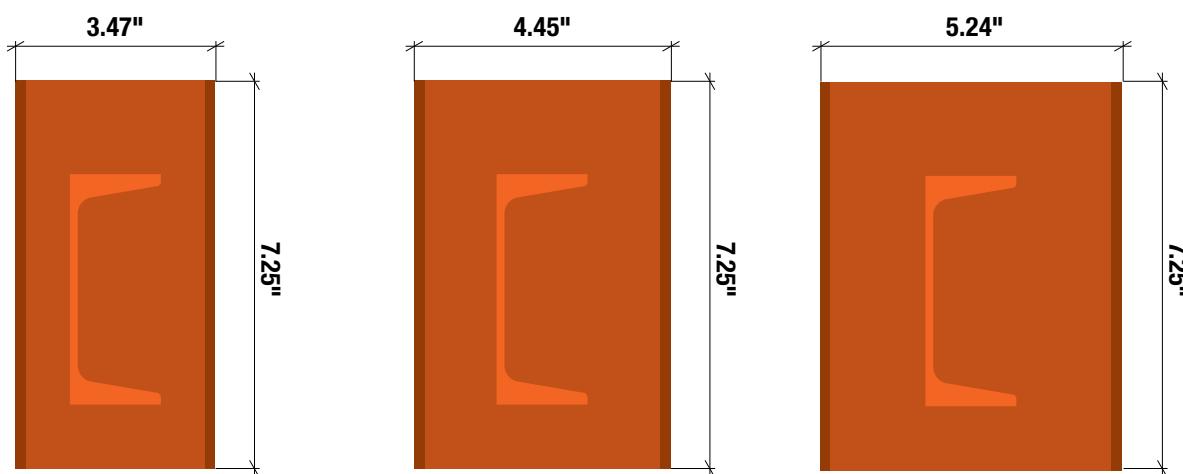
A. (1) U HD40E SB Row Spacer

B. (4) Through-bolts (based on frame model)

435 SB HD ROW SPACER SETS FOR BOLTED FRAMES						
Part No.	Family	Description	Compatibility	Custom Limits	Profile Type	Connector
U0211275	UBCJ35B3	ST.ROW SPACER U HD435 SB3 8"	3" BOLTED FRAMES (2.314, 2.313 & 2.312)	2" Min 60" Max	435 (C4 X 4.5)	SADDLE
U0211276		ST.ROW SPACER U HD435 SB3 12"				
U0211277		ST.ROW SPACER U HD435 SB3 18"				
U0211278	UBCJ35B4	ST.ROW SPACER U HD435 SB4 6"	4" BOLTED FRAMES (2.101 & 2.102)	2" Min 60" Max	435 (C4 X 4.5)	SADDLE
U0211279		ST.ROW SPACER U HD435 SB4 8"				
U0211280		ST.ROW SPACER U HD435 SB4 12"				
U0211281		ST.ROW SPACER U HD435 SB4 18"				
U0211282		ST.ROW SPACER U HD435 SB4 24"				
U0211283	UBCJ35B5	ST.ROW SPACER U HD435 SB5 8"	4.8" BOLTED FRAMES (2.122)	2" Min 60" Max	435 (C4 X 4.5)	SADDLE
U0211284		ST.ROW SPACER U HD435 SB5 12"				
U0211285		ST.ROW SPACER U HD435 SB5 18"				

Note that the hardware included in these sets will work with reinforced or un-reinforced bolted columns.

Hardware included on Sets			
Model	Qty.	Bolt Description	Part Number
SB3	4	BOLT W $5/16$ X 4 $1/4$ " D931 G5 B TE1A	T0029100
SB4	4	BOLT W $5/16$ X 4 $3/4$ " D931 G5 B TE1A	T0203317
SB5	4	BOLT W $5/16$ X 5 $5/8$ " D931 G5 B TE1A	T0203318



FIXING FRAME CLIPS

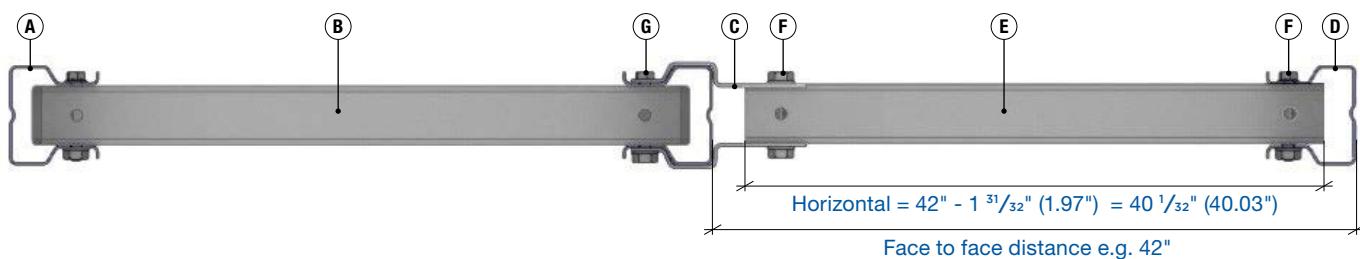
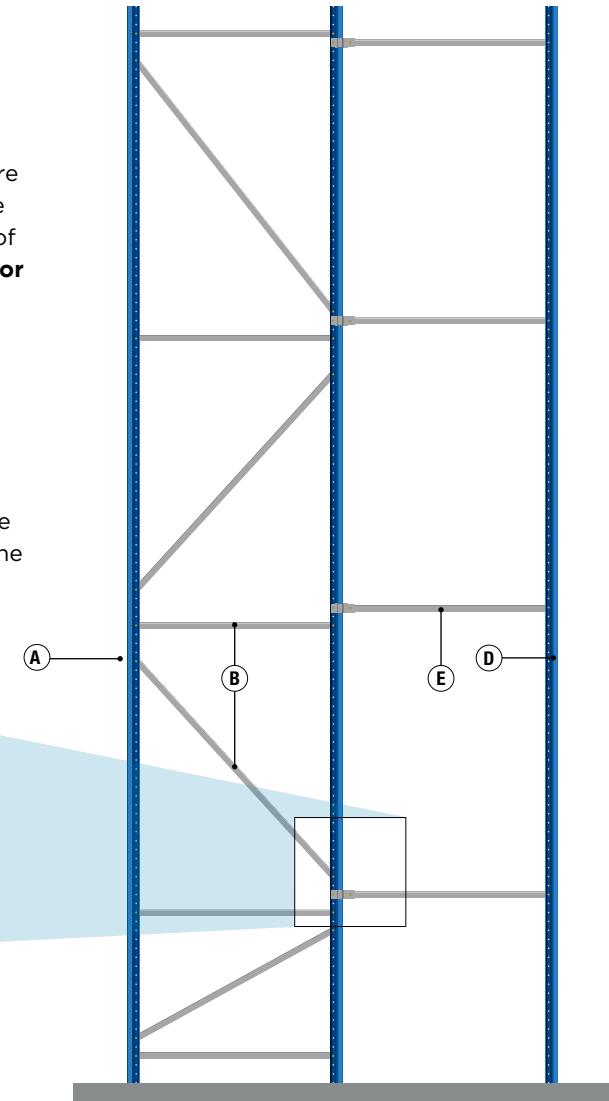
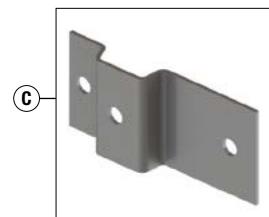
FRAME FRONT BRACKET U96 SETS

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.**

- The frame (A) and the post (D) model will be calculated by our Engineering department.
- The post (D) and strut (E) family, must match the one from the frame (A and B).
- The quantity of horizontals (E) connecting the extra post to the frame will be equal to the number of horizontals on the frame minus one (the starting horizontal closest to the floor).
- Size of the connecting horizontal (E) will be equal to face to face distance minus $1\frac{31}{32}$ " (1.97").

A. Frame
B. Frame struts / diagonals
C. U96 Frame Front Brackets T0032409
D. Extra post
E. Horizontal struts
F, G. Connection hardware

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



Fixing Frame Clip Sets and Components							
Family	Frame (A)	Frame struts / diagonals (B) Horizontal struts (E)	Diagonal Family	Frame Front Bracket Sets	Set Components		
					U96 Front Bracket (C)	Bolts (F)	Bolts (G)
U 3P	2.314, 2.313 and 2.312	DIAGONAL U C456 G	DBUC456G	T0210710	2 XT0032409	2 XT0201564	1 XT0029080
U 100	2.101 and 2.102	DIAGONAL U C715 G	DBUC715G	T0210711		2 XT0029099	1 XT0203315
U 120	2.122	DIAGONAL U C915 G	DBUC915G	T0210712		2 XT0029095	1 XT0203316

WALL TIES

WALL TIE ADAPTER: U96

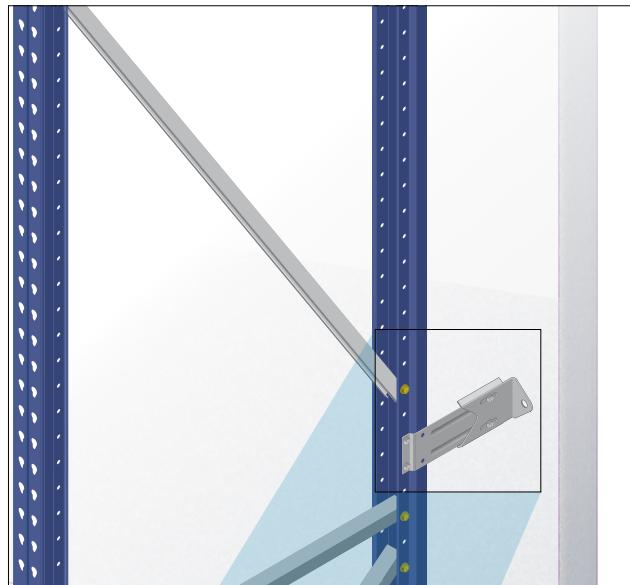
This "L" shaped component allows the rack to be attached to a wall of a warehouse or storage facility. This type of wall tie should be used with bolted frames. To tie the rack to the wall, a U96 wall tie must be used in conjunction with a U96 row spacer. It is made with 13 gauge ($3/32$ " or 0.09") steel.

The single hole on the end ties the frame to the wall using a $1/2$ " diameter anchor. Two slots on the other side attach to the U96 row spacer using (2) $5/16$ " dia. x $3 3/4$ " 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.

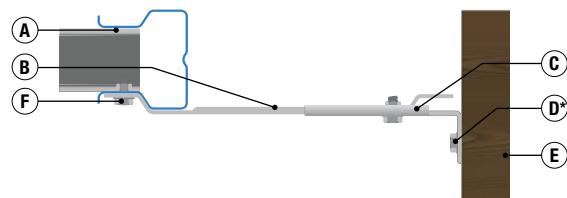
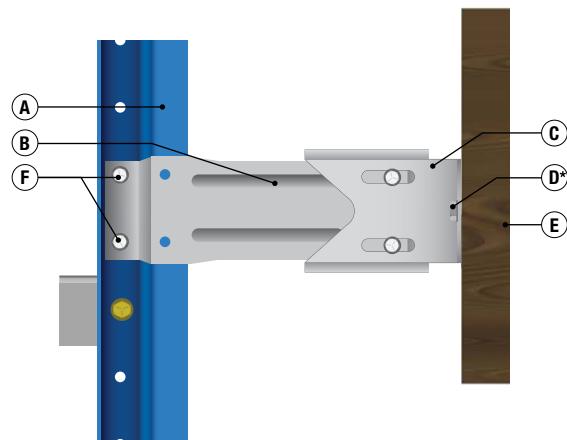


Wall Tie U96 Standard Part Number		
Length	Part Description	Part Number
4"	Wall Tie Adapter U96	T0032374



- A. Frame Post
- B. Row Spacer U96 (from 2"-40" length)
- C. Wall Tie T0032374 (adjustable: $2 17/32$ " - $3 5/8$ ")
- D. Customer Provided Anchor*
- E. Wall
- F. W $5/16$ " x $3 3/4$ " D933 G5 B T.2A Bolt (T0032926)

* Wall anchors are not included.

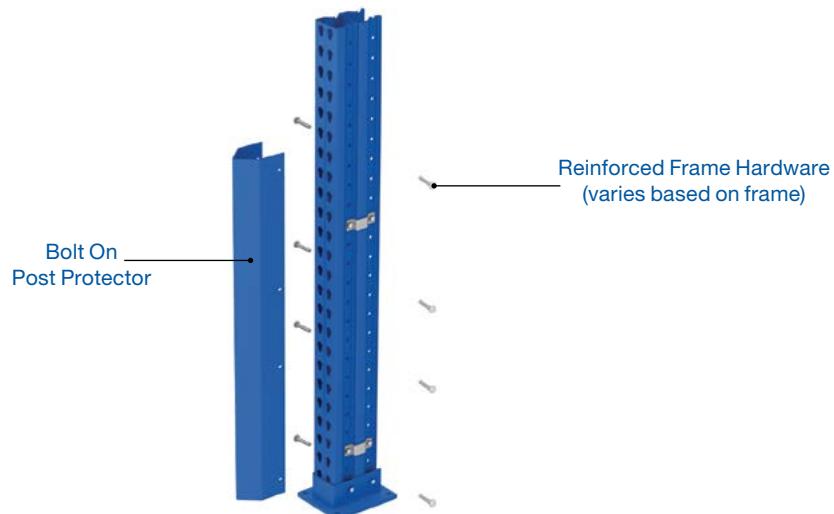


REINFORCED POST PROTECTORS

BOLT ON POST PROTECTORS FOR REINFORCED FRAMES

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.

Reinforced Bolt On Post Protector Sets					
Set Number	Length	Description	Frame Compatibility	Included Hardware	Qty
T0210997	12"	ST.BOLT-ON COLUMN PRO.REIN.U3P 12"	2.315, 2.314, 2.313 & 2.312	T0203315	2
T0210998	24"	ST.BOLT-ON COLUMN PRO.REIN.U3P 24"			2
T0210999	36"	ST.BOLT-ON COLUMN PRO.REIN.U3P 36"			3
T0211000	48"	ST.BOLT-ON COLUMN PRO.REIN.U3P 48"			4
T0211001	60"	ST.BOLT-ON COLUMN PRO.REIN.U3P 60"			5
T0211002	12"	ST.BOLT-ON COLUMN PRO.REIN.U100 12"	2.101 & 2.102	T0203317	2
T0211003	24"	ST.BOLT-ON COLUMN PRO.REIN.U100 24"			2
T0211004	36"	ST.BOLT-ON COLUMN PRO.REIN.U100 36"			3
T0211005	48"	ST.BOLT-ON COLUMN PRO.REIN.U100 48"			4
T0211006	60"	ST.BOLT-ON COLUMN PRO.REIN.U100 60"			5
T0211007	12"	ST.BOLT-ON COLUMN PRO.REIN.U120 12"	2.122	T0203318	2
T0211008	24"	ST.BOLT-ON COLUMN PRO.REIN.U120 24"			2
T0211009	36"	ST.BOLT-ON COLUMN PRO.REIN.U120 36"			3
T0211010	48"	ST.BOLT-ON COLUMN PRO.REIN.U120 48"			4
T0211011	60"	ST.BOLT-ON COLUMN PRO.REIN.U120 60"			5



POST PROTECTORS

BOLT ON POST PROTECTOR SETS

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.

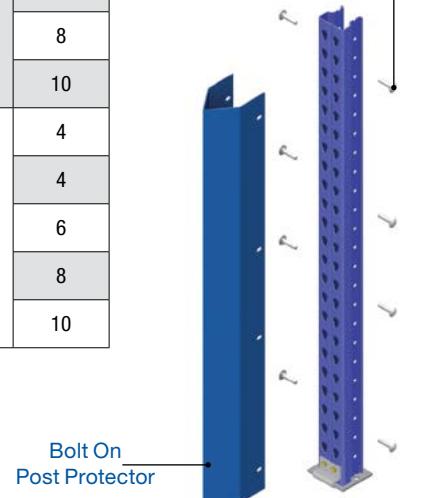
Bolt on post protectors protrude $2\frac{9}{32}$ " from the face of the post toward the aisle. Vertical holes allow the protectors to be bolted to a post, using $\frac{5}{16}$ " diameter x $1\frac{1}{2}$ " long bolts (T0034223). The number of bolts needed depends on the length of the protector. There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

- All column protector sets come with $\frac{5}{16}$ " diameter x $1\frac{1}{2}$ " D603 G2 BT 1A 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.
- For reinforced frames, use reinforced post protector sets.

Standard Bolt On Post Protector Sets						
Set Number	Length	Description	Frame Compatibility	A	B	Bolt Qty
T0210985	12"	ST.BOLT-ON COLUMN PROT. U3P 12"	2.315, 2.314, 2.313 & 2.312	2.64"	3.14"	4
T0210986	24"	ST.BOLT-ON COLUMN PROT. U3P 24"				4
T0203325	36"	ST.BOLT-ON COLUMN PROT. U3P 36"				6
T0210987	48"	ST.BOLT-ON COLUMN PROT. U3P 48"				8
T0210988	60"	ST.BOLT-ON COLUMN PROT. U3P 60"				10
T0210989	12"	ST.BOLT-ON COLUMN PROT. U100 12"	2.101 & 2.102	2.62"	4.34"	4
T0210990	24"	ST.BOLT-ON COLUMN PROT. U100 24"				4
T0210991	36"	ST.BOLT-ON COLUMN PROT. U100 36"				6
T0210992	48"	ST.BOLT-ON COLUMN PROT. U100 48"				8
T0034225	60"	ST.BOLT-ON COLUMN PROT. U100 60"				10
T0210993	12"	ST.BOLT-ON COLUMN PROT. U120 12"	2.122	2.62"	5.09	4
T0210994	24"	ST.BOLT-ON COLUMN PROT. U120 24"				4
T0210995	36"	ST.BOLT-ON COLUMN PROT. U120 36"				6
T0034226	48"	ST.BOLT-ON COLUMN PROT. U120 48"				8
T0210996	60"	ST.BOLT-ON COLUMN PROT. U120 60"				10



T0034223
 $\frac{5}{16}$ " X $1\frac{1}{2}$ " Long Bolts
 (Standard Frame Hardware)

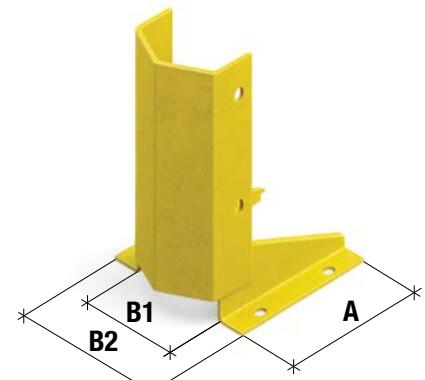


FLOOR MOUNTED POST PROTECTOR U

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

Offered in gauge 7 ($\frac{3}{16}$ " or 0.18" 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.

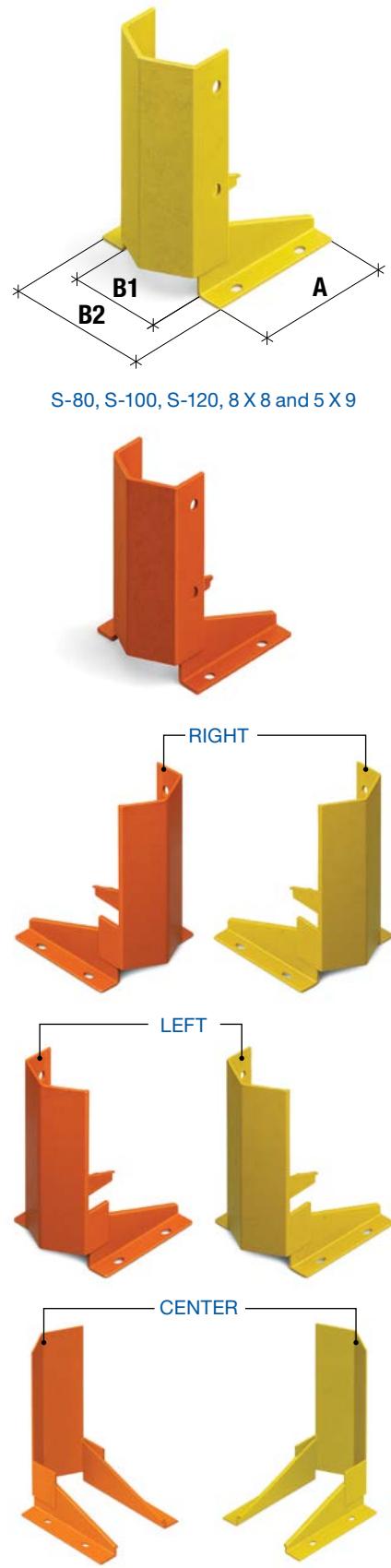
- Available in yellow (RAL-1021) or orange (RAL-2001) finish.
- Anchor with (4) $\frac{1}{2}$ " diameter x $4\frac{1}{4}$ " bolts (T0034139).



S-80, S-100, S-120, 8 X 8 and 5 X 9

Post Protector U Profiles and Sets							
Post Protector	Loose Part Number		Set Part Number W/Anchors	Frame	Size A	Size B1 (inside)	Size B2 (outside)
	ORANGE (RAL 2001)	YELLOW (RAL 1021)					
S-80	T0034147	T0200839	T0034150	2.315, 2.314, 2.313, 2.312	9 $\frac{27}{32}$ " (9.843")	5 $\frac{35}{64}$ " (5.546")	9 $\frac{31}{64}$ " (9.484")
				2.7_F, 2.9_F		6 $\frac{11}{32}$ " (6.343")	10 $\frac{9}{32}$ " (10.281")
S-100	T0034148	T0200840	T0034152	2.101, 2.102		7 $\frac{13}{64}$ " (7.203")	11 $\frac{9}{64}$ " (11.140")
S-120	T0034149	T0200841	T0034153	2.122		8 $\frac{23}{64}$ " (8.359")	12 $\frac{19}{64}$ " (12.296")
8 X 8	T0070083	T0202176	T0070084	Any post with J, JF, M, MF, H, K, BJ, BJ_F, BM, BM_F, PP or PP 8X8 (except 2.122 BJ, BJ_F or PP)		9 $\frac{23}{64}$ " (9.359")	13 $\frac{19}{64}$ " (13.296")
5 X 9	T0107675	T0202173	T0107678	For 2.122 BJ, BJ_F or PP / UA10 and F UA10 foot plate			

Loose Left, Right and Center Post Protector U Profiles				
Loose Part Number		Position	Frame	Description
ORANGE (RAL 2001)	YELLOW (RAL 1021)			
T0070923	T0203174	Right	2.315, 2.314, 2.313, 2.312 2.7_F, 2.9_F	COLUMN PROTECTOR U S-80 RIG.
T0070927	T0203177	Left		COLUMN PROTECTOR U S-80 LEF.
T0200794	T0203180	Center		COLUMN PROTECTOR U S-80 CEN.
T0070924	T0203175	Right	2.101, 2.102	COLUMN PROTECTOR U S-100 RIG.
T0070928	T0203178	Left		COLUMN PROTECTOR U S-100 LEF.
T0200795	T0203181	Center		COLUMN PROTECTOR U S-100 CEN.
T0070925	T0203176	Right	2.122	COLUMN PROTECTOR U S-120 RIG.
T0070929	T0203179	Left		COLUMN PROTECTOR U S-120 LEF.
T0200796	T0203182	Center		COLUMN PROTECTOR U S-120 CEN.
T0070926	T0202178	Right	Any post with J, JF, M, MF, H, K, BJ, BJ_F, BM, BM_F, PP or PP 8X8 foot plate (except 2.122 BJ, BJ_F or PP)	COLUMN PROTECTOR U 8"X8" RIG.
T0070930	T0202179	Left		COLUMN PROTECTOR U 8"X8" LEF.
T0200797	T0202177	Center		COLUMN PROTECTOR U 8"X8" CEN.
T0107676	T0203268	Right	For 2.122 BJ, BJ_F or PP / UA10 and F UA10 foot plate	COLUMN PROTECTOR U 5"X9" RIG.
T0107677	T0202175	Left		COLUMN PROTECTOR U 5"X9" LEF.
T0200798	T0202174	Center		COLUMN PROTECTOR U 5"X9" CEN.

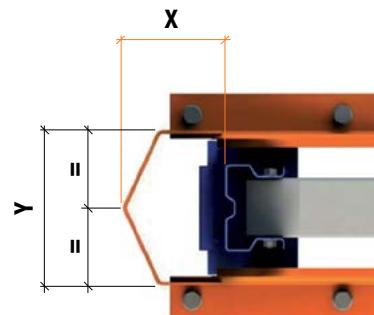


FLOOR MOUNTED POST PROTECTOR U

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



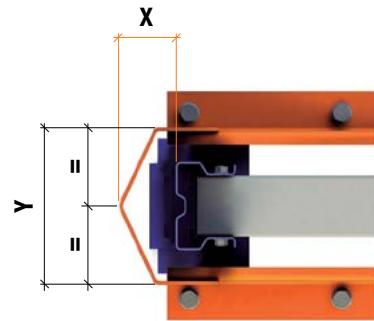
Column Protector U-S



Column protector U-S			
Post	Post Protector	X	Y
315, 314, 313 & 312	S-80	5 $\frac{5}{16}$ " (5.31")	6 $\frac{5}{16}$ (6.31")
101, 102	S-100		7 $\frac{3}{32}$ (7.09")
122	S-120		7 $\frac{15}{16}$ " (7.93")
Any Size	8 X 8		9 $\frac{3}{32}$ " (9.09")
Any Size	5 X 9		10 $\frac{1}{8}$ " (10.125")



Left / Right Protector



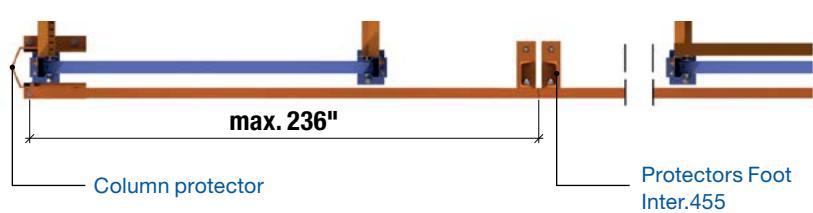
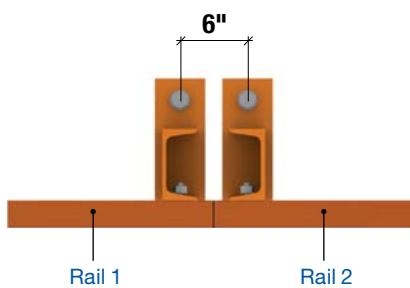
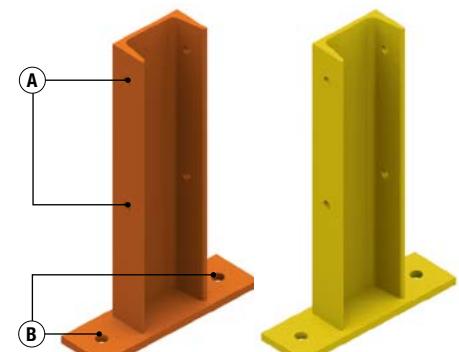
Column protector U-S Right and Left			
Post	Post Protector	X	Y
315, 314, 313 & 312	S-80	2 $\frac{5}{16}$ " (2.31")	6 $\frac{5}{16}$ (6.31")
101, 102	S-100		7 $\frac{3}{32}$ (7.09")
122	S-120		7 $\frac{15}{16}$ " (7.93")
Any Size	8 X 8		9 $\frac{3}{32}$ " (9.09")
Any Size	5 X 9		10 $\frac{1}{8}$ " (10.125")

PROTECTORS FOOT INTER.455 - U0208281 / U0208329

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 (U0208281) and yellow (U0208329) finish.
- A. Rail connection requires (1 or 2) 1/2" diameter x 1 13/16" bolt (T0032936) these bolts are included in End of Aisle Rail Sets.
- B. Anchored with (2) 1/2" diameter x 4 1/4" anchor bolts (T0034139) Not included.



END OF AISLE PROTECTOR

The end aisle protector features (2) floor mounted post protectors tied together with a 4" high x $1\frac{19}{32}$ " wide x $\frac{3}{16}$ " thick channel rail.

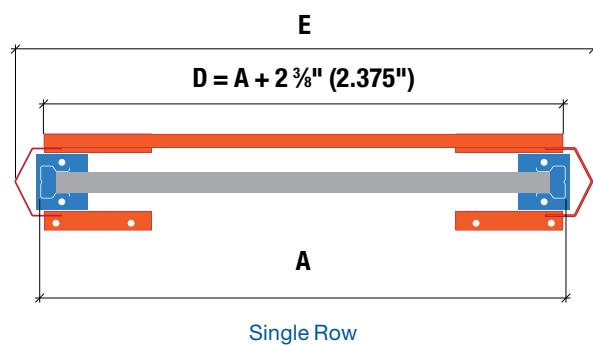
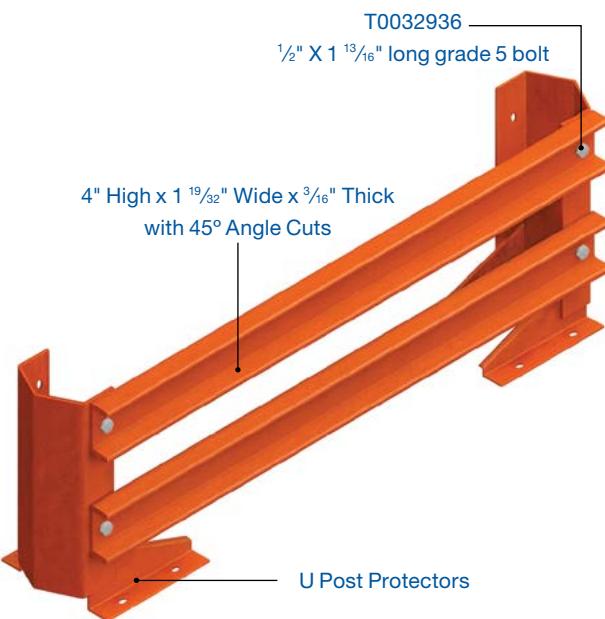
The rail ends are cut to a 45° angle to ensure aisle clearances.

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

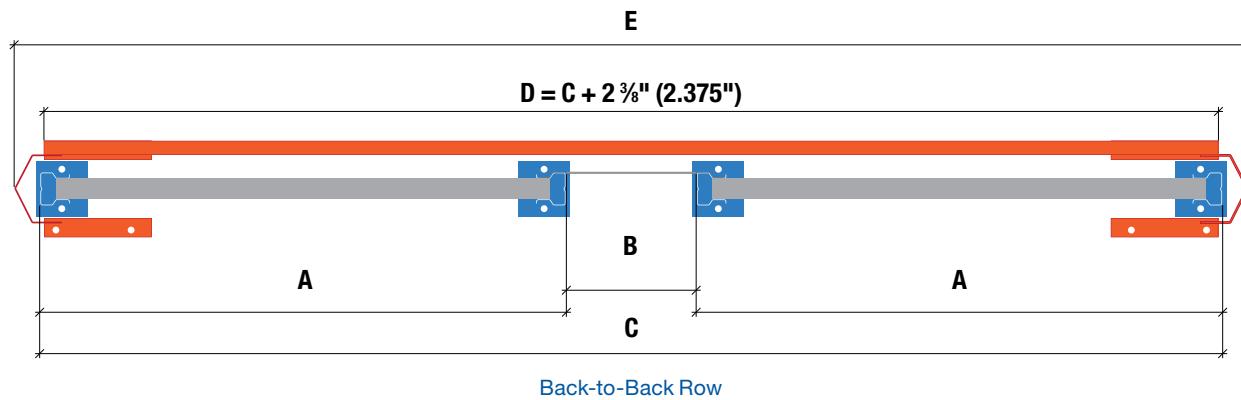
- Column protector to be ordered separately.
- Longer length protectors require a custom design.
- Available in a standard orange (RAL-2001) or yellow (RAL-1021) finish.

END OF AISLE PROTECTOR RAIL LENGTH CALCULATIONS

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 $2\frac{3}{8}$ " (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



END OF AISLE PROTECTOR PRODUCT CODES

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



Other lengths between 20" and 240" must be ordered as VL's code using Family Code **PROTU4"** (hardware will be included)

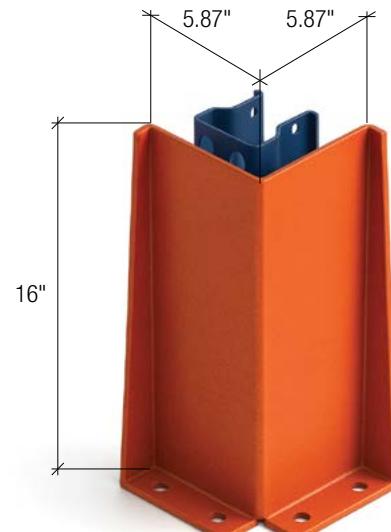
Orange RAL 2001		Yellow RAL 1021	
Part Number	Description	Part Number	Description
T0034166	END AIS. PROT.U4" 38 11/32"	T0203300	END AIS. PROT.U4" 38 11/32" E83
T0034167	END AIS. PROT.U4" 44 11/32"	T0203301	END AIS. PROT.U4" 44 11/32" E83
T0034168	END AIS. PROT.U4" 46 11/32"	T0203302	END AIS. PROT.U4" 46 11/32" E83
T0034169	END AIS. PROT.U4" 50 11/32"	T0203303	END AIS. PROT.U4" 50 11/32" E83
T0060808	END AIS. PROT.U4" 80 3/8"	T0203306	END AIS. PROT.U4" 80 11/32" E83
T0060811	END AIS. PROT.U4" 82 3/8"	T0203309	END AIS. PROT.U4" 82 3/8" E83
T0034170	END AIS. PROT.U4" 84 3/8"	T0203304	END AIS. PROT.U4" 84 3/8" E83
T0060814	END AIS. PROT.U4" 86 3/8"	T0203312	END AIS. PROT.U4" 86 11/32" E83
T0060809	END AIS. PROT.U4" 92 3/8"	T0203307	END AIS. PROT.U4" 92 3/8" E83
T0060812	END AIS. PROT.U4" 94 3/8"	T0203310	END AIS. PROT.U4" 94 3/8" E83
T0034171	END AIS. PROT.U4" 96 11/32"	T0203305	END AIS. PROT.U4" 96 11/32" E83
T0060815	END AIS. PROT.U4" 98 3/8"	T0203313	END AIS. PROT.U4" 98 11/32" E83
T0060810	END AIS. PROT.U4" 104 3/8"	T0203308	END AIS. PROT.U4" 104 3/8" E83
T0060813	END AIS. PROT.U4" 106 3/8"	T0203311	END AIS. PROT.U4" 106 11/32" E83
T0060816	END AIS. PROT.U4" 110 3/8"	T0203314	END AIS. PROT.U4" 110 11/32" E83

CORNER GUARD (T0033487)

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.**

ADDITIONAL GUIDELINES FOR CROSS AISLE TIE 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:

$$\text{Height of cross aisle tied frame} = \text{Distance from floor to last beam level} + \text{Height of the load for the last beam level} + 16"$$

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.

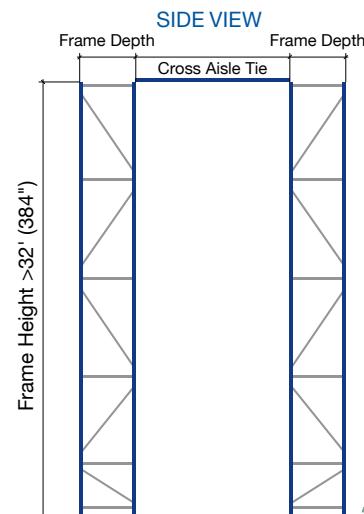
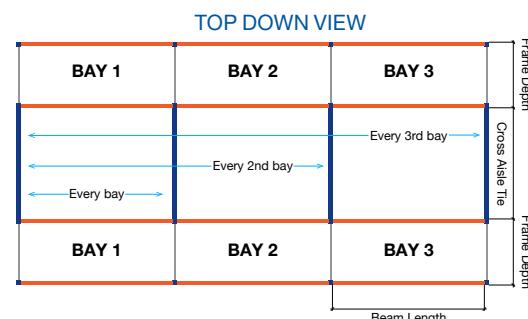
For a back-to-back row with (2) 360" high x 36" deep frames connected by a 6" row spacer:

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
28' (336")	42"	8
29' 4" (352")	44"	8
32' (384")	48"	8

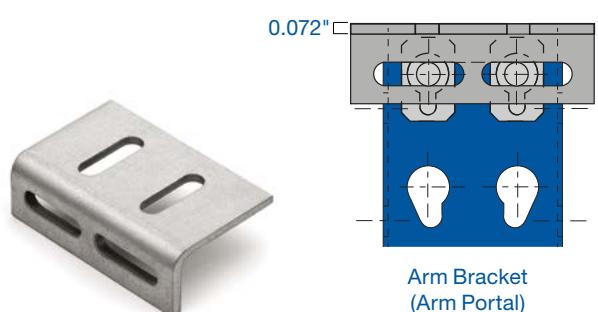
Recommended Cross Aisle Tie Quantity Based On Beam Length and Height To Depth Ratio		
Length of Beam	Height/Depth Ratio	Number of Cross Aisle Ties
48" to 72"	8 to 10	One cross aisle tie every third consecutive bay
72" to 108"	8 to 10	One cross aisle tie every second consecutive bay
More than 108"	8 to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



ARM BRACKETS (ARM PORTAL U)

Each arm bracket is a Gauge 7, $7/16$ " (1.43") x $2\frac{1}{16}$ " (2.68") x $3/16$ " (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 Bracket
(Arm Portal)
Position for Bolted Frames

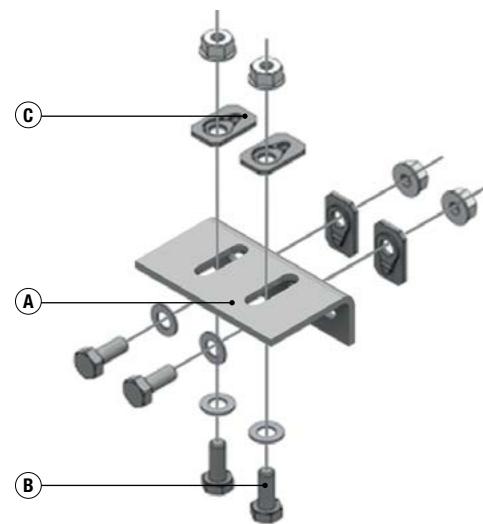
Arm Portal U Standard Part Number	
Part Description	Part Number
Arm Bracket (Arm Portal U)	T0032605

CROSS AISLE BRACKET SET - T0053805

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 $5/16$ x $3/4$ " 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
Cross Aisle Bracket TD U Set	T0053805



CROSS AISLE POST TD U314

The components of the cross aisle ties are: POST TD U314 (Family code **PU314TD**, for frames with 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 $5/16$ " diameter x $3/4$ " long grade 5 bolts on each side. 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.

Cross Aisle Tie Post part Numbers			
Description	Part Number	Description	Part Number
POST TD U314 8'	T0200975	POST TD U314 12'	T0200979
POST TD U314 9'	T0200976	POST TD U314 13'	T0200980
POST TD U314 10'	T0200977	POST TD U314 14'	T0200981
POST TD U314 11'	T0200978	POST TD U314 15'	T0200982



Cross Aisle Post TD U314
(Family code **PU314TD**)

BOLTED FRAME BACKSTOPS

BACKSTOP 1 1/2" X 1 1/4"

Backstop beams are intended to serve solely as a safety measure to help reduce the risk of pallets being pushed beyond the rear of the rack structure. These components are designed with intentional points of deformation to help absorb unintended impact. They are not designed or rated to support loads and should not be used as structural or load-bearing elements.

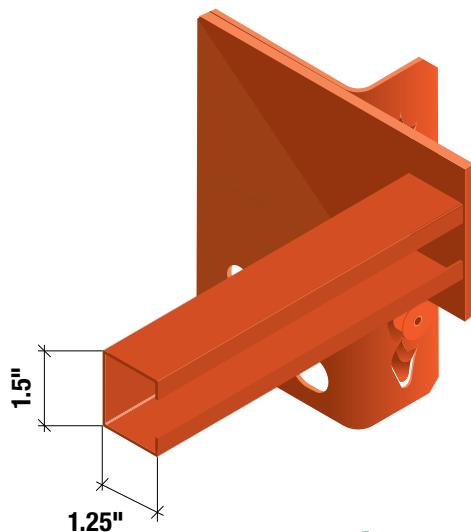
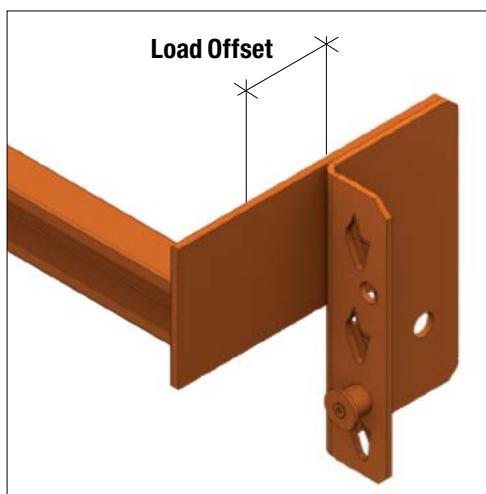
- Backstop beams shall not be used to support pallet loads, product weight, or any auxiliary equipment.
- Pallets must rest fully on designated load beams, decking, or approved pallet supports.
- Misuse of backstop beams as structural members may result in rack damage, compromised stability, and risk of personal injury.
- Must be installed 12" from the top of the support load beam.
- Standard overhangs: 0", 3", 4" and 6"
- Standard lengths: 48" and 96"
- For other bay widths, back stops can be ordered as VL using Family Codes: LATUF3M0, LATUF3M3, LATUF3M4 & LATUF3M6.

Regular inspection and timely replacement of pallet stops ensure they continue to perform this protective function effectively, maintaining a safer environment for operators and equipment alike.



Backstop Part Numbers							
Part Number	Length	Load Offset	Family	Part Number	Length	Load Offset	Family
U0211157	48"	0"	LATUF3M0	U0211163	48"	0" ≤ 4"	LATUF3M4
U0211158	96"			U0211164	96"		
U0211160	48"	0" ≤ 3"	LATUF3M3	U0211166	48"	0" ≤ 6"	LATUF4M6
U0211161	96"			U0211167	96"		

**BACKSTOP 1 1/2" x 1 1/4"
GA 16 (0.060")**



BACKSTOP 3" X 1 5/8"

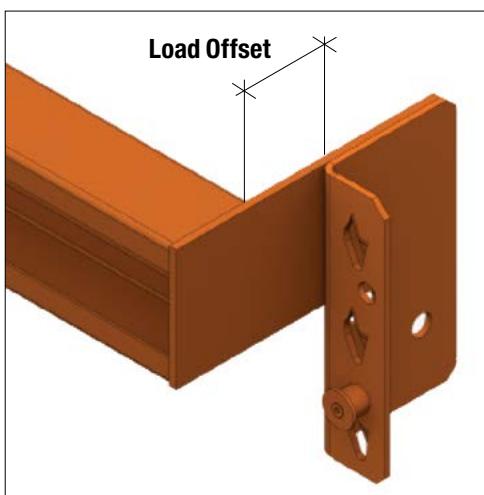
Backstop beams are intended to serve solely as a safety measure to help reduce the risk of pallets being pushed beyond the rear of the rack structure. These components are designed with intentional points of deformation to help absorb unintended impact. They are not designed or rated to support loads and should not be used as structural or load-bearing elements.

- Backstop beams shall not be used to support pallet loads, product weight, or any auxiliary equipment.
- Pallets must rest fully on designated load beams, decking, or approved pallet supports.
- Misuse of backstop beams as structural members may result in rack damage, compromised stability, and risk of personal injury.
- Must be installed 12" from the top of the support load beam.
- Standard overhangs: 0", 3", 4" and 6"
- Standard lengths: 108", 120" and 144"
- For other bay widths, back stops can be ordered as VL using Family Codes: LATF3M0, LATF3M3, LATF3M4 & LATF3M6.

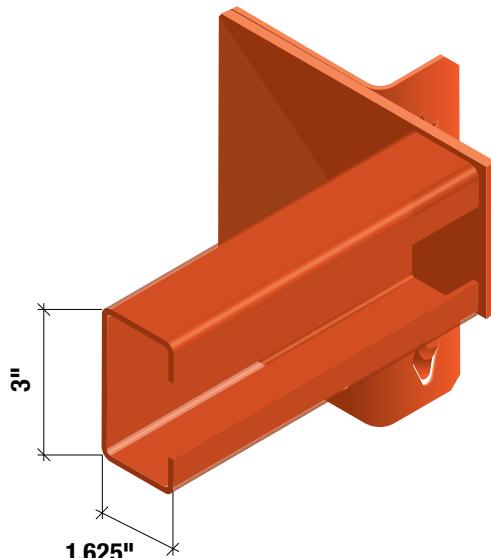
Regular inspection and timely replacement of pallet stops ensure they continue to perform this protective function effectively, maintaining a safer environment for operators and equipment alike.



Backstop Part Numbers							
Part Number	Length	Load Offset	Family	Part Number	Length	Load Offset	Family
U0208330	108"	0"	LATF3M0	U0208334	108"	0" ≤ 4"	LATF3M4
U0208331	120"			U0208335	120"		
U0201072	144"			U0201078	144"		
U0208332	108"	0" ≤ 3"	LATF3M3	U0208336	108"	0" ≤ 6"	LATF4M6
U0208333	120"			U0208337	120"		
U0201075	144"			U0201081	144"		



BACKSTOP 3" x 1 5/8"
GA 13 (0.090")



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.

APPLICATIONS

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.

PALLET STOP RAILS

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.

Other rail lengths between 8" and 472" must be ordered as VL's code using Family Code **PERFATHU** (hardware and arms must be added separately).



PALLET STOP ARMS (PROFILE U97)

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.

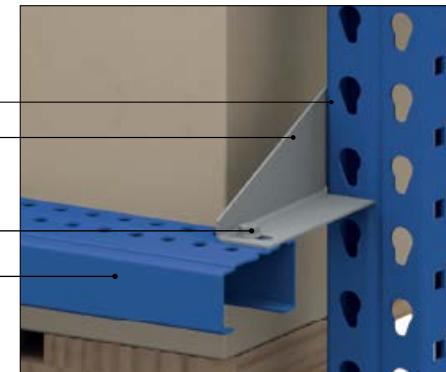
- Available in a standard galvanized finish.



ARM STOP PAL. U RIG.
Right T0054040



ARM STOP PAL. U LEF.
Left T0054041



A. Bolt $5/16"$ x $3/4"$ - T0032927
B. Arm Stop Pal.U (LEF. or RIG.)
C. Bolt $3/8"$ x $3/4"$ - T0032935
D. Rail Profile C.Brac.H.U97

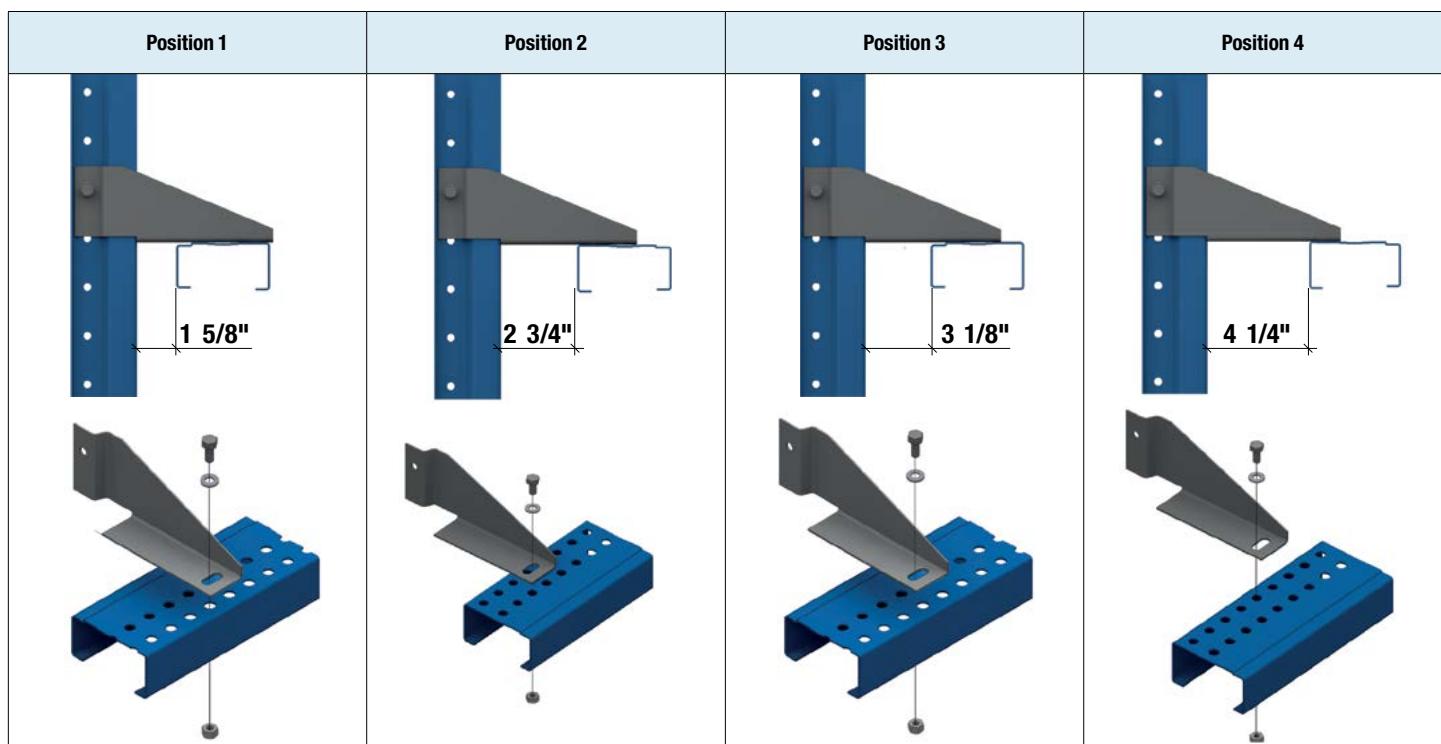
U 97 PALLET STOP ARM SET OFFSET OPTIONS

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.

OFFSET OPTIONS

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

Load Overhang	Pallet Stop Offset	Position
$0" \leq 1.5"$	$1 \frac{5}{8}"$ (1.62")	1
$> 1.5" \leq 2.5"$	$2 \frac{3}{4}"$ (2.75")	2
$> 2.5" \leq 3"$	$3 \frac{1}{8}"$ (3.12")	3
$> 3" \leq 4"$	$4 \frac{1}{4}"$ (4.25")	4

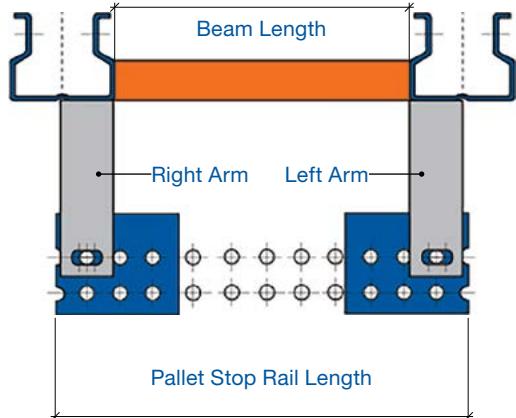


PALLET STOP RAIL LENGTH CALCULATION

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
72"	St. Arm Stop Pal. 72"	T0054046	75"
84"	St. Arm Stop Pal. 84"	T0054048	87"
90"	St. Arm Stop Pal 90"	T0054057	93"
96"	St. Arm Stop Pal. 96"	T0054059	99"
102"	St. Arm Stop Pal. 102"	T0054060	105"
108"	St. Arm Stop Pal. 108"	T0054061	111"
120"	St. Arm Stop Pal. 120"	T0071202	123"
132"	St. Arm Stop Pal 132"	T0071203	135"
144"	St. Arm Stop Pal. 144"	T0071204	147"

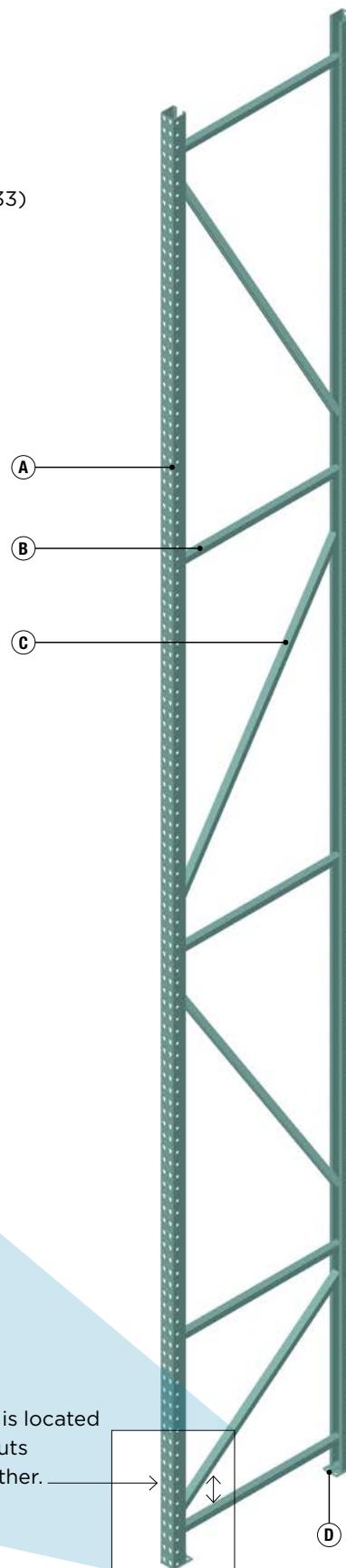


WELDED ROLL FORMED FRAMES

COMPONENTS

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

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



FR.IK2.7_F Frame with '0' foot plate shown



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

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" 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
Height minimum	48" (4')	48" (4')	Every 12" *
Height maximum	480" (40')	480" (40')	
Depth minimum	36"	36"	36", 42" and 48"
Depth maximum	48"	48"	

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

FR. 2.75F J 16' x 42"

FR.2. = Welded Frame with
2022 strut pattern

Welded Post Model: 070F, 075F,
077F, 079F, 095F and 099F

Foot Plate Model: 0, J and M

Frame Depth (in)

Frame Height (ft)

IE275F19242GJ00000

Welded Frame

Frame Model:

270F = 3"x3" 14GA

275F = 3"x3" 13GA

277F = 3"x3" 12GA

279F = 3"x3" 11GA

295F = 4"x3" 13GA

299F = 4"x3" 11GA

Frame Height (in)

Frame Depth (in), CL = Column

Color G = Green
N = Blue

Reinforcement Height (in)

Reinforcement Post Model

Reinforcement Position

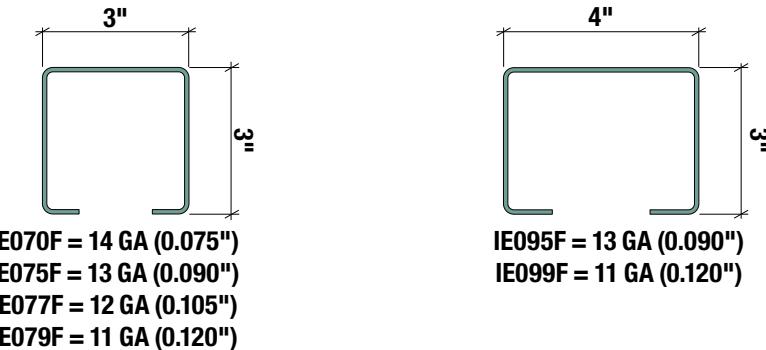
Heavy Bottom Horizontal or
Flush Foot Plate

Foot Plate Model: 0, J and M.
If No Letter Appears Foot Plate
Model Is Standard "0"

Welded Frames With Standard Components						
Frame	Family Code	Post	Foot Plate	Bracing	Height	Available Depths
FR.2.7_F	IK27_F	IE070F, IE075F, IE077F & IE079F	"0"	IHAFW	3' (min) to 40' (max) Every 12" *	18" - 72" **
FR.2.7_F J	IK27_FJ		"J"			
FR.2.7_F M	IK27_FM		"M"			
FR.2.9_F	IK29_F	IE095F & IE099F	"0"	IHAFZ	3' (min) to 40' (max) Every 12" *	18" - 72" **
FR.2.9_F J	IK29_FJ		"J"			
FR.2.9_F M	IK29_FM		"M"			

* 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.



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 (Hb) (in)	36"	27,600	29,300	32,900	34,900	38,000	40,400	43,000	45,700	43,900	57,900
	42"	25,900	27,400	30,700	32,600	35,500	37,600	40,100	42,600	42,300	55,600
	48"	23,900	25,300	28,400	30,000	32,700	34,700	37,000	39,200	40,400	53,100
	54"	21,900	23,100	25,900	27,400	29,900	31,600	33,700	35,600	38,300	50,300
	60"	19,800	20,900	23,400	24,700	26,900	28,500	30,300	32,100	36,100	47,400
	66"	17,700	18,700	20,900	22,100	24,000	25,400	27,000	28,500	33,900	44,300
	72"	15,700	16,500	18,500	19,500	21,200	22,400	23,800	25,100	31,500	41,200
	78"	13,700	14,400	16,100	17,000	18,400	19,400	20,700	21,800	29,200	38,100
	84"	12,000	12,600	14,100	14,800	16,100	16,900	18,100	18,900	26,900	34,900
	90"	10,600	11,000	12,400	12,900	14,200	14,800	15,900	16,600	24,500	31,900
	96"	9,400	9,700	11,000	11,400	12,600	13,100	14,100	14,600	22,300	28,900
	102"	8,400	8,600	9,800	10,200	11,300	11,600	12,600	13,000	20,100	26,000
	108"	7,500	7,700	8,800	9,100	10,100	10,400	11,300	11,700	18,000	23,300
	114"	6,800	6,900	8,000	8,200	9,100	9,400	10,200	10,500	16,200	20,900
	120"	6,100	6,300	7,200	7,400	8,300	8,500	9,300	9,500	14,700	18,900

***NOTE:**

- Capacities are according to the most important RMI guidelines and ANSI MH16.1-2012 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.

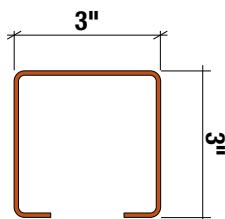


IE07_F - 3" x 3"
"F" Punch Post
"0" Foot Plate

IE09_F - 4" x 3"
"F" Punch Post
"0" Foot Plate

SIDE HOLE ONLY PUNCHED POST

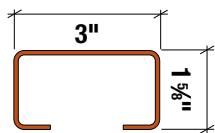
Columns and frames can be ordered with only side hole punching upon request. Place "R" in position 6 of the product code. This option is available for DR rails for welded Drive-In systems or Pallet Stops.



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 "O". 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 "O" Foot Plates & Shims



Frame	Family
FR.2.70F	IK270F
FR.2.75F	IK275F
FR.2.77F	IK277F
FR.2.79F	IK279F
Part No.	Description
Foot Plate Type: "O" Frame FR.2.7_F	
U0075045	SHIM IHASB GA 11 (0.120")
U0075071	SHIM IHASA GA 16 (0.060")

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
FR.2.95F	IK295F
FR.2.99F	IK299F
Part No.	Description
Foot Plate Type: "O" Frame FR.2.9_F	
U0075046	SHIM IHASB GA 11 (0.120")
U0075031	SHIM IHASA GA 16 (0.060")

Heavy-Duty "J" & "M" Foot Plates & Shims



Frame	Family
FR.2.70F J	IK270FJ
FR.2.75F J	IK275FJ
FR.2.77F J	IK277FJ
FR.2.79F J	IK279FJ
FR.2.95F J	IK295FJ
FR.2.99F J	IK299FJ
Part No.	Description
Foot Plate Type: "J" Frame FR.2.7_F J	
Foot Plate Type: "J" Frame FR.2.9_F J	
U0075048	SHIM IHASB GA 11 (0.120")
U0075033	SHIM IHASA GA 16 (0.060")

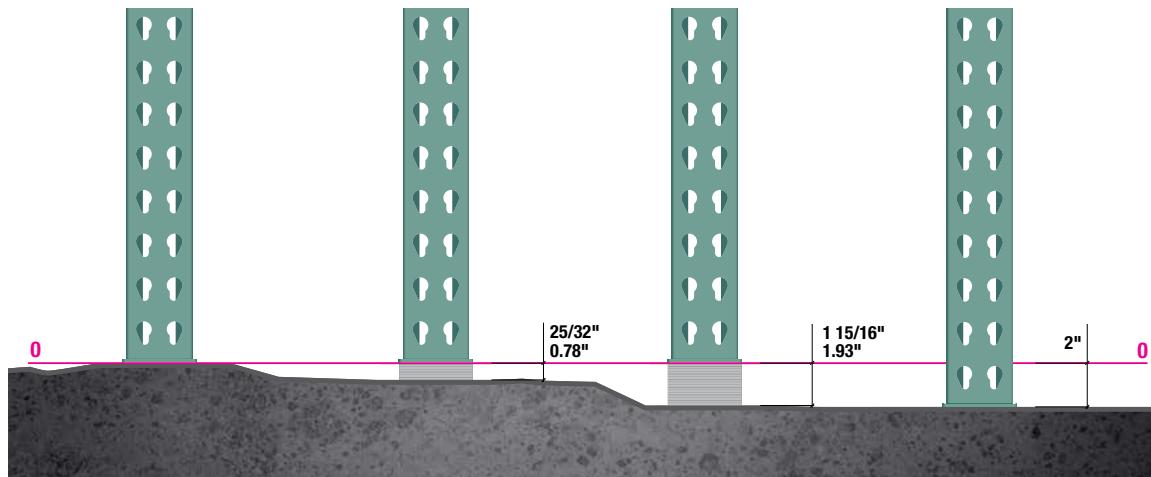


Frame	Family
FR.2.70F M	IK270FM
FR.2.75F M	IK275FM
FR.2.77F M	IK277FM
FR.2.79F M	IK279FM
FR.2.95F M	IK295FM
FR.2.99F M	IK299FM
Part No.	Description
Foot Plate Type: "M" Frame FR.2.7_F M	
Foot Plate Type: "M" Frame FR.2.9_F M	
U0075052	SHIM IHASB GA 11 (0.120")
U0075036	SHIM IHASA GA 16 (0.060")

SHIMMING

In installations with very uneven floors, the maximum shim height should not exceed $1\frac{15}{16}$ " (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 ($\pm 2"$).

Note that shimming may require longer anchors to maintain minimum embedment.



ANCHORS

Every column in a selective pallet rack installation should be anchored to the floor with at least one $\frac{1}{2}$ " diameter expansion anchor that has a minimum embedment of $2\frac{1}{2}$ ". Some installations require additional heavier anchorage due to seismic considerations.

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

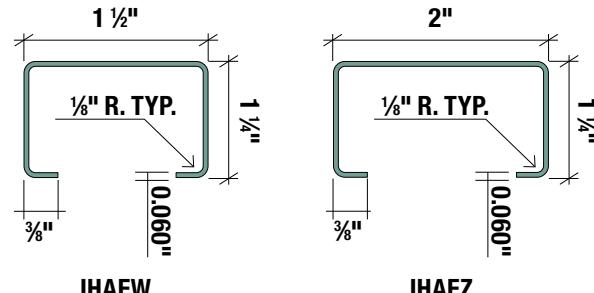


HILTI Anchor $\frac{1}{2}$ -13 X $5\frac{1}{2}$ "
U0074596

WELDED FRAME STRUTS

Welded struts are "C" shaped profiles that are welded to the post using $\frac{1}{8}$ " (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
IHAFW	2.70, 2.75, 2.77 & 2.79	16 GA (0.060")
IHAFZ	2.95 & 2.95	16 GA (0.060")

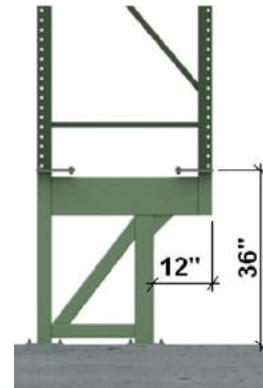


DEFENDER BASES

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 $\frac{3}{16}$ " (0.1875") thick wall, which is thicker and more abuse resistant than standard rack.

It ships unassembled.



SLOPE LEG BASE

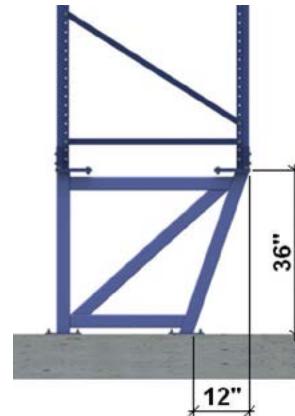
The slope leg base recesses the column 12" from the aisle at the floor level, where most fork truck damage typically occurs.

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.

They attach to the frames using (8) Bolts 1/2-13 X 1 1/2" HHC G5Z (**U0074603**) and (8) Locknut Flange 1/2-13 Z (**U0074686**).

Anchored to the floor using (8) Anchors IHAAH 1/2-13 X 5 1/2" HILTI (**U0074596**).



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
FR.2.70F JF	IK270FJF
FR.2.75F JF	IK275FJF
FR.2.77F JF	IK277FJF
FR.2.79F JF	IK279FJF
FR.2.95F JF	IK295FJF
FR.2.99F JF	IK299FJF
Part No.	Description
Foot Plate Type: "JF" Frame FR.2.7_F JF	
Foot Plate Type: "JF" Frame FR.2.9_F JF	
U0075048	SHIM IHASB GA 11 (0.120")
U0075033	SHIM IHASA GA 16 (0.060")



Frame	Family
FR.2.70F MF	IK270FMF
FR.2.75F MF	IK275FMF
FR.2.77F MF	IK277FMF
FR.2.79F MF	IK279FMF
FR.2.95F MF	IK295FMF
FR.2.99F MF	IK299FMF
Part No.	Description
Foot Plate Type: "MF" Frame FR.2.7_F MF	
Foot Plate Type: "MF" Frame FR.2.9_F MF	
U0075052	SHIM IHASB GA 11 (0.120")
U0075036	SHIM IHASA GA 16 (0.060")

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.
- IEO70F 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)		
No Reinforcement	0	Model 025	A	A0 - A9 = 100 - 109	J0 - J9 = 180 - 189	S0 - S9 = 260 - 269
Front Post Only	A	Model 075	B	B0 - B9 = 110 - 119	K0 - K9 = 190 - 199	T0 - T9 = 270 - 279
Rear Post Only	D	Model 077	G	C0 - C9 = 120 - 129	L0 - L9 = 200 - 209	U0 - U9 = 280 - 289
Both Front and Rear	G	Model 079	H	D0 - D9 = 130 - 139	M0 - M9 = 210 - 219	V0 - V9 = 290 - 299
		Model 095	J	E0 - E9 = 140 - 149	N0 - N9 = 220 - 229	W0 - W9 = 300 - 309
		Model 099	K	F0 - F9 = 150 - 159	P0 - P9 = 230 - 239	X0 - X9 = 310 - 319
				G0 - G9 = 160 - 169	Q0 - Q9 = 240 - 249	Y0 - Y9 = 320 - 329
				H0 - H9 = 170 - 179	R0 - R9 = 250 - 259	Z0 - Z9 = 330 - 339



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 IE025F	A
Post IE070F	E
Post IE075F	B
Post IE077F	G
Post IE079F	H
Post IE095F	J
Post IE099F	K
Flush Foot Plate	2



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

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										
IE025F	I	H	A	C	N	10770	D	P	U0074726	PLASTIC CAP 1 5/8" X 3" COLUMN	0.1	
IE07_F	I	H	A	C	N	10771	D	P	U0074728	PLASTIC CAP 3" X 3" COLUMN	0.1	

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.

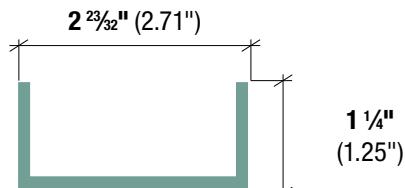
Splice kit for 3" post (U0075865) ships with:

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

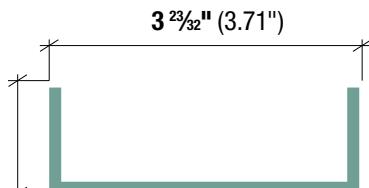
Splice kit for 4" post (U0077717) ships with:

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

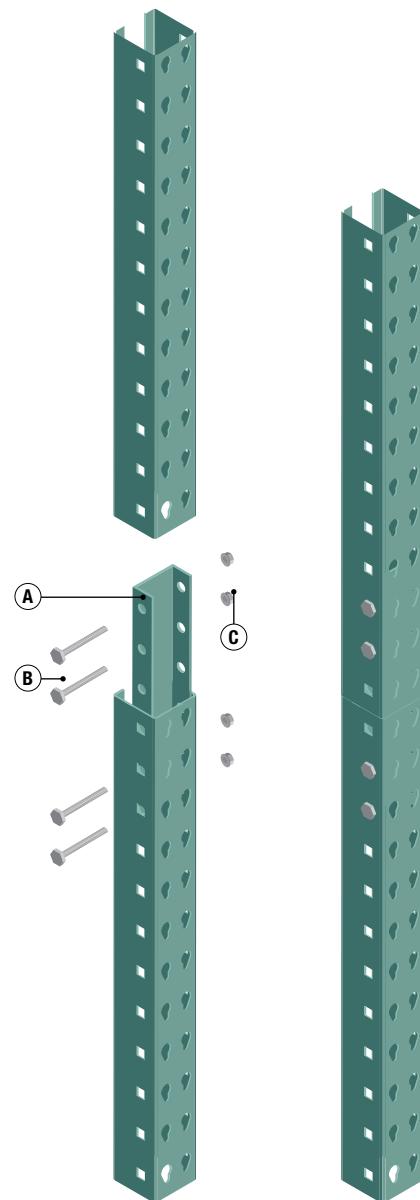
These splices are good for a maximum of 10,000 lbs. above the splice level (5,000 lbs. per column).



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				
IE025F & IE07_F	I	A	551	J	01150	G		U0075865	ST.SPLICE INTERN.IA551J 11 1/2" I02	2
IE09_F	I	A	552	J	01150	G		U0077717	ST.SPLICE INTERN.IA552J 11 1/2" I02	2

ROW SPACERS & WALL TIES

OVERVIEW

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 spacers and wall ties create a flue space to accommodate pallet overhang, building column burial and easier installation of long runs of rack.

ROW SPACERS

Row spacers are used to join racks together in a back-to-back configuration. 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 and length of the flue space. Row spacers come with a standard orange (RAL-2001) finish.

ROW SPACER DISTRIBUTION

The following are recommendations for the placement of row spacers:

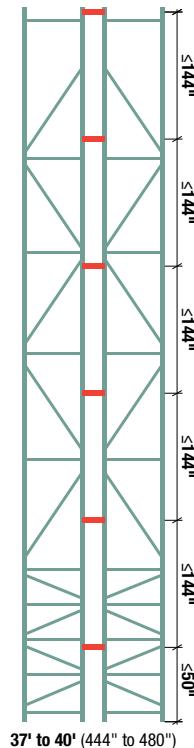
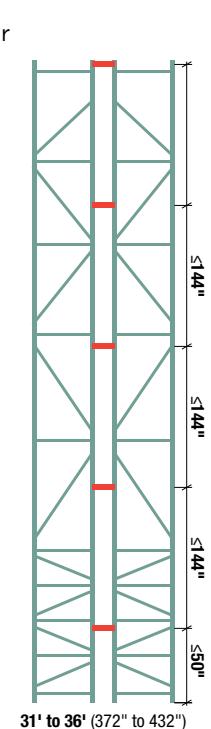
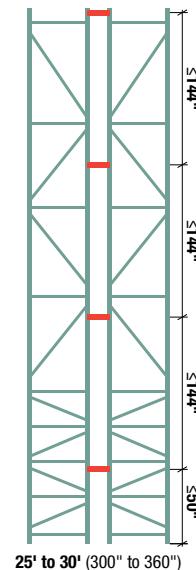
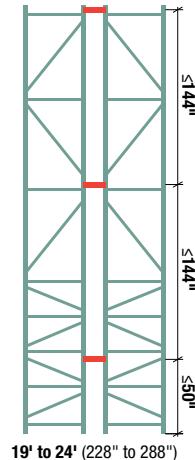
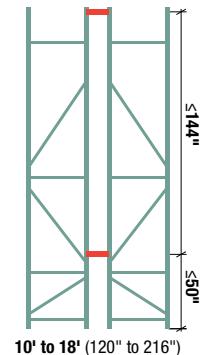
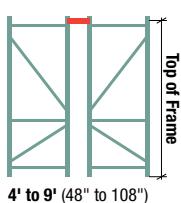
In all cases, care must be taken to avoid interference with beams, struts or any other installation components.

Row Spacer Placement and Quantity Guide		
Frame H (ft)	Frame H (in)	RS Quantity
4' to 9'	48" to 108"	1
10' to 18'	120" to 216"	2
19' to 24'	228" to 288"	3
25' to 30'	300" to 360"	4
31' to 36'	372" to 432"	5
37' to 40'	444" to 480"	6

• Intermediate row spacers should be located close to strut connections and should maintain equal distance, 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.

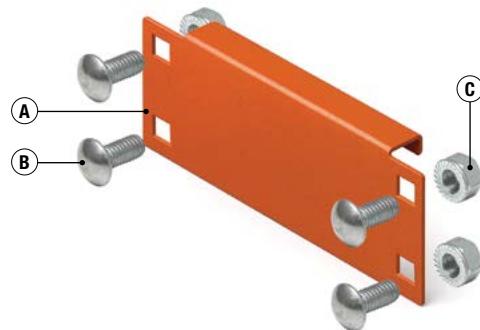


SINGLE POST ROW SPACER: IK501

For row spacers connecting 3" or 4" wide columns in a face-to-face arrangement for spans under 50", the hardware below is supplied with the IK501 Row Spacer. This part is shaped to be attached securely to frames 2.7_F, 2.9_F and UA10.

- A. (1) Row Spacer IK501.
- B. (4) Bolt $\frac{3}{8}$ -16 x $\frac{5}{8}$ " FLNG G5 Z (**U0074648**).
- C. (4) Locknut Flange $\frac{3}{8}$ -16 Z (**U0074687**).

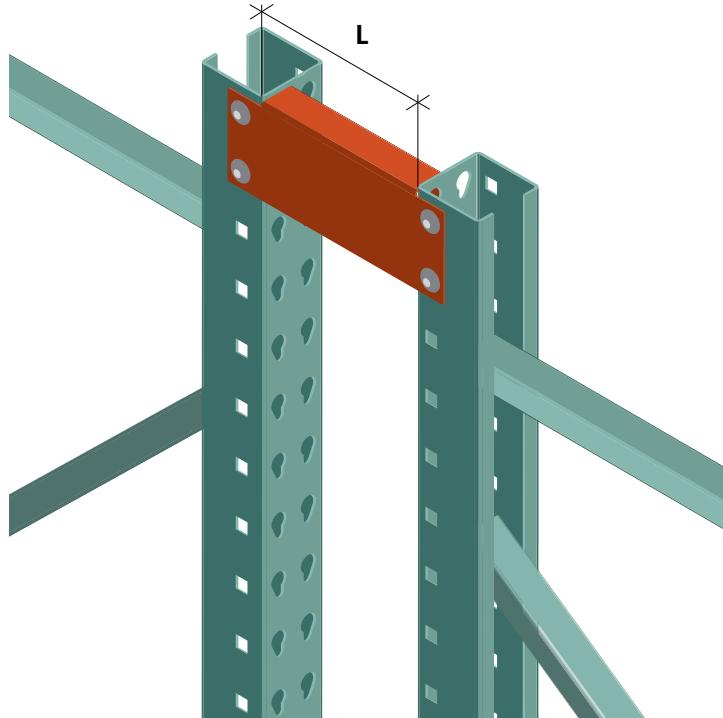
Single Post Row Spacer - Model 501 Product Code						
	Interlake Mecalux	Item	Model	Style	Space Length xxx.xx (in)	Color
Code Position	1	2	3-5	6	7-11	12
	I	A	501	S	-----	R



For 3" or 4" wide posts (face-to-face).

Single Post Row Spacer - Model 501 Sets*					
Length	Part Number	Length	Part Number	Length	Part Number
2"	U0075881	14"	U0075885	32"	U0075891
4"	U0075740	15"	U0088636	36"	U0075892
6"	U0075880	16"	U0075886	40"	U0075893
8"	U0075882	18"	U0075887	44"	U0088637
9"	U0075757	20"	U0075888	48"	U0088638
10"	U0075883	24"	U0075889		
12"	U0075884	28"	U0075890		

*Other lengths must be ordered as VL's code up through 60" using Family Code **IKCJA501** (hardware will be included).



Model 501
L = Space between posts

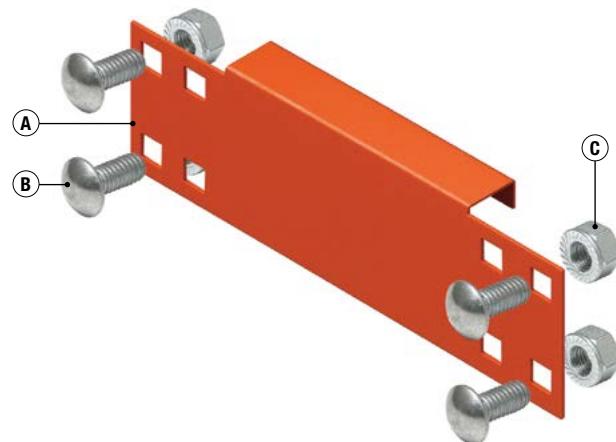
SINGLE POST ROW SPACER: IK503

For row spacers connecting 3" or 4" wide columns in a face-to-back arrangement for spans under 50", the hardware below is supplied with the IK503 Row Spacer. This part is shaped to be attached securely to frames 2.7_F and 2.9_F.

- A. (1) Row Spacer IK503.
- B. (4) Bolt $\frac{3}{8}$ -16 x $\frac{5}{8}$ " FLNG G5 Z (**U0074648**).
- C. (4) Locknut Flange $\frac{3}{8}$ -16 Z (**U0074687**).

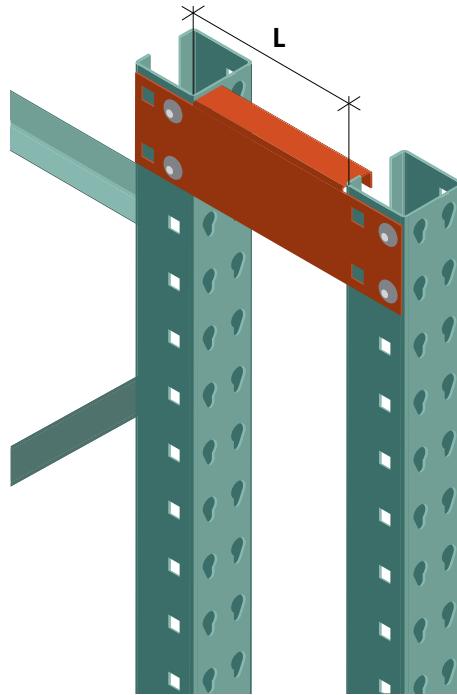
Single Post Row Spacer - Model 503 Product Code						
	Interlake Mecalux	Item	Model	Style	Space Length xxx.xx (in)	Color
Code Position	1	2	3-5	6	7-11	12
	I	A	503	S	-----	R

For 3" or 4" wide posts (face-to-back).



Single Post Row Spacer - Model 501 Sets*					
Length	Part Number	Length	Part Number	Length	Part Number
2"	U0075894	12"	U0075900	28"	U0075906
4"	U0075895	14"	U0075901	32"	U0075907
6"	U0075896	16"	U0075902	36"	U0075908
8"	U0075897	18"	U0075903	40"	U0075909
9"	U0075898	20"	U0075904		
10"	U0075899	24"	U0075905		

*Other lengths must be ordered as VL's code up through 60" using Family Code **IKCJA503** (hardware will be included).



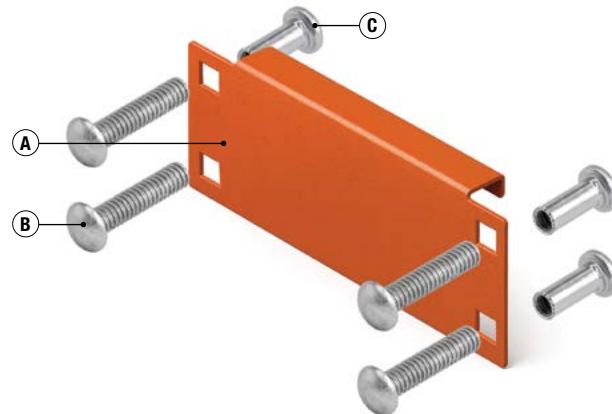
Model 503
L = Space between posts

REINFORCED 3" POST ROW SPACER: IK464

For row spacers connecting 3" wide reinforced columns in a face-to-face arrangement for spans under 60", the following hardware is supplied with the IK464 Row Spacer:

- A. (1) Row Spacer IK501.
- B. (4) $1\frac{1}{2}$ " x $2\frac{3}{8}$ " shoulder bolts with $\frac{3}{8}$ " dia. outside thread (U0074634)
- C. (4) $1\frac{1}{2}$ " barrel nuts with $\frac{3}{8}$ " dia. inside thread & square neck (U0074697)

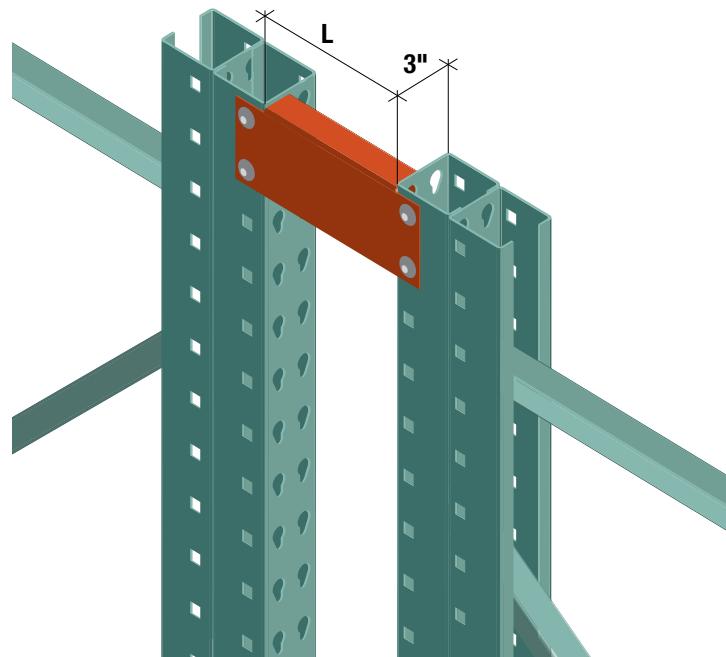
Reinforced Post Row Spacer - Model 464 Product Code						
	Interlake Mecalux	Item	Model	Style	Space Length xxx.xx (in)	Color
Code Position	1	2	3-5	6	7-11	12
	T	A	464	S	-----	R



For reinforced 3" wide posts (face-to-face).

Reinforced 3" Face to Face Row Spacer - Model 464 Sets*					
Length	Part Number	Length	Part Number	Length	Part Number
2"	U0088663	14"	U0088670	32"	U0088677
4"	U0088664	15"	U0088671	36"	U0088678
6"	U0088665	16"	U0088672	40"	U0088679
8"	U0088666	18"	U0088673	44"	U0088680
9"	U0088667	20"	U0088674	48"	U0088681
10"	U0088668	24"	U0088675		
12"	U0088669	28"	U0088676		

*Other lengths must be ordered as VL's code up through 60" using Family Code IKCJA464 (hardware will be included).



Model 464 in face-to-face arrangement
L = Space between posts

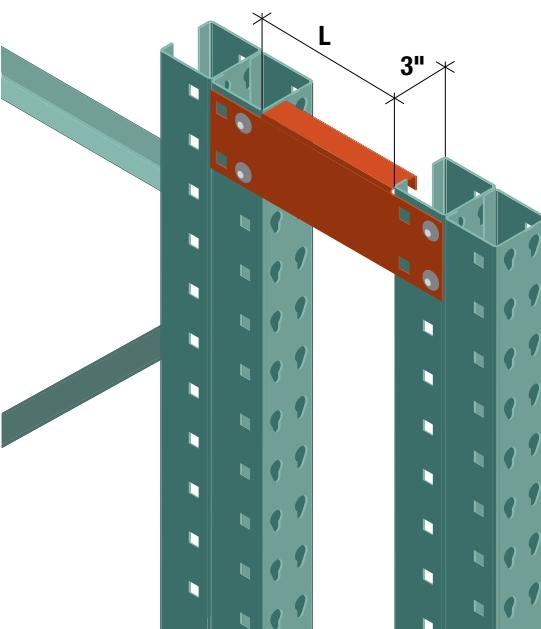
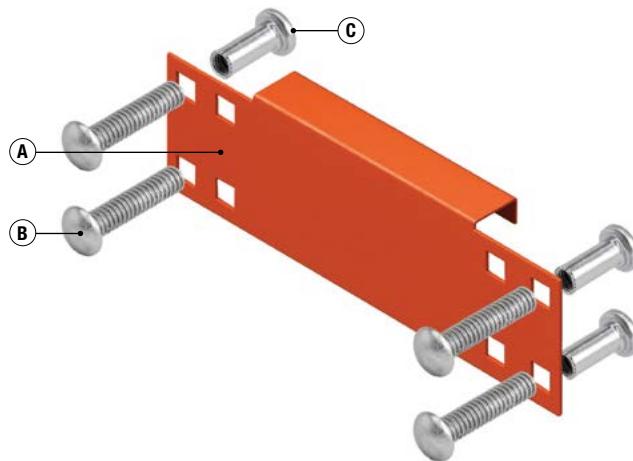
REINFORCED 3" POST ROW SPACER: IK465

For row spacers connecting 3" wide reinforced columns in a face-to-face, face-to-back, or back-to-back arrangement for spans under 60", the following hardware is supplied with the IK465 Row Spacer:

- A. (1) Row Spacer IK503.
- B. (4) 1/2" x 2 3/8" shoulder bolts with 3/8" dia. outside thread (**U0074634**)
- C. (4) 1/2" barrel nuts with 3/8" dia. inside thread & square neck (**U0074697**)

Reinforced Post Row Spacer - Model 465 Product Code						
	Interlake Mecalux	Item	Model	Style	Space Length xxx.xx (in)	Color
Code Position	1	2	3-5	6	7-11	12
	T	A	465	S	-----	R

For reinforced 3" wide posts (face-to-back).



*Other lengths must be ordered as VL's code up through 60" using Family Code **IKCJA465** (hardware will be included).

Model 465 in face-to-back arrangement
 L = Space between posts

REINFORCED 4" POST ROW SPACER: IK641 AND IK643

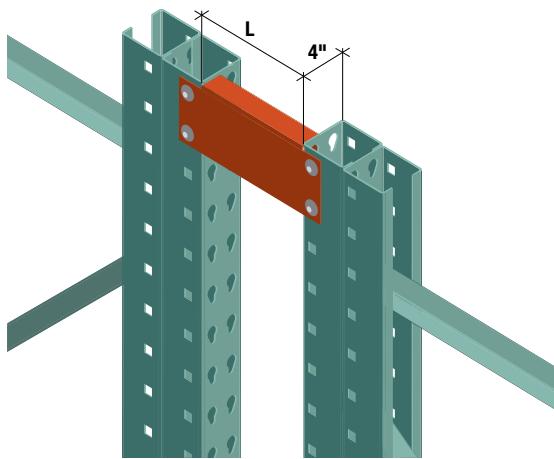
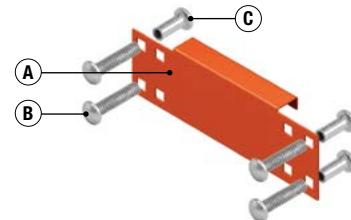
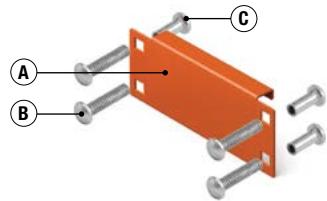
Row Spacer 641 is used to connect 4" wide reinforced columns in a face-to-face arrangement, 643 is used to connect 4" wide reinforced columns in a face-to-back arrangement, both are for spans under 60"; the following hardware is supplied with the IK641 & IK643 Row Spacer:

- A. (1) Row Spacer IK501 (IK641) or 503 (IK643).
- B. (4) $7/16"$ - 14 x $4\frac{1}{2}$ " bolts (U0074669)
- C. (4) $7/16"$ - 14 flanged locknuts (U0074690)

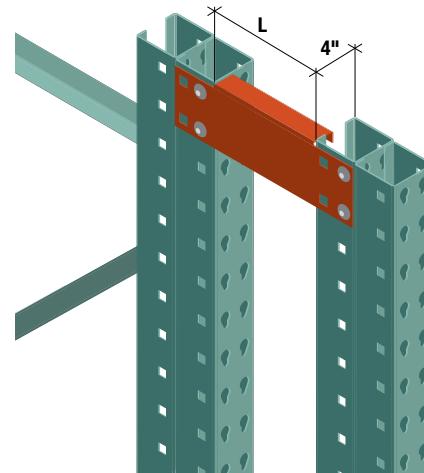
Reinforced Post Row Spacer - 641 and 643 Product Code						
	Interlake Mecalux	Item	Model	Style	Space Length xxx.xx (in)	Color
Code Position	1	2	3-5	6	7-11	12
	I	A	641	S	-----	R
	I	A	643	S	-----	R

Reinforced 4" Face to Face Row Spacer - Model 641 Sets*					
Length	Part Number	Length	Part Number	Length	Part Number
6"	U0088683	12"	U0088685	18"	U0088687
8"	U0088684	16"	U0088686		
Reinforced 4" Face to Back Row Spacer - Model 643 Sets*					
Length	Part Number	Length	Part Number	Length	Part Number
6"	U0088688	12"	U0088691	18"	U0088693
8"	U0088690	16"	U0088692		

*Other lengths must be ordered as VL's code up through 60" using Family Code IKCJA641 & IKCJA643 (hardware will be included).



Model 641
For 4" wide reinforced posts (face-to-face)
L = Distance between posts

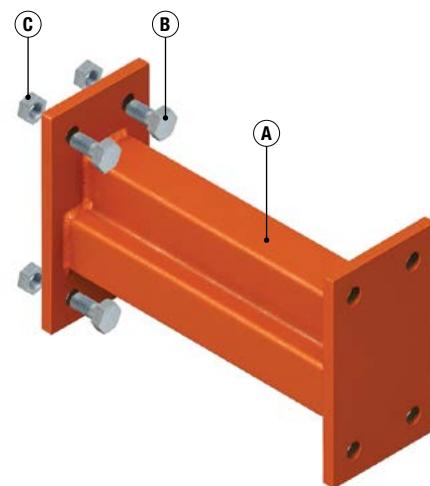


Model 643
For 4" wide reinforced posts (face-to-back)
L = Distance between posts

HEAVY DUTY ROW SPACERS

FACE TO FACE HD ROW SPACERS 40E F

These row spacers have been designed using a face to face connector and a 40E profile.



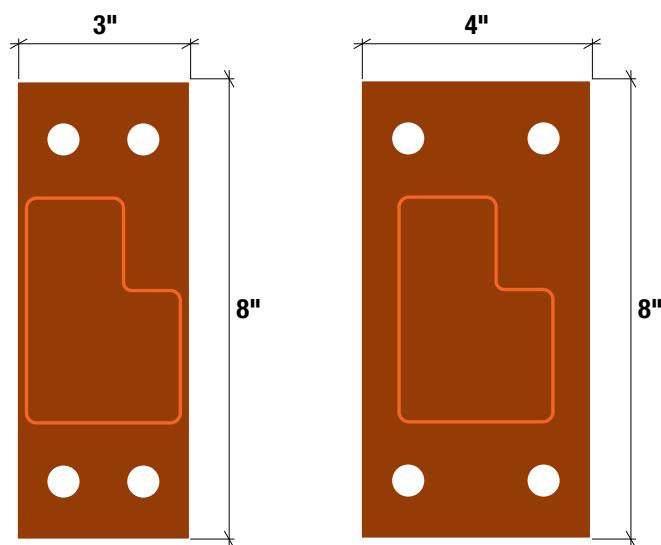
ST.ROW SPACER U HD40E F SETS

In order to facilitate the ordering process, heavy duty row spacer sets have been created. These sets include the components below.

- A. (1) U HD40E F Row Spacer
- B. (8) 1/2-13 x 1" HCC G5 Z Bolts (**U0074608**)
- C. (8) 1/2-13 Z Locknut Flange (**U0074686**)

40E F HD ROW SPACER SETS FOR BOLTED OR WELDED FRAMES						
Part No.	Family	Description	Compatibility	Custom Limits	Profile Type	Connector
U0211234	UBCJEF03	ST.ROW SPACER U HD40E F 3 8"	270, 275, 277, 279, 2.314, 2.313 and 2.312,	2" Min 60" Max	40E	Face Plate
U0211235		ST.ROW SPACER U HD40E F 3 12"				
U0211236		ST.ROW SPACER U HD40E F 3 18"				
U0211237	UBCJEF04	ST.ROW SPACER U HD40E F 4 6"	295, 299, 2.101 and 2.102,	2" Min 60" Max	40E	Face Plate
U0211238		ST.ROW SPACER U HD40E F 4 8"				
U0211239		ST.ROW SPACER U HD40E F 4 12"				
U0211240		ST.ROW SPACER U HD40E F 4 18"				
U0211241		ST.ROW SPACER U HD40E F 4 24"				

Note that the hardware included in these sets is for un-reinforced columns, for reinforced column hardware, consult with Engineering.



HEAVY DUTY ROW SPACERS

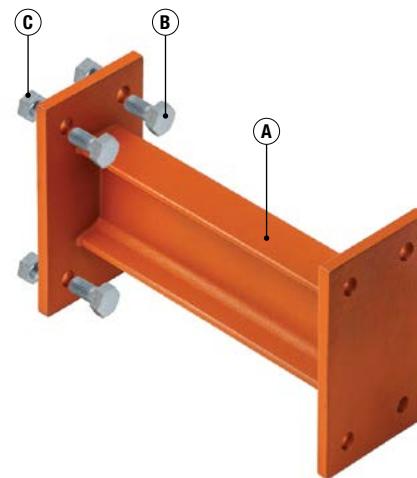
FACE TO FACE HD ROW SPACERS 435 F

These row spacers have been designed using a face to face connector and a structural 435 profile.

ST.ROW SPACER U HD435 F SETS

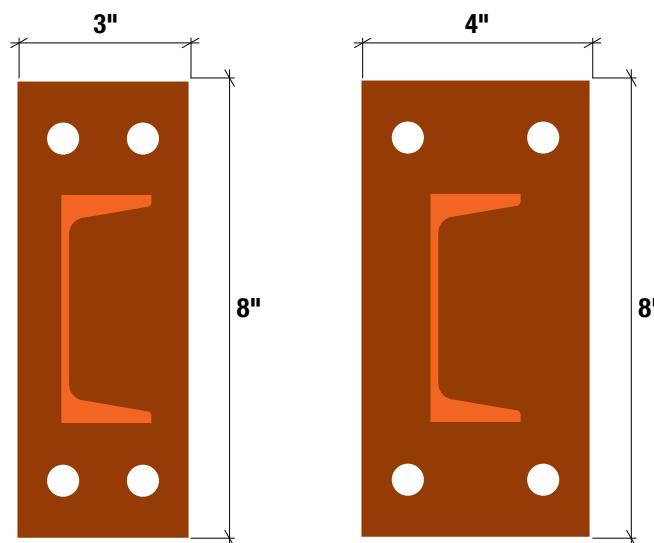
In order to facilitate the ordering process, heavy duty row spacer sets have been created. These sets include the components below.

- A. (1) U HD40E F Row Spacer
- B. (8) 1/2-13 x 1" HCC G5 Z Bolts (**U0074608**)
- C. (8) 1/2-13 Z Locknut Flange (**U0074686**)



435 F HD ROW SPACER SETS FOR BOLTED OR WELDED FRAMES						
Part No.	Family	Description	Compatibility	Custom Limits	Profile Type	Connector
U0211264	UBCJ35F3	ST.ROW SPACER U HD435 F 3 8"	270, 275, 277, 279, 2.314, 2.313 and 2.312,	2" Min 60" Max	435 (C4 X 4.5)	Face Plate
U0211265		ST.ROW SPACER U HD435 F 3 12"				
U0211266		ST.ROW SPACER U HD435 F 3 18"				
U0211267	UBCJ35F4	ST.ROW SPACER U HD435 F 4 6"	295, 299, 2.101 and 2.102,	2" Min 60" Max	435 (C4 X 4.5)	Face Plate
U0211268		ST.ROW SPACER U HD435 F 4 8"				
U0211269		ST.ROW SPACER U HD435 F 4 12"				
U0211270		ST.ROW SPACER U HD435 F 4 18"				
U0211271		ST.ROW SPACER U HD435 F 4 24"				

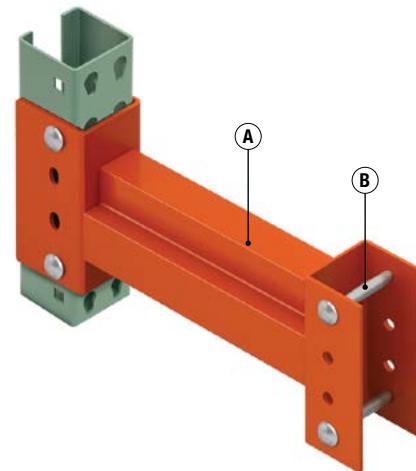
Note that the hardware included in these sets is for un-reinforced columns, for reinforced column hardware, consult with Engineering.



HEAVY DUTY ROW SPACERS

SADDLE HD ROW SPACERS 40E SW

These row spacers have been designed using a saddle connector and a 40E profile.



ST.ROW SPACER U HD40E SW SETS

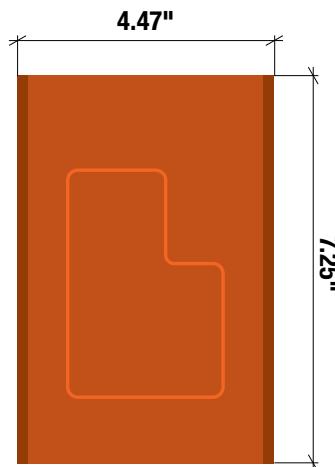
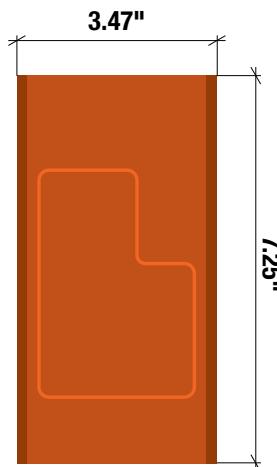
In order to facilitate the ordering process, heavy duty row spacer sets have been created. These sets include the components below.

- A. (1) U HD40E SB Row Spacer
- B. (4) Through-bolts (based on frame model)

40E SW HD ROW SPACER SETS FOR WELDED FRAMES						
Part No.	Family	Description	Compatibility	Custom Limits	Profile Type	Connector
U0211256	UBCJESW3	ST.ROW SPACER U HD40E SW3 8"	3" WELDED FRAMES (2.70, 2.75, 2.77 & 2.79)	2" Min 60" Max	40E	SADDLE
U0211257		ST.ROW SPACER U HD40E SW3 12"				
U0211258		ST.ROW SPACER U HD40E SW3 18"				
U0211259	UBCJESW4	ST.ROW SPACER U HD40E SW4 6"	4" WELDED FRAMES (2.95 & 2.99)	2" Min 60" Max	40E	SADDLE
U0211260		ST.ROW SPACER U HD40E SW4 8"				
U0211261		ST.ROW SPACER U HD40E SW4 12"				
U0211262		ST.ROW SPACER U HD40E SW4 18"				
U0211263		ST.ROW SPACER U HD40E SW4 24"				

Note that the hardware included in these sets will work with reinforced or un-reinforced bolted columns.

Hardware included on Sets			
Model	Qty.	Bolt Description	Part Number
SW3	4	BOLT 7/16-14X 4" HHC G5 Z	U0074671
	4	LOCKNUT FLANGE 7/16-14 Z	U0074690
SW4	4	BOLT 7/16-14X 5" HHC G5 Z	U0074672
	4	LOCKNUT FLANGE 7/16-14 Z	U0074690



HEAVY DUTY ROW SPACERS

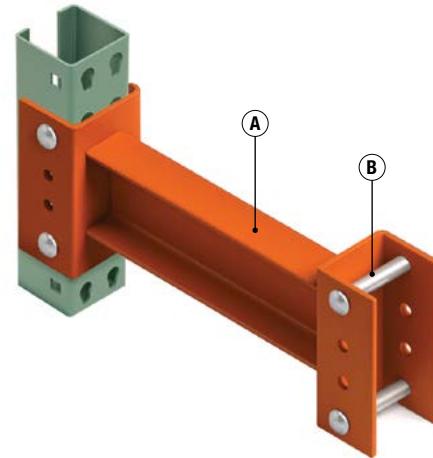
SADDLE HD ROW SPACERS 435 SW

These row spacers have been designed using a saddle connector and a structural 435 profile.

ST.ROW SPACER U HD435 SW SETS

In order to facilitate the ordering process, heavy duty row spacer sets have been created. These sets include the components below.

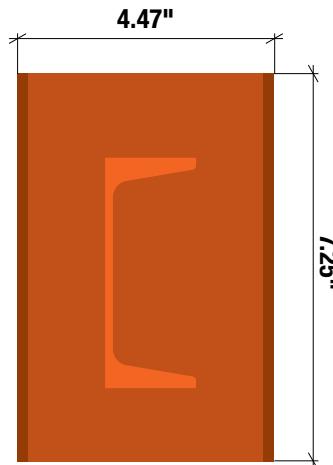
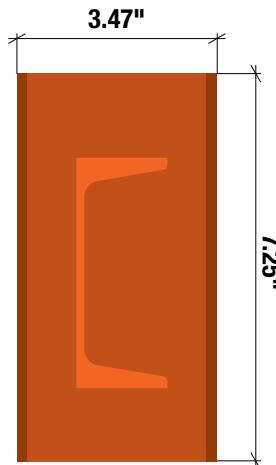
- A. (1) U HD40E SB Row Spacer
- B. (4) Through-bolts (based on frame model)



435 SW HD ROW SPACER SETS FOR WELDED FRAMES									
Part No.	Family	Description	Compatibility	Custom Limits	Profile Type	Connector			
U0211286	UBCJ35W3	ST.ROW SPACER U HD435 SW3 8"	3" WELDED FRAMES (2.70, 2.75, 2.77 & 2.79)	2" Min 60" Max	435 (C4 X 4.5)	Face Plate			
U0211287		ST.ROW SPACER U HD435 SW3 12"							
U0211288		ST.ROW SPACER U HD435 SW3 18"							
U0211289	UBCJ35W4	ST.ROW SPACER U HD435 SW4 6"	4" WELDED FRAMES (2.95 & 2.99)						
U0211290		ST.ROW SPACER U HD435 SW4 8"							
U0211291		ST.ROW SPACER U HD435 SW4 12"							
U0211292		ST.ROW SPACER U HD435 SW4 18"							
U0211293		ST.ROW SPACER U HD435 SW4 24"							

Note that the hardware included in these sets will work with reinforced or un-reinforced bolted columns.

Hardware included on Sets			
Model	Qty.	Bolt Description	Part Number
SW3	4	BOLT 7/16-14X 4" HHC G5 Z	U0074671
	4	LOCKNUT FLANGE 7/16-14 Z	U0074690
SW4	4	BOLT 7/16-14X 5" HHC G5 Z	U0074672
	4	LOCKNUT FLANGE 7/16-14 Z	U0074690



WALL TIES

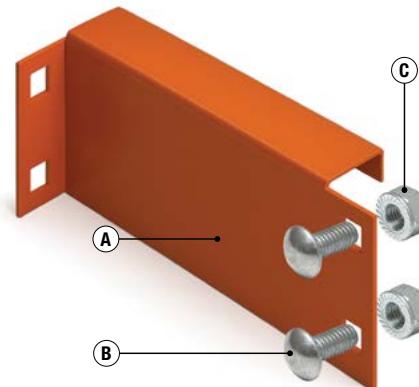
Components designed to attach the rack to the wall. The type of wall tie used is contingent upon the type of frame that is used.

WALL TIE: IA530

Wall ties are shaped to be attached securely to IE025F, IE07_F and IE09_F posts. The following connectors are used to bolt the wall tie to the side holes of the posts:

- (2) Bolts $\frac{3}{8}$ "-16 X $\frac{5}{8}$ " FLNG G5 Z (**U0074648**).
- (2) Flanged locknuts $\frac{3}{8}$ "-16 Z (**U0074687**).

- For lengths between 2" and 18".
- Due to uncertainty in wall structure, wall anchors are not included.



Wall Tie Model IA530

WALL TIE SET: IA530

In order to facilitate the ordering process, wall tie IA530 sets have been created.

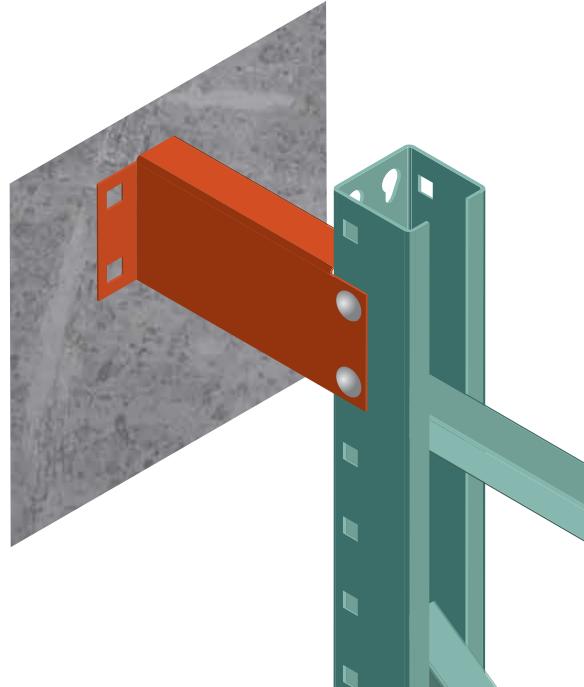
These sets include the following hardware:

- A. (1) Wall Tie IA530
- B. (2) Bolts $\frac{3}{8}$ "-16 X $\frac{5}{8}$ " FLNG G5 Z (**U0074648**)
- C. (2) Flanged locknuts $\frac{3}{8}$ "-16 Z (**U0074687**)

Wall Tie IA530 Set*		
Length	Part Description	Part Number
6"	St. Wall Fix IA530	U0075993
8"	St. Wall Fix IA530	U0075994
12"	St. Wall Fix IA530	U0075995

*Other lengths must be ordered as VL's code up through 60" using Family Code **IKCJ530W** (hardware will be included).

- Wall anchors are not included.



POST PROTECTORS

POST PROTECTOR OVERVIEW

- Minimum height is 12" with the exception of 570, which is 10.25" high.
- Must be ordered in even inches.
- Anchors to be ordered separately.
- Model 570 is available from Pontiac, IL.
- Available in a standard orange (RAL-2001) finish (Except for 570, which is safety yellow RAL-1021).



Models 571 for 3" welded columns
Model 573 for 4" welded columns

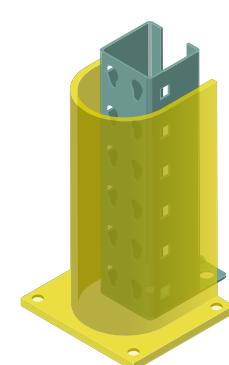


Models 572 for 3" welded columns
Model 574 for 4" welded columns
(2) Anchors not included - T0034139

Welded Post Protector Product Codes									
	Welded Frame Width	Interlake Mecalux	Item	Model	Style	Height (in)	Color	Part Number	Hardware Included
Code Position	1	2	3-5	6	7-11	12			*Hardware not included to be added separately
No Lag Plate	3" 2.70F 2.75F 2.77F 2.79F	I	A	571	L	01200	R	U0108382	(4) Bolts 3/8"-16 x 3/4" - U0074641 (4) Flange Locknut 3/8"-16 - U0074687
						01800		U0108383	
						02000		U0108384	
						02400		U0108385	
						03600		U0108386	
						04800		U0108387	
	4" 2.95F 2.99F	I	A	573	L	01200	R	U0108402	(4) Bolts 3/8"-16 x 3/4" - U0074641 (4) Flange Locknut 3/8"-16 - U0074687
						02400		U0108403	
						03600		U0108404	
						04800		U0108405	
With 2 Hole Lag Plate	3" 2.70F 2.75F 2.77F 2.79F	I	A	572	L	01200	R	U0108393	(4) Bolts 3/8"-16 x 3/4" - U0074641 (4) Flange Locknut 3/8"-16 - U0074687 (2) Anchors 1/2"-13 X 4 1/4" must be added separately - T0034139
						01800		U0108394	
						02400		U0108395	
						03600		U0108396	
						04800		U0108397	
	4" 2.95F 2.99F	I	A	574	L	01200	R	U0108410	(4) Bolts 3/8"-16 x 3/4" - U0074641 (4) Flange Locknut 3/8"-16 - U0074687 (2) Anchors 1/2"-13 X 4 1/4" must be added separately - T0034139
						02400		U0108411	
						03600		U0108412	
						04800		U0108413	
Floor Mount 4 Hole Lag Plate	3" 2.70F 2.75F 2.77F 2.79F	I	A	570	L	01025	E	U0079327	No hardware included Only compatible with Standard Foot Plate on 3" welded Posts (4) Anchors 1/2"-13 X 4 1/4" must be added separately - T0034139



Model 572
10.25" H, only compatible with
3" wide welded frames standard foot plate
(4) Anchors not included - T0034139



For more floor mounted options see page 39
Floor Mounted Post Protector U S - 16" H



BARRIER RAIL (INTERGARD 50)

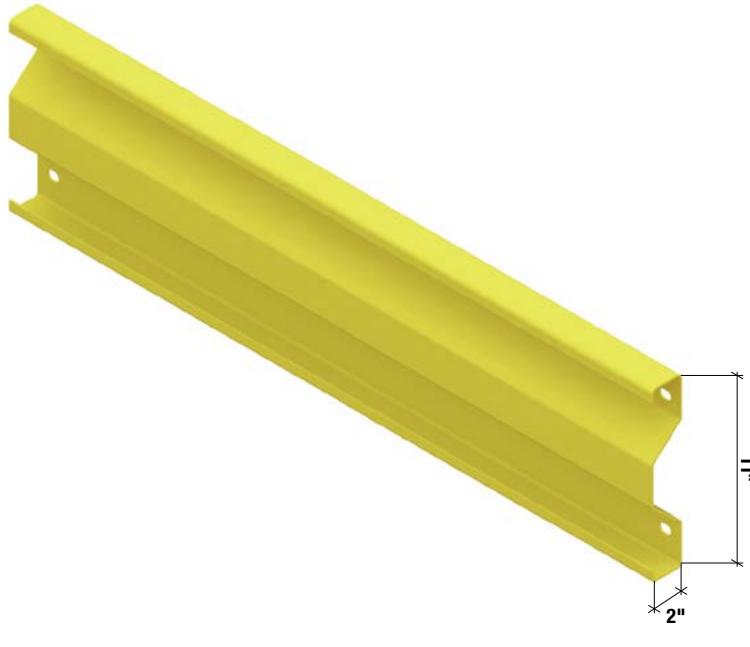
These protectors guard equipment against damage and abuse in the industrial workplace. They are recommended wherever a heavy-duty and highly visible barrier is required. An ideal location is by a heavily traveled intersection where fork trucks take turns.

There are different models depending on the area to protect. The barrier rail (Intergard 50) features the necessary floor mounted post protector, tied together with an IR471N rail.

All of the options are available in 2 post heights: 17" (one rail) and 43" (two rails).

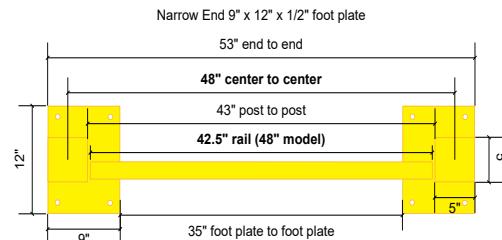
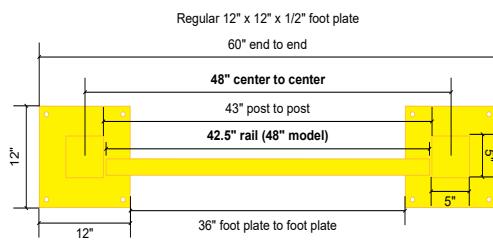
RAIL IK PROT.IR471N

Roll formed profile manufactured in gauge 11 (0.12" thick) and available in Radiant Safety Yellow (RAL-1021).



Rail section 471								
Post Center to Center	Interlake Mecalux	Item	Model	Style	Post Center to Center (in)	Color	Rail Length (in)	Part Number
1	2	3-5	6	7-11	12			
36"	I	R	471	N	03600	E	30.5	U0082464
48"	I	R	471	N	04800	E	42.5	U0100262
60"	I	R	471	N	06000	E	54.5	U0100263
72"	I	R	471	N	07200	E	66.5	U0075074
84"	I	R	471	N	08400	E	78.5	U0075075
90"	I	R	471	N	09000	E	84.5	U0075082
91"	I	R	471	N	09100	E	85.5	U0075077
95"	I	R	471	N	09500	E	89.5	U0075078
96"	I	R	471	N	09600	E	90.5	U0075079
99"	I	R	471	N	09900	E	114.5	U0075082
108"	I	R	471	N	10800	E	102.5	U0075081
120"	I	R	471	N	12000	E	114.5	U0075082

For other lengths use Family Code **IKIR471N**
(minimum 19" and maximum 129").



INTERGARD POST SETS - 12" X 12" FOOT PLATE

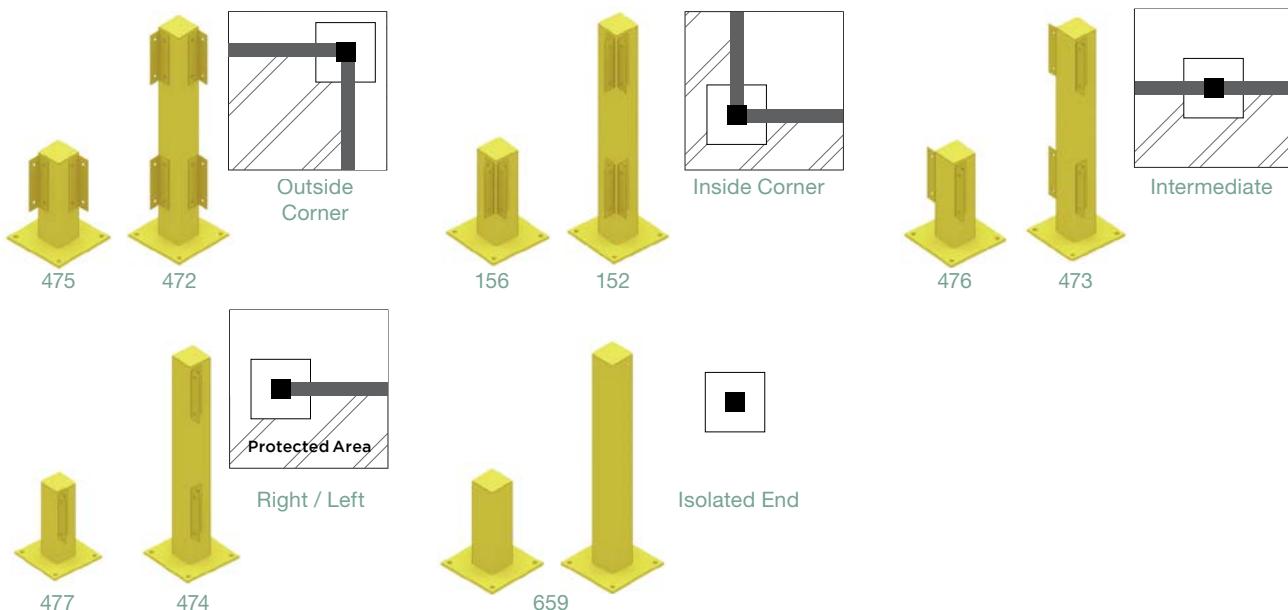
Product features:

Post is 5" x 5" heavy-wall tubing

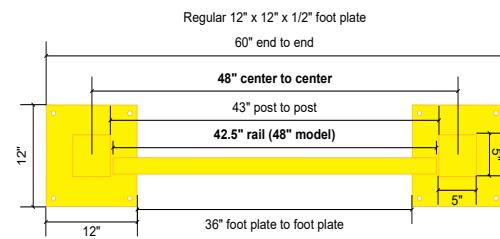
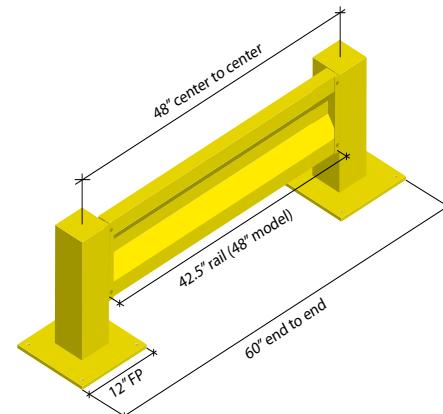
Foot plate is 12" x 12" x 1/2".

Ships with 1/2"-13 x 1" square neck bolt (part number **U0074609**) & 1/2"-13 flanged locknut (part number **U0074686**) except for Isolated End.

Requires: 4 Anchors IHA AJ 5/8"-11 x 5" (part number **U0074591**)



Intergard Post Sets 12" x 12" foot plate				
Style	Part Number	Post Height (in)	Model	Hardware
Outside Corner	U0076025	17	475	(4) Bolts U0074609 & (4) Locknuts U0074686
	U0100291	43	472	(8) Bolts U0074609 & (8) Locknuts U0074686
Inside Corner	U0100289	17	156	(4) Bolts U0074609 & (4) Locknuts U0074686
	U0100283	43	152	(8) Bolts U0074609 & (8) Locknuts U0074686
Intermediate	U0076020	17	476	(4) Bolts U0074609 & (4) Locknuts U0074686
	U0076024	43	473	(8) Bolts U0074609 & (8) Locknuts U0074686
Right	U0078448	17	477	(2) Bolts U0074609 (2) Locknuts U0074686
Left	U0078447		477	
Right	U0078452	43	474	(4) Bolts U0074609 (4) Locknuts U0074686
Left	U0078451		474	
Isolated End	U0100279	17	659	No hardware included
	U0079458	43		



INTERGARD POST SETS - 9" X 12" FOOT PLATE

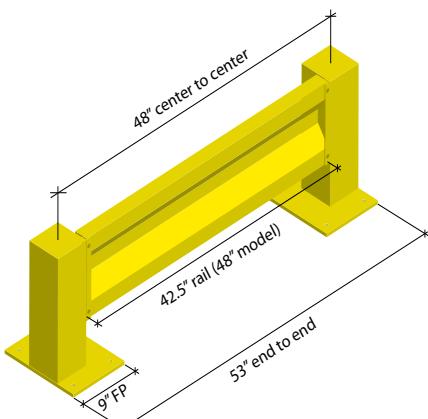
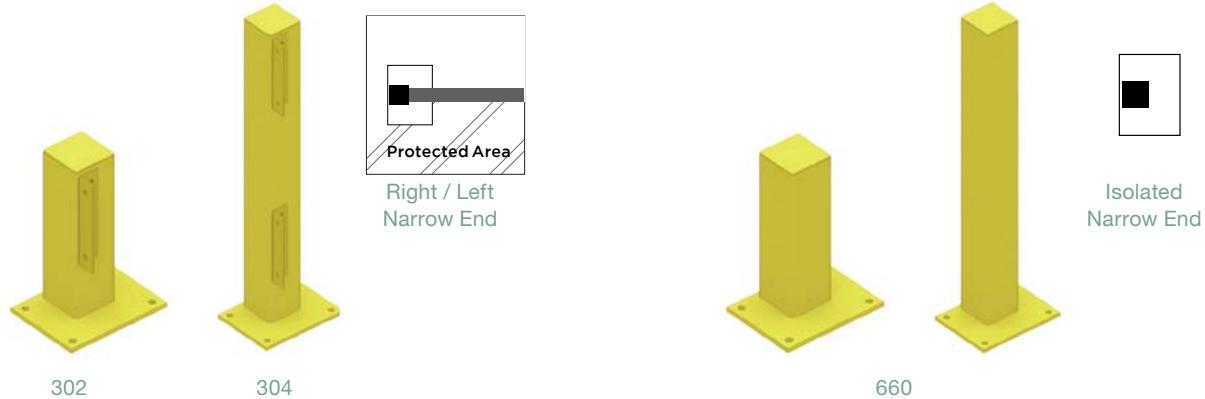
Product features:

Post is 5" x 5" heavy-wall tubing

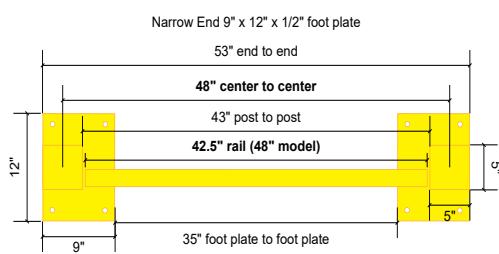
Foot plate is 9" x 12" x 1/2"

Ships with 1/2"-13 x 1" square neck bolt (part number **U0074609**) & 1/2"-13 flanged locknut (part number **U0074686**) except for Isolated Narrow End.

Requires: 4 Anchors IHAAJ 5/8"-11 x 5" (part number U0074591)



Intergard Post Sets 9" x 12" foot plate				
Rail Connector	Part Number	Post Height (in)	Model	Hardware
Right	U0076032	17	302	(2) Bolts U0074609 & (2) Locknuts U0074686
Left	U0076030		302	
Right	U0076040	43	304	(4) Bolts U0074609 & (4) Locknuts U0074686
Left	U0076034		304	
Isolated Narrow End	U0100280	17	660	No hardware included
	U0100281	43		



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 length of the row spacer.

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

ADDITIONAL GUIDELINES FOR CROSS AISLE TIE 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:

$$\text{Height of cross aisle tied frame} = \frac{\text{Distance from floor to last beam level}}{\text{Height of the load for the last beam level}} + 16"$$

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.

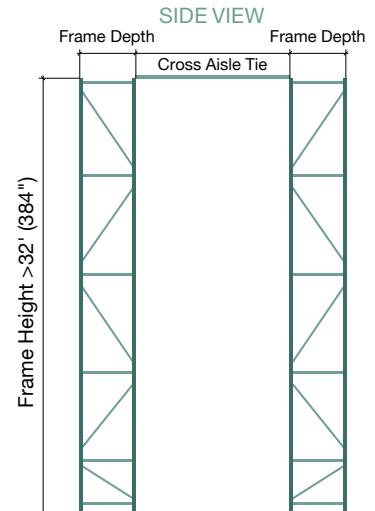
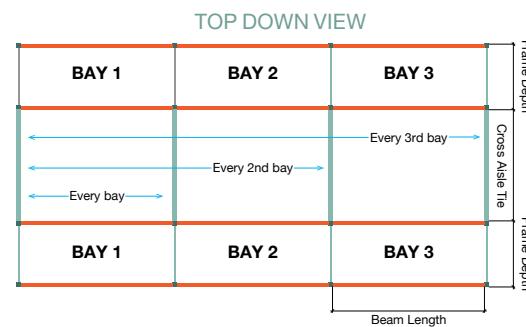
For a back-to-back row with (2) 360" high x 36" deep frames connected by a 6" row spacer:

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
28' (336")	42"	8
29' 4" (352")	44"	8
32' (384")	48"	8

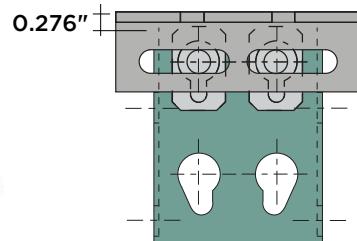
Recommended Cross Aisle Tie Quantity Based On Beam Length and Height To Depth Ratio		
Length of Beam	Height/Depth Ratio	Number of Cross Aisle Ties
48" to 72"	8 to 10	One cross aisle tie every third consecutive bay
72" to 108"	8 to 10	One cross aisle tie every second consecutive bay
More than 108"	8 to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



ARM BRACKETS (ARM PORTAL U)

Each arm bracket is a 7 gauge, $1\frac{7}{16}$ " x $2\frac{11}{16}$ " x $\frac{3}{16}$ " 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 welded frames, the distance between the top of the frame and the top of the arm bracket is 0.276".



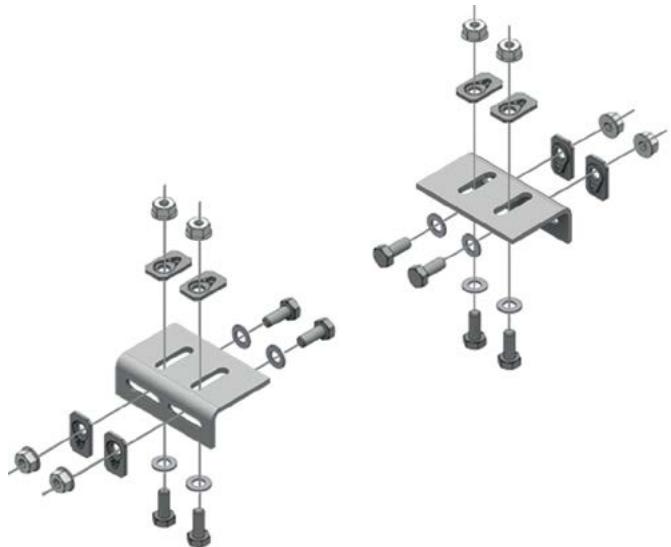
**Arm Bracket
(Arm Portal) Position
for Welded Frames**

CROSS AISLE BRACKET KITS - T0053805

In order to facilitate the ordering process, cross aisle bracket TD U kits have been created. These kits include the following components:

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

Cross Aisle Bracket TD U Kits	
Part Description	Part Number
Cross Aisle Bracket TD U Kits	T0053805



CROSS AISLE POST IE070F N

The components of the cross aisle ties are: POST IE070F N (Family code **IKP070F**, for frames 2.7_F and 2.9_F) 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. Adding 6" (or rounding to the next whole foot) to aisle width allows for variance/modification in the field. They have a vista green finish.



Post IE070F N / Family code **IKP070F**

Cross Aisle Tie Post part Numbers			
Description	Part Number	Description	Part Number
POST IE070F N 8'	U0112038	POST IE070F N 12'	U0112042
POST IE070F N 9'	U0112039	POST IE070F N 13'	U0112043
POST IE070F N 10'	U0112040	POST IE070F N 14'	U0112044
POST IE070F N 11'	U0112041	POST IE070F N 15'	U0112045

WELDED FRAME PALLET STOPS

BACKSTOP 1 1/2" X 1 1/4"

Backstop beams are intended to serve solely as a safety measure to help reduce the risk of pallets being pushed beyond the rear of the rack structure. These components are designed with intentional points of deformation to help absorb unintended impact. They are not designed or rated to support loads and should not be used as structural or load-bearing elements.

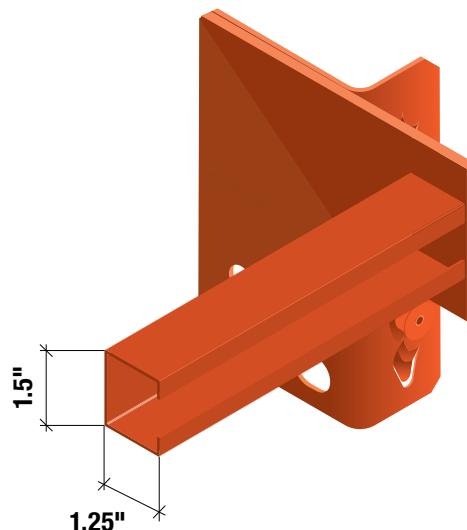
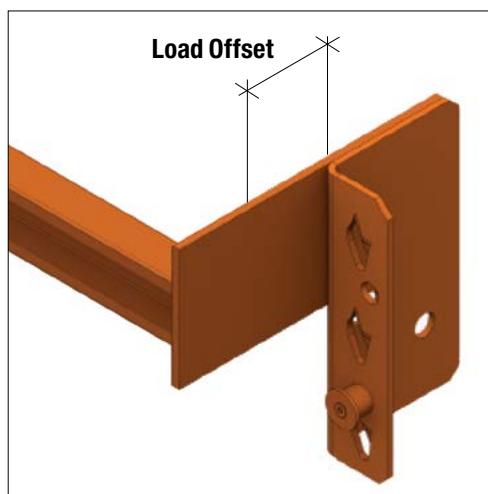
- Backstop beams shall not be used to support pallet loads, product weight, or any auxiliary equipment.
- Pallets must rest fully on designated load beams, decking, or approved pallet supports.
- Misuse of backstop beams as structural members may result in rack damage, compromised stability, and risk of personal injury.
- Must be installed 12" from the top of the support load beam.
- Standard overhangs: 0", 3", 4" and 6"
- Standard lengths: 48" and 96"
- For other bay widths, back stops can be ordered as VL using Family Codes: LATUF3M0, LATUF3M3, LATUF3M4 & LATUF3M6.

Regular inspection and timely replacement of pallet stops ensure they continue to perform this protective function effectively, maintaining a safer environment for operators and equipment alike.



Backstop Part Numbers							
Part Number	Length	Load Offset	Family	Part Number	Length	Load Offset	Family
U0211157	48"	0"	LATUF3M0	U0211163	48"	0" ≤ 4"	LATUF3M4
U0211158	96"			U0211164	96"		
U0211160	48"	0" ≤ 3"	LATUF3M3	U0211166	48"	0" ≤ 6"	LATUF3M6
U0211161	96"			U0211167	96"		

**BACKSTOP 1 1/2" x 1 1/4"
GA 16 (0.060")**



BACKSTOP 3" X 1 5/8"

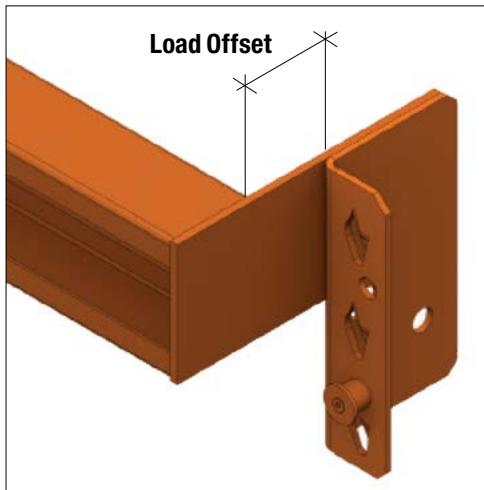
Backstop beams are intended to serve solely as a safety measure to help reduce the risk of pallets being pushed beyond the rear of the rack structure. These components are designed with intentional points of deformation to help absorb unintended impact. They are not designed or rated to support loads and should not be used as structural or load-bearing elements.

- Backstop beams shall not be used to support pallet loads, product weight, or any auxiliary equipment.
- Pallets must rest fully on designated load beams, decking, or approved pallet supports.
- Misuse of backstop beams as structural members may result in rack damage, compromised stability, and risk of personal injury.
- Must be installed 12" from the top of the support load beam.
- Standard overhangs: 0", 3", 4" and 6"
- Standard lengths: 108", 120" and 144"
- For other bay widths, back stops can be ordered as VL using Family Codes: LATF3M0, LATF3M3, LATF3M4 & LATF3M6.

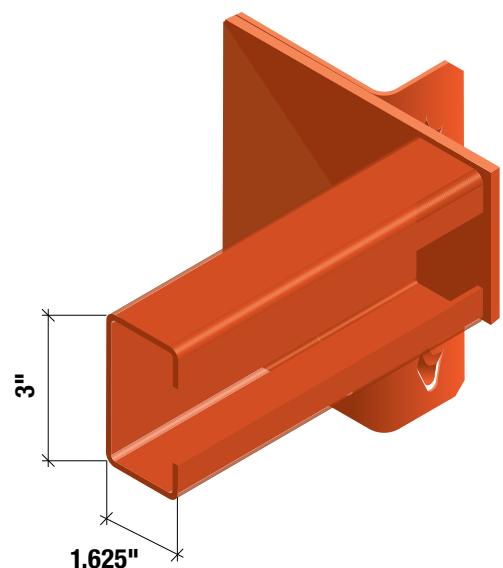
Regular inspection and timely replacement of pallet stops ensure they continue to perform this protective function effectively, maintaining a safer environment for operators and equipment alike.



Backstop Part Numbers							
Part Number	Length	Load Offset	Family	Part Number	Length	Load Offset	Family
U0208330	108"	0"	LATF3M0	U0208334	108"	0" ≤ 4"	LATF3M4
U0208331	120"			U0208335	120"		
U0201072	144"			U0201078	144"		
U0208332	108"	0" ≤ 3"	LATF3M3	U0208336	108"	0" ≤ 6"	LATF3M6
U0208333	120"			U0208337	120"		
U0201075	144"			U0201081	144"		



**BACKSTOP 3" x 1 5/8"
GA 13 (0.090")**



PALLET STOP BRACKETS

Pallet stops provide a safety stop to keep pallets properly positioned on the beams in a system. They connect directly to welded frames and support a 3" x 15/8" rail section.

PALLET STOP BRACKETS FOR 3" POSTS

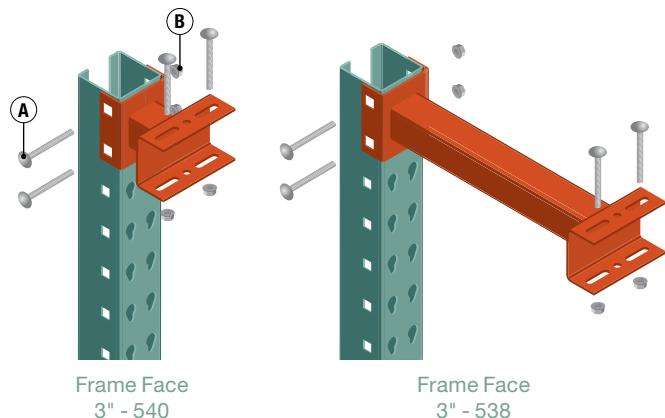
Ships with:

- A. (4) 7/16"-14 x 3 3/4" bolts - (**U0074667**).
- B. (4) 7/16"-14 flanged locknuts - (**U0074690**).

3" x 15/8" or 3" x 3" DR rail is to be used as the rail stop.

Length is ordered in even inches.

- Available in a standard orange finish.



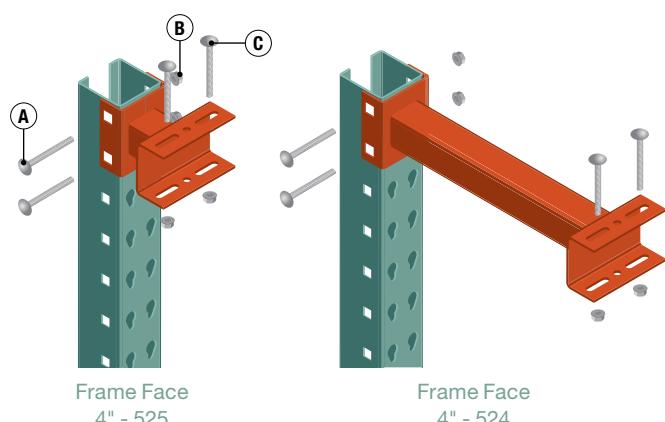
PALLET STOP BRACKETS FOR 4" POSTS

Ships with:

- A. (2) 7/16"-14 x 4 3/4" bolts - (**U0074670**).
- B. (4) 7/16"-14 flanged locknuts - (**U0074690**).
- C. (2) 7/16"-14 x 3 3/4" bolts - (**U0074667**).

3" x 15/8" or 3" x 3" DR rail is to be used as the rail stop.

- Available in a standard orange finish.

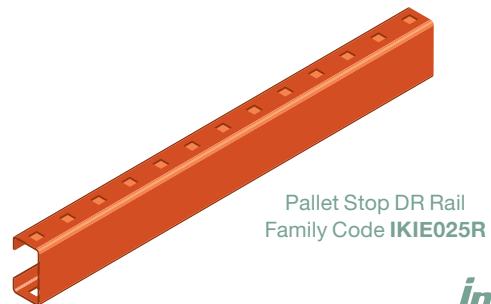


Pallet Stop bracket sets for 3" posts		
Part Number	Model	Length
U0076630	540	1/4"
U0076631	540	1"
U0076632	540	2"
U0076570	538	3"
U0076571	538	4"
U0076572	538	5"
U0076573	538	6"
U0076574	538	8"
U0076575	538	12"

Pallet Stop bracket sets for 4" posts						
Part Number	Model	Length				
U0094045	525	1/4"				
U0094046	525	1"				
U0094047	525	2"				
U0094022	524	3"				
U0094024	524	4"				
U0094025	524	5"				
U0094026	524	6"				
U0094027	524	8"				
U0094028	524	12"				

Length Limits	1	2	3-5	6	7-11	12	Post Size
hs ≥ 1/4" - <2"	I	A	540	W	-----	R	3"
For lengths ≥ 2" - <12"	I	A	538	W	-----	R	
For lengths ≥ 1/4" - <2"	I	A	525	W	-----	R	4"
For lengths ≥ 2" - <12"	I	A	524	W	-----	R	

025 DR Rail Part Numbers		
Part Number	Description	Family
U0072691	Profile IK025R 98"	IKIE025R
U0072692	Profile IK025R 110"	
U0075693	Profile IK025R 117"	
U0072694	Profile IK025R 146"	



WELDED FRAME REEL HOLDERS

Reel holders allow large spools of material to be stored in a system.

REEL HOLDER SETS

Ships with:

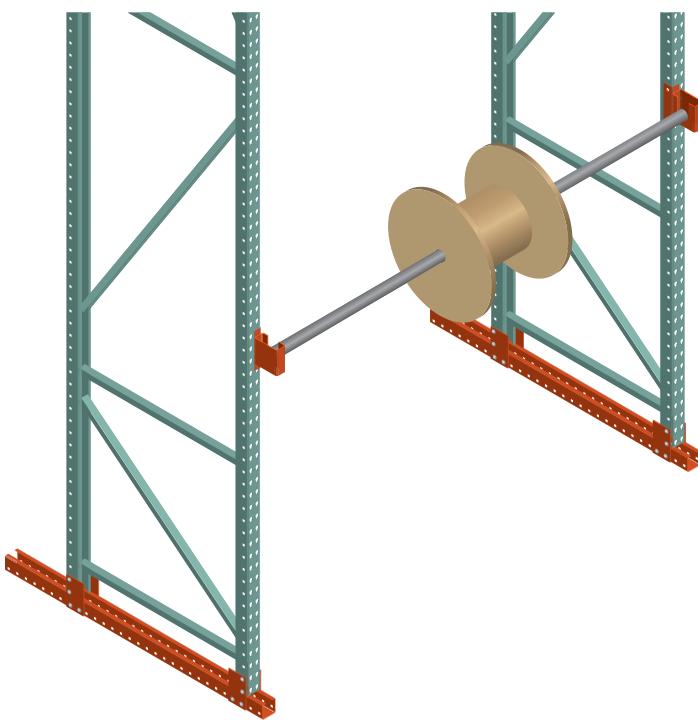
- (2) $7/16$ "-14 x 1" Bolts - (**U0074664**).
- (2) $7/16$ "-14 Flanged Locknuts - (**U0074690**).
- Order left hand and right holders separately.
- Available in a standard orange finish.
- Requires Reel holder bases.

Reel Holder Sets Product Codes										
	Interlake Mecalux	Item	Model	Style	Height/ Code (in)	Color	Weight (lbs.)	Part Number	Capacity (lbs)	For Axle Max O.D.
Code Position	1	2	3-5	6	7-11	12				
Right Hand	I	A	545	H	00000	R	4	U0094090	3,500 lbs./pair	$2\frac{3}{8}$ "
Left Hand	I	A	546	H	00000	R	4	U0094091	3,500 lbs./pair	$2\frac{3}{8}$ "



Right Hand Model 545

These capacities assume that all component parts used are (1.) Manufactured by Interlake Mecalux (2.) In good condition (3.) Properly installed.



Left Hand Model 546

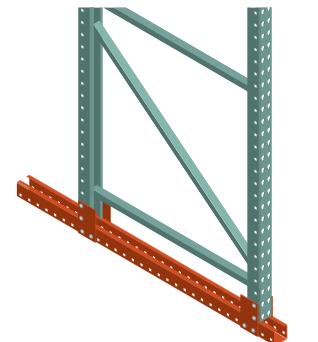
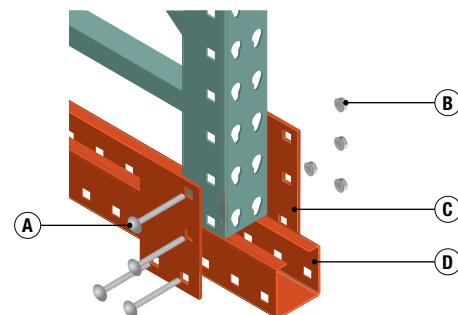
REEL HOLDER BASE ASSEMBLY SETS

2.7_F frames require no footplate for this application.

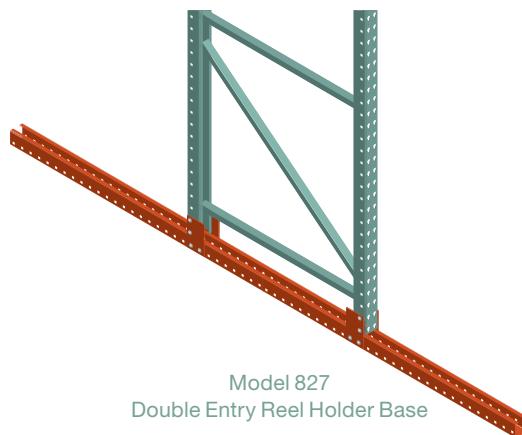
Contact your Sales Representative or Interlake Mecalux Engineering for specifics of this application.

Single and Double Entry sets will ship with the following hardware:

- A. (8) 7/16"-14 x 3 3/4" bolts - (**U0074667**).
- B. (8) 7/16"-14 nuts - (**U0074690**).
- C. (4) connector plates - (**U0094215**).
- D. (1) Base Rail (IA828H for single entry, IA829H for double entry). (1 for single entry, 2 for double entry) 1/2"-13 x 3 3/4" anchor - (**U0074582**).



Model 825
Single Entry Reel Holder Base



Model 827
Double Entry Reel Holder Base

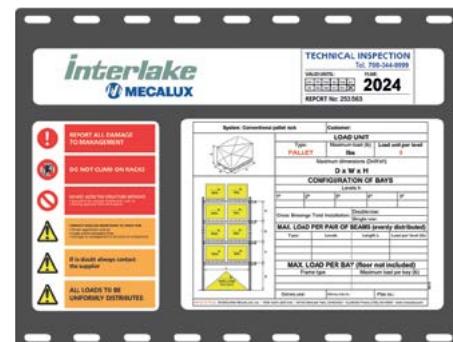
Single Entry Reel Holder Sets		
Part Number	Description	Length
U0094224	St.Base IA825H SINGLE ENTRY	36"
U0094225	St.Base IA825H SINGLE ENTRY	42"
U0094226	St.Base IA825H SINGLE ENTRY	44"
U0094227	St.Base IA825H SINGLE ENTRY	48"

NOTE: Per the update in width of the standard footplates of 1907_F frames in 2021, the frames that are mounted on these bases cannot have a footplate to avoid interference.

Double Entry Reel Holder Sets		
Part Number	Description	Length
U0094228	St.Base IA827H DOUBLE ENTRY	36"
U0094229	St.Base IA827H DOUBLE ENTRY	42"
U0094230	St.Base IA827H DOUBLE ENTRY	44"
U0094231	St.Base IA827H DOUBLE ENTRY	48"

RMI SIGN - U0080793

RMI signs are commonly placed at the end of aisles to alert personnel of the warehouse or storage facility that would be loading/offloading material of the capacity limits of the pallet racking per the current RMI standards. Each sign is 15 3/4" x 12 3/4" x 1 1/8" customized with the capacity numbers, company name, and company location. It is recommended that each aisle has an RMI sign on each end. Talk to your Interlake Mecalux representative for more information.



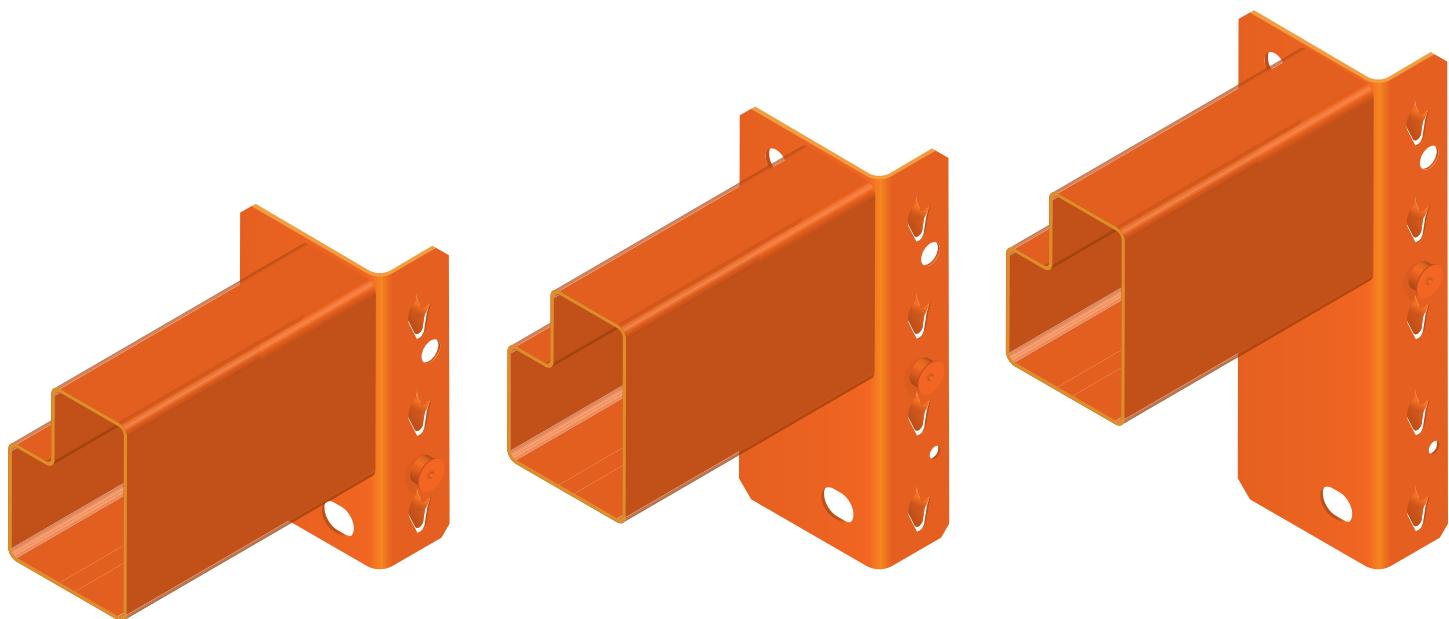
ROLL FORMED BEAMS

OVERVIEW

Roll formed beams are the horizontal elements of the rack on which loads are placed. Formed from one roll formed piece of steel, with a continuous seam weld on its base.

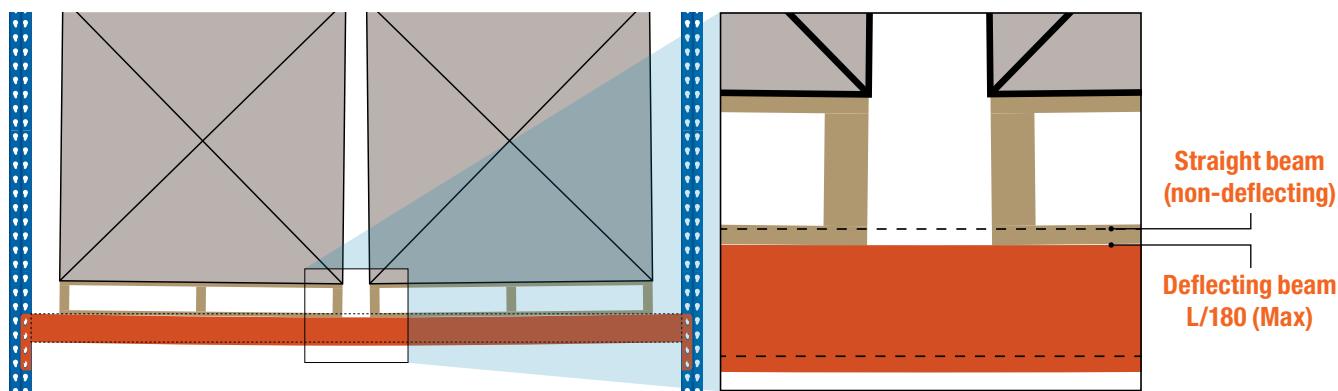
Available in different sizes, roll formed beams have welded end plates, which slot into the tear drop shaped holes located on the face of the frames. They are held to the frames using two safety, spring loaded locking devices per beam (one on each end plate).

Each load level is formed by two beams, one beam at each post of the frame.



DEFLECTION SPECIFICATION

When a qualified rack design engineer determines the specifications for a pallet support beam, they calculate the maximum allowable deflection, or bowing. This limit is specified in Section 5.3 of RMI's ANSI MH16.1-2012: Specification for the Design, Testing, and Utilization of Industrial Steel Storage Racks. The deflection limit is the horizontal length of the beam divided by 180, or 0.55% of the clear distance between the columns.

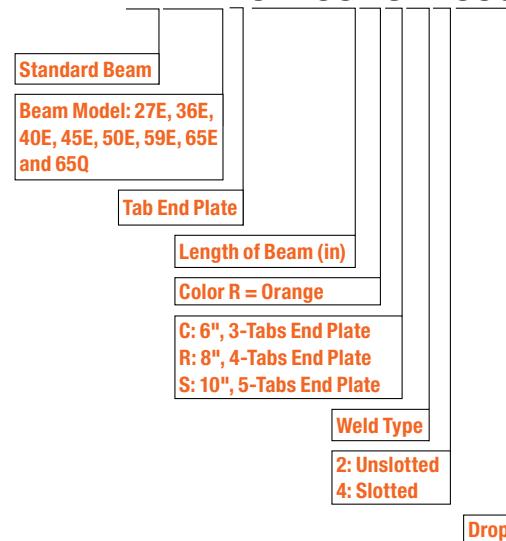


Example: $96'' \text{ Beam} / 180 = 0.53'' \text{ maximum deflection}$

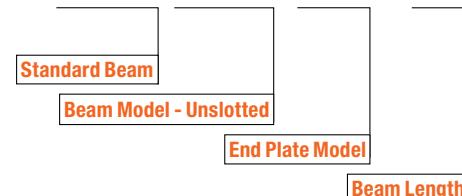
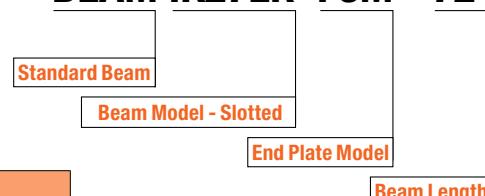
PRODUCT CODE DESCRIPTION

Standard beams are manufactured in even 12" increments. Custom options are available. **Contact your Interlake Mecalux representative for more information.**

- Standard color is orange RAL-2001.
- Interlake Mecalux now offers a new style of end plate with tabs, making the end plate from one solid piece instead of riveting on pins during the manufacturing process. This changes the product code to have a "T" in slot six.
- Slotted beams allow for several accessories to latch onto the beam to prevent them from sliding or being dislodged.
- The standard for all beams is to have it flush with the top of the end plate. Custom drop options are available.

IB27ET07200RCA2000


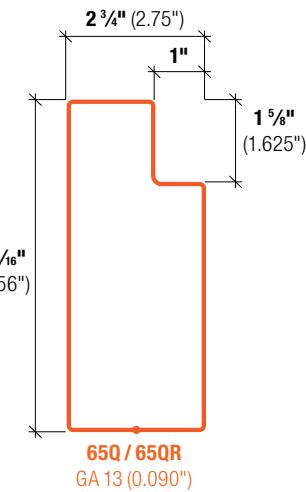
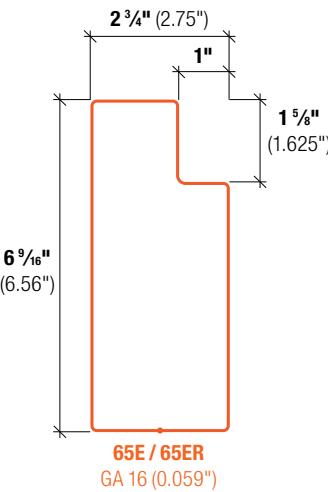
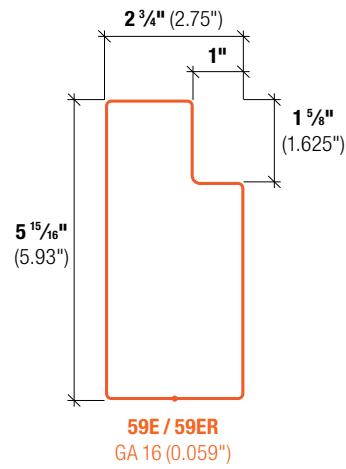
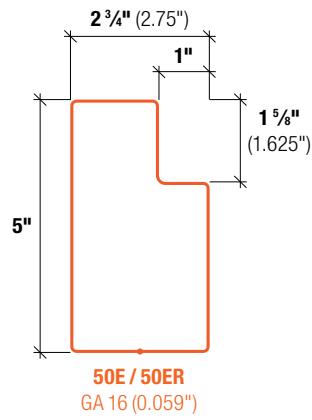
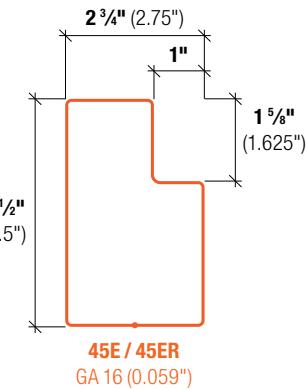
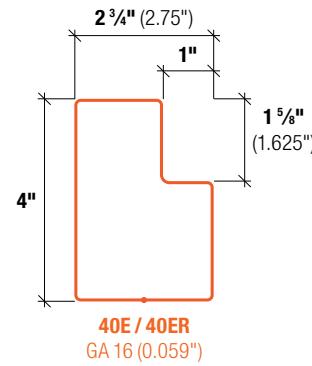
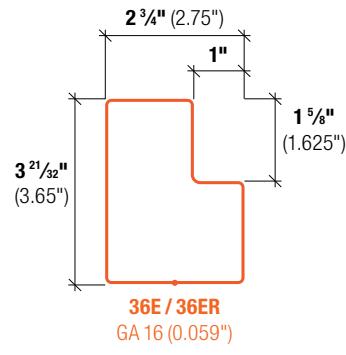
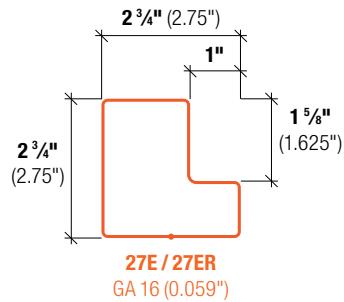
Beams with Tabbed End Plates		
Beam	Length Minimum	Length Maximum
27E, 27ER	30"	168"
36E, 36ER		
40E, 40ER		
45E, 45ER		
50E, 50ER		
59E, 59ER		
65E, 65ER		
65Q, 65QR		

BEAM IK27E F3M - 72"

BEAM IK27ER F3M - 72"


Unslotted (E, Q) Beam Family Codes			Slotted (ER, QR) Beam Family Codes		
Beam	Description	Family	Beam	Description	Family
27E	BEAM IK27E F3M	LIK27E3	27ER	BEAM IK27ER F3M	LIK27ER3
36E	BEAM IK36E F3M	LIK36E3	36ER	BEAM IK36ER F3M	LIK36ER3
40E	BEAM IK40E F4M	LIK40E4	40ER	BEAM IK40ER F4M	LIK40ER4
45E	BEAM IK45E F4M	LIK45E4	45ER	BEAM IK45ER F4M	LIK45ER4
50E	BEAM IK50E F4M	LIK50E4	50ER	BEAM IK50ER F4M	LIK50ER4
59E	BEAM IK59E F5M	LIK59E5	59ER	BEAM IK59ER F5M	LIK59ER5
65E	BEAM IK65E F5M	LIK65E5	65ER	BEAM IK65ER F5M	LIK65ER5
65Q	BEAM IK65Q F5M	LIK65Q5	65QR	BEAM IK65QR F5M	LIK65QR5

BEAM PROFILES

Interlake Mecalux beams come in several different sizes that all maintain a similar "L" shaped profile. See the options below or contact your Interlake Mecalux representative for more information, they will appear as characters 3 - 5 in the 18 digit product code.



END PLATES

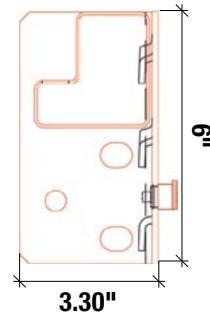
End plates will appear as character 13 in the 18 digit product code, they are welded onto the end of beams. They provide a connection between the beam and the column of a system. The piston lock system provides a secure connection that prevents the beam from disengaging, even when contacted by a forklift truck. Interlake Mecalux offers three different options of end plate for selective beams.

F3M (C)

6", 3-tab model.

GA 16 (0.059")

Available for 27E and 36E beams.

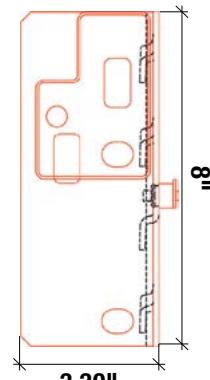
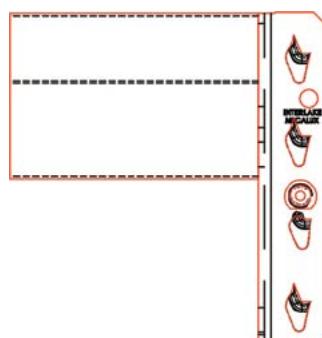


F4M (R)

8", 4-tab model.

GA 16 (0.059").

Available for 40E, 45E and 50E beams.

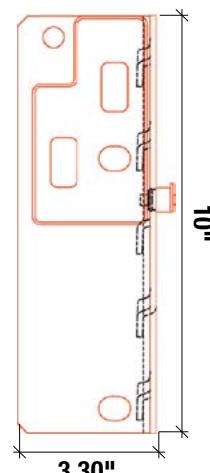
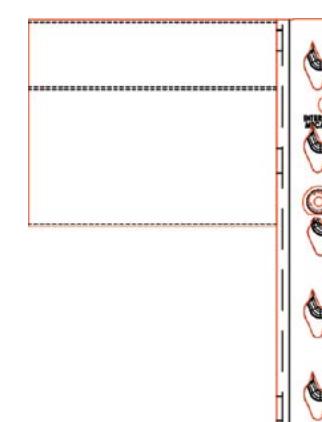


F5M (S)

10", 5-tab model.

GA 16 (0.059") 59E and 65E beams.

GA 13 (0.090") 65Q beams only.



Previous models of Interlake Mecalux selective pallet rack end plates are no longer available.

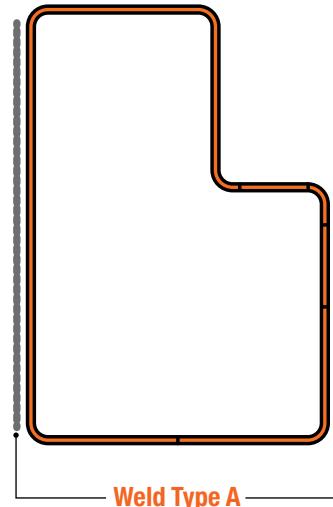
If you have any questions, **please contact your Interlake Mecalux representative**.

BEAM-END PLATE WELD

Beams are welded to the end plates by AWS certified welding technicians. Under normal, as well as most seismic conditions in conjunction with the Interlake Mecalux end plate, the "A" weld is sufficient and appears as character 14 in the 18 digit product code. The end plates are welded to the beam along the front and rear face of the beam edge.

WELD TYPE A

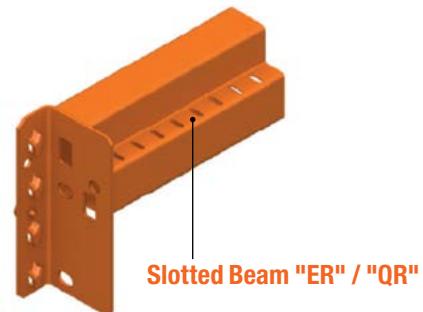
- Lateral 1/8" (0.125") weld.
- Front and rear faces.
- Typical weld.



UNSLOTTED BEAMS (E, Q) AND SLOTTED BEAMS (ER, QR)

Beams are available in unslotted (2) or slotted (4) styles. Both styles are roll formed with a continuous weld on the base as well as a 1⁵/₈" step profile and will appear as character 15 in the 18 digit product code. Slotted styles also include slotted holes located at 1" intervals for the easy placement and connection of various accessories such as roll-in crossbars.

- Steel thickness is 0.059" (16GA) for all beam types except for the 65Q beam, which is 0.090" (13GA).
- All of the models have a 1⁵/₈" (1.625") step.
- Slotted styles have slots at 1" increments for easy, flexible placement of accessories.
- Available in standard orange (RAL-2001) finish.



BEAM DROP OPTIONS

The drop will appear as characters 16-18 in the 18 digit product codes. Other drops are available upon request and special approval.

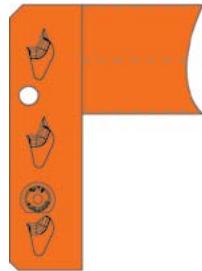
STANDARD 0 DROP (0.00")

Beam is flush with top of connecting end plate.

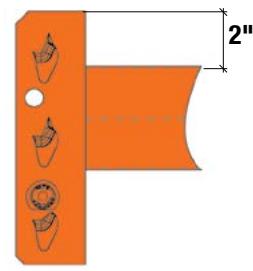
TYPE 2 DROP (2.00")

Beam is welded 2" down from the top of the connecting end plate.

This is a custom option.



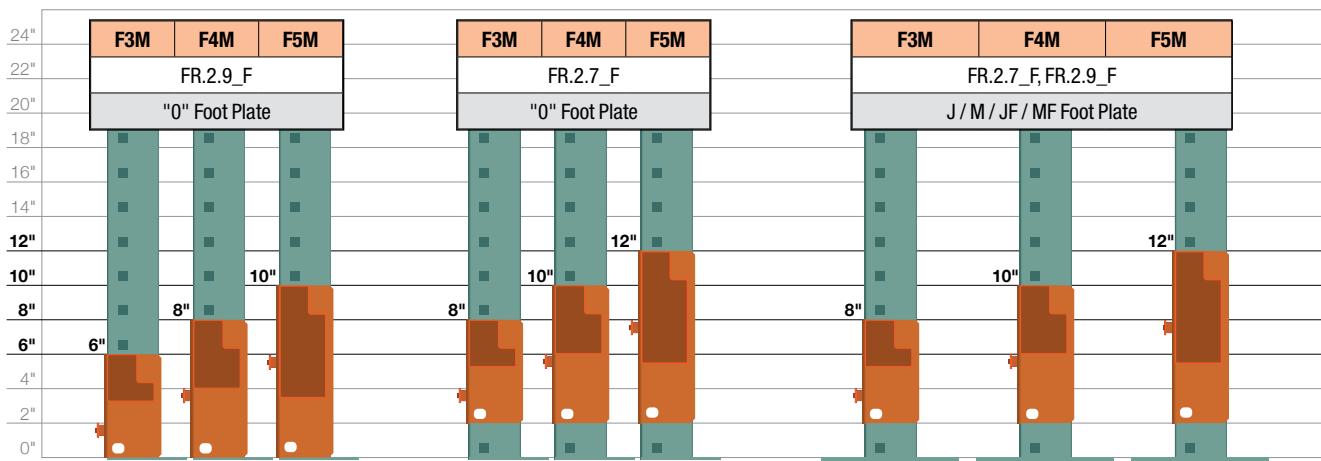
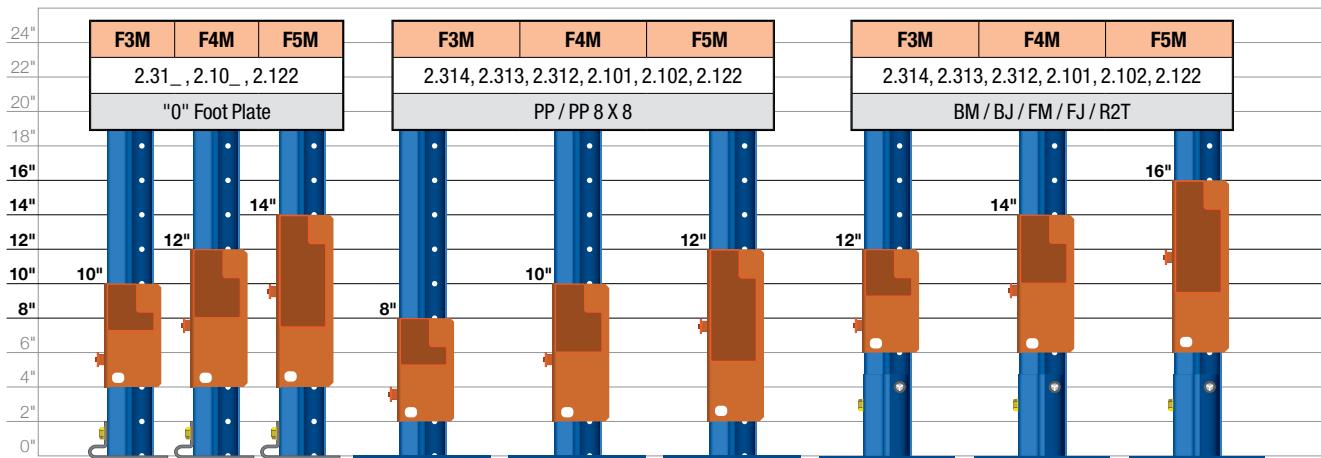
0.00" Beam Drop



2.00" Beam Drop

MINIMUM BEAM ELEVATION (SELECTIVE APPLICATIONS)

Based on various parameters: Beam End Plate, Frame Model and Foot Plate. There is a minimum standard elevation that Interlake Mecalux beams can have when connected to either bolted or welded frames. Note that the following elevations are considering a standard beam drop of "0", custom and special drops can lower the beam position.



BEAM WITH TAB END PLATE CAPACITY CHART: 27E - 65Q, 48"- 168"

Slotted and Unslotted Step Beam Capacities (lbs per pair)								
Span	27E / 27ER	36E / 36ER	40E / 40ER	45E / 45ER	50E / 50ER	59E / 59ER	65E / 65ER	65Q / 65 QR
	F3M - 6" 3 Tab End Plate		F4M - 8" 4 Tab End Plate			F5M - 10" 5 Tab End Plate		
48"	5,610	8,050	9,810	11,090	12,880	16,910	17,115	27,940
54"	5,080	7,230	8,830	9,950	11,530	15,140	17,110	24,940
60"	4,640	6,570	8,040	9,050	10,460	13,720	15,850	22,540
66"	4,290	6,030	7,390	8,300	9,580	12,560	14,480	20,570
72"	3,990	5,590	6,850	7,680	8,850	11,590	13,360	18,940
78"	3,510	5,210	6,390	7,150	8,220	10,780	12,400	17,550
84"	3,080	4,880	6,010	6,700	7,690	10,080	11,580	16,370
92"	2,630	4,510	5,560	6,190	7,090	9,280	10,650	15,030
96"	2,440	4,170	5,370	5,960	6,820	8,940	10,240	14,430
102"	2,200	3,740	4,870	5,650	6,470	8,460	9,690	13,640
108"	1,990	3,370	4,390	5,380	6,150	8,040	9,190	12,920
114"	1,810	3,050	3,990	5,040	5,870	7,660	8,760	12,300
120"	1,660	2,780	3,640	4,590	5,610	7,330	8,370	11,730
126"	1,530	2,550	3,340	4,210	5,230	7,020	8,000	11,210
132"	1,410	2,350	3,080	3,870	4,800	6,740	7,680	10,750
138"	1,310	2,170	2,850	3,570	4,420	6,490	7,380	10,310
144"	1,220	2,010	2,650	3,310	4,100	6,250	7,110	9,920
150"	1,140	1,870	2,470	3,080	3,800	5,820	6,850	9,560
156"	1,070	1,740	2,300	2,870	3,540	5,420	6,630	9,040
162"	1,000	1,630	2,160	2,690	3,310	5,060	6,250	8,420
168"	940	1,530	2,030	2,520	3,100	4,740	5,840	7,870

- Capacities are according to the most important RMI guidelines and ANSI MH16.1-2012 specifications.
- Interlake Mecalux beams over 126" L require bracing to prevent buckling.
- Beams longer than 90" that support decking must be tied together to prevent spreading (IK025B crossbar).
- Loading to be uniformly distributed over the length of the beam (UDL).
- Values shown reflect the capacity of the beams based on the lesser of its strength in bending, or L/180 deflection criteria.
- Load capacities are uniformly distributed product load plus dead load per pair of beams (dead load = weight of beams).
- Capacities are valid for static loads only.
- These capacities assume that all components are: (1) Manufactured by Interlake Mecalux, (2) In good condition, (3) Properly installed.

PALLET SUPPORTS

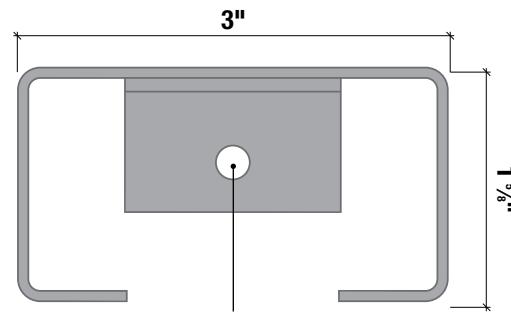
DOUBLE FLANGED PALLET SUPPORT CROSSBAR IK004B

Crossbars are positioned between two beams to assist in supporting pallet loads. Flanged crossbars hang over the edge of beams and are available for use with unslotted or slotted beams. Beams longer than 126" require bracing to prevent buckling.

- Secured to beam with required tek screw (**U0074733** x 2 per crossbar).
- Available in a standard pre-galvanized or orange (RAL-2001) finish.
- Available lengths range from 24" to 72" in 1" increments, other lengths can be created using family code **IKCJ0004**.



IK004B Double Flanged Pallet Supports SETS (with tek screw)		
Size	Pre-Galvanized Part Number	Orange (RAL-2001) Part Number
36"	U0211330	U0211334
42"	U0211331	U0211335
44"	U0211332	U0211336
48"	U0211333	U0211337



U0074733
Required 1/4" TEK Screw

IK004B Double Flanged Pallet Support Capacities*							
Frame Depth	Capacity (lbs)	Frame Depth	Capacity (lbs)	Frame Depth	Capacity (lbs)	Frame Depth	Capacity (lbs)
24"	2,473	38"	1,454	52"	1,003	66"	598
26"	2,248	40"	1,373	54"	924	68"	560
28"	2,061	42"	1,300	56"	854	70"	526
30"	1,902	44"	1,235	58"	791	72"	495
32"	1,766	46"	1,175	60"	735		
34"	1,648	48"	1,122	62"	685		
36"	1,545	50"	1,073	64"	639		

*NOTE:

- No impact loading is included on this chart.
- Capacities are uniformly distributed product load plus dead load per each crossbar.
- These capacities assume that all component parts are: (1) Manufactured by Interlake Mecalux. (2) In good condition. (3) Properly installed.

ROLL IN PALLET SUPPORT CROSSBAR IK025B

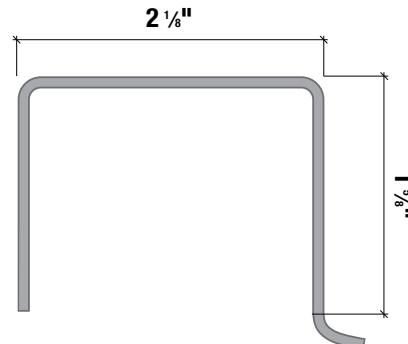
The roll in pallet support crossbar is placed perpendicular to the beams and rolls into place which requires the use of Slotted beams.

For beams longer than 90" that support decking, one crossbar IK025B per shelf is recommended to prevent spreading.

- Requires beams to be slotted (ER, QR).
- Available in a standard pre-galvanized or orange (RAL-2001) finish.
- Available lengths range from 24" to 72" in 1" increments, other lengths can be created using family code **IKIA025**.



IK025B Roll In Pallet Supports		
Size	Pre-galvanized Part Number	Orange (RAL-2001) Part Number
36"	U0072732	U0111328
42"	U0072733	U0082548
44"	U0072734	U0082546
48"	U0072735	U0082549



IK025B Roll In Pallet Support Capacities*							
Frame Depth	Capacity (lbs)	Frame Depth	Capacity (lbs)	Frame Depth	Capacity (lbs)	Frame Depth	Capacity (lbs)
24"	1,489	38"	875	52"	618	66"	459
26"	1,353	40"	826	54"	593	68"	430
28"	1,241	42"	782	56"	570	70"	404
30"	1,145	44"	743	58"	548	72"	380
32"	1,063	46"	707	60"	528		
34"	992	48"	675	62"	510		
36"	930	50"	645	64"	490		

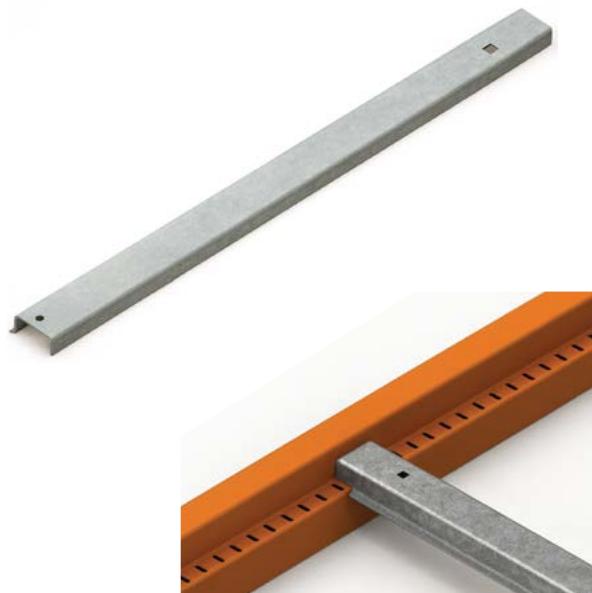
***NOTE:**

- No impact loading is included on this chart.
- Capacities are uniformly distributed product load plus dead load per each crossbar.
- These capacities assume that all component parts are: (1) Manufactured by Interlake Mecalux. (2) In good condition. (3) Properly installed.

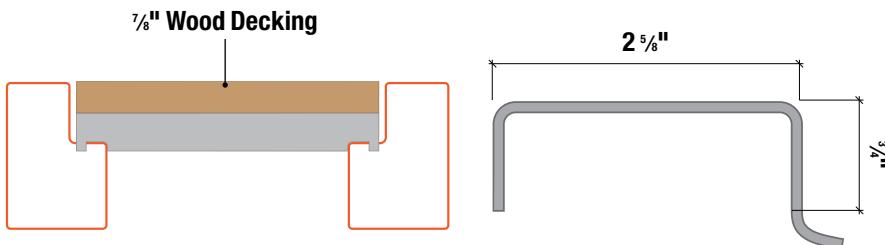
LOW PROFILE ROLL IN PALLET SUPPORT CROSSBAR IK035B

The low profile roll in pallet support crossbar is placed perpendicular to the beams and rolls into place which requires the use of slotted beams.

- Requires beams to be slotted (ER, QR).
- To be used with $\frac{7}{8}$ " (0.875") wood decking.
- Available in standard pre-galvanized finish.
- Available lengths range from 24" to 72" in 1" increments, other lengths can be created using family code **IKIA035**.



IK035B Roll In Pallet Supports	
Size	Pre-galvanized Part Number
36"	U0072736
42"	U0072737
44"	U0072738
48"	U0072739



IK025B Roll In Pallet Support Capacities*							
Frame Depth	Capacity (lbs)	Frame Depth	Capacity (lbs)	Frame Depth	Capacity (lbs)	Frame Depth	Capacity (lbs)
24"	740	34"	480	44"	290	66"	120
26"	670	36"	450	46"	270	72"	100
28"	610	38"	410	48"	240		
30"	560	40"	360	54"	190		
32"	520	42"	320	60"	150		

*NOTE:

- No impact loading is included on this chart.
- Capacities are uniformly distributed product load plus dead load per each crossbar.
- These capacities assume that all component parts are: (1) Manufactured by Interlake Mecalux. (2) In good condition. (3) Properly installed.

SHELF PANELS

Load levels can be equipped with shelves where storage needs require them.

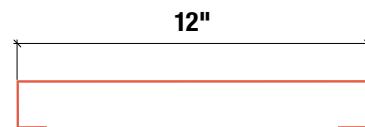
SHELF IK IA108N (6") AND IK IA114N (12")

The shelf panels are placed perpendicular to the beams and will sit inside of the beam's $1\frac{5}{8}$ " step ledge. The lower brims are folded inwards and their edges are blunt in order to protect hands in case of contact.

- Available in a standard orange (RAL-2001) finish.
- Shelf length will equal frame depth minus $3\frac{3}{4}$ ".
- Both shelf dimensions can be combined.



IK IA108N



IK IA114N



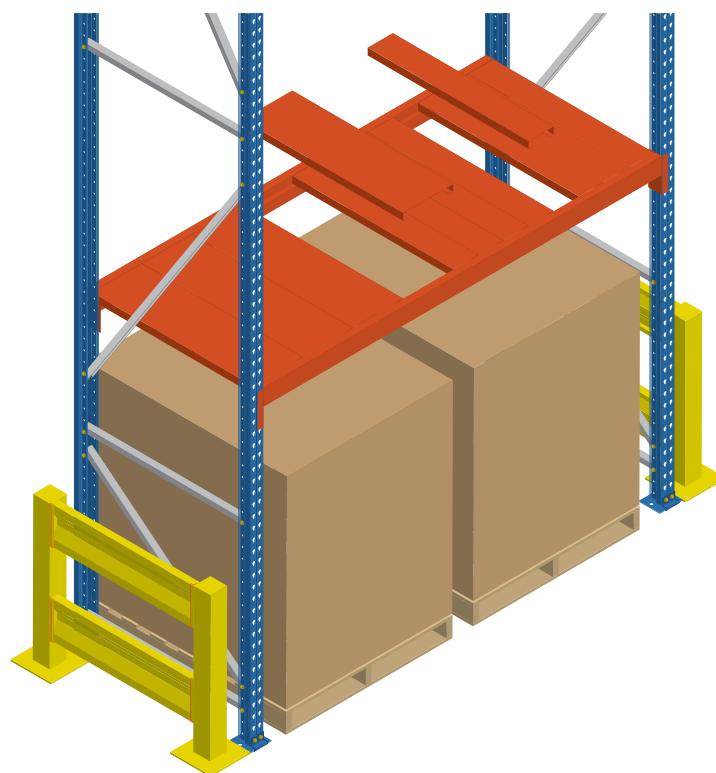
Size	IK IA108N Shelf Panel	IK IA114N Shelf Panel
	6" wide	12" wide
Part Number	Part Number	Part Number
24"	U0074348	U0074365
26"	U0074349	U0074366
28"	U0074350	U0074367
30"	U0074351	U0074368
32"	U0074352	U0074369
34"	U0074353	U0074370
36"	U0074354	U0074371
38"	U0074355	U0074372
40"	U0074356	U0074373
42"	U0074357	U0074374
44"	U0074358	U0074375
46"	U0074359	U0074376
48"	U0074360	U0074377
54"	U0074361	U0074378
60"	U0074362	U0074379
66"	U0074363	U0074380
72"	U0074364	U0074381

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

Shelf Panels IK IA108N and IK IA114N Capacities*							
Frame Depth	Capacity (lbs)	Frame Depth	Capacity (lbs)	Frame Depth	Capacity (lbs)	Frame Depth	Capacity (lbs)
24"	1,000	34"	1,000	44"	1,000	66"	675
26"	1,000	36"	1,000	46"	1,000	72"	600
28"	1,000	38"	1,000	48"	950		
30"	1,000	40"	1,000	54"	850		
32"	1,000	42"	1,000	60"	750		

*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.

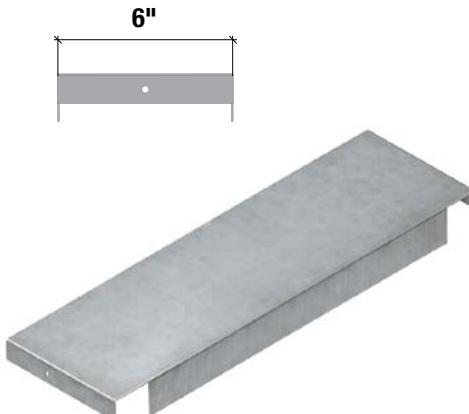


SHELF L-US U (6" AND 12")

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.

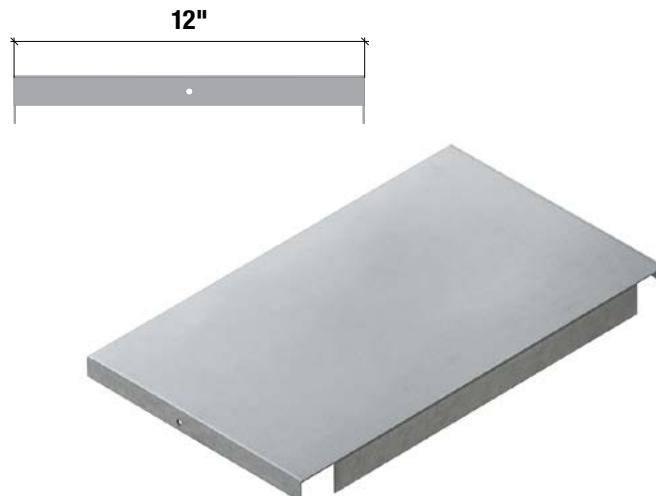
- Available in a standard pre-galvanized finish.
- Gauge 18 (0.04") thick.

	Shelf L-US U	
	6" wide	12" wide
Size	Part Number	Part Number
36"	T0055491	T0055487
42"	T0055492	T0055488
48"	T0055494	T0055490



SHELF L-US U 6"

Shelf L-US U Capacities*	
6" or 12" wide	
Frame Depth	Capacity (lbs)
36"	771
42"	551
48"	440



SHELF L-US U 12"

***NOTE:**

- Capacity values are per individual shelf.
- Capacities are uniformly distributed product load plus dead load per each crossbar.
- These capacities assume that all component parts are:
(1) Manufactured by Interlake Mecalux.
(2) In good condition.
(3) Properly installed.



FORK CLEARANCE BAR IK IA300F

Fork clearance bars are positioned perpendicularly to the beams, elevating the load by 2" above the beam's level. The sizes have been standardized for frame depths of 24", 36", 42", 44" and 48".

- Beams need to be checked to accommodate point loads.
- Secured to beam with required tek screw (**U0074733** x 2 per crossbar).
- Available in a standard orange (RAL-2001) finish.

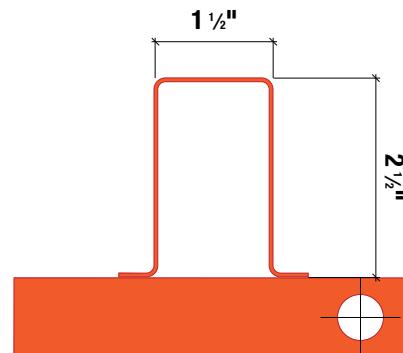


IK IA300F Fork Clearance Bars	
Size	Part Number
24"	U0107876
36"	U0107877
42"	U0107878
44"	U0107879
48"	U0107880

IK IA300F Fork Clearance Bar Capacity*			
Frame Depth	Capacity (lbs)	Frame Depth	Capacity (lbs)
24"	2,640	42"	1,420
26"	2,410	44"	1,350
28"	2,200	46"	1,290
30"	2,050	48"	1,230
32"	1,910	54"	1,090
34"	1,790	60"	970
36"	1,680	66"	880
38"	1,580	72"	810
40"	1,500		

*NOTE:

- There is no impact loading included in this chart.
- Capacity values are for each Fork Clearance Bar IK IA300F.
- Uniformly distributed capacities in beam charts are not valid with the use of fork clearance bars.
- Use of this accessory creates point loads on the beam, consult with your Interlake Mecalux sales representative for more information.
- These capacities assume that all component parts are: (1) Manufactured by Interlake Mecalux, (2) In good condition, (3) Properly installed.



DRUM COIL BED IA402D

Drum coil beds are designed to store loads that are cylindrical and are equal to or smaller than the depth of the frame. Loads will be resting on the bed itself, and not the beams beneath it. For this reason, drum coil beds are manufactured from structural angle, which has the correct profile and strength to store the loads.

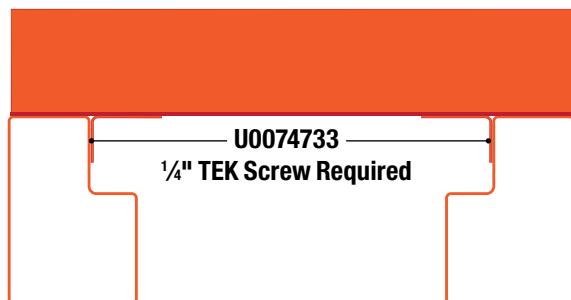
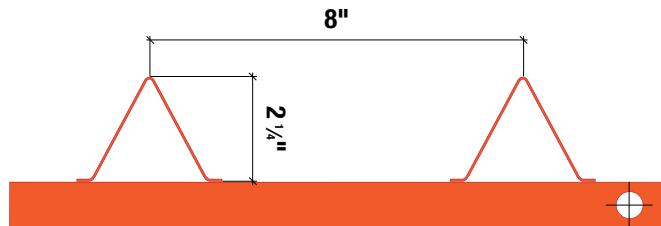
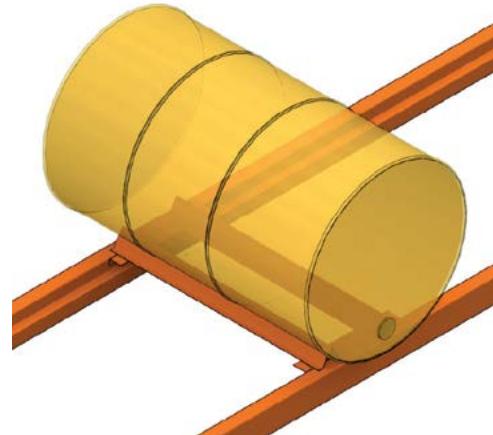
- Beams need to be checked to accommodate point loading generated by coils / drums.
- Must be fastened to the beam with tek screw (**U0074733** x 2 per crossbar).
- Maximum load diameter allowed is 22 1/2".
- Drum coil beds are available in a standard orange (RAL-2001) finish.

IA402D Drum Coil Bed	
Size	Part Number
24"	U0107871
36"	U0107872
42"	U0107873
44"	U0107874

Drum Coil Bed IA402D Capacities*			
Frame Depth	Capacity (lbs)	Frame Depth	Capacity (lbs)
24"	3,300	42"	1,780
26"	3,020	44"	1,700
28"	2,780	46"	1,620
30"	2,570	48"	1,550
32"	2,390	54"	1,370
34"	2,240	60"	1,230
36"	2,110	66"	1,110
38"	1,990	72"	1,020
40"	1,880		

*NOTE:

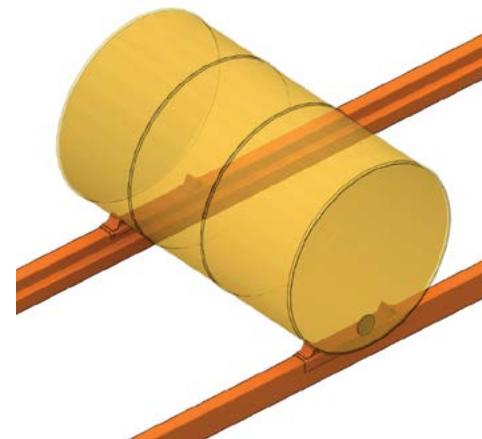
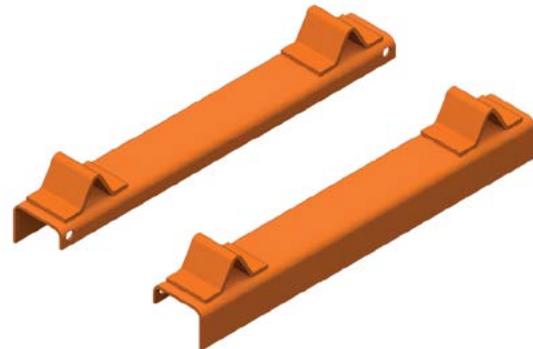
- There is no impact loading included in this chart.
- Capacity values are for each Fork Clearance Bar IK IA300F.
- Uniformly distributed capacities in beam charts are not valid with the use of fork clearance bars.
- Use of this accessory creates point loads on the beam, consult with your Interlake Mecalux sales representative for more information.
- These capacities assume that all component parts are:
(1) Manufactured by Interlake Mecalux. (2) In good condition.
(3) Properly installed.



DRUM COIL CRADLE IA400D (U0112033)

Drum coil cradles are designed to store loads that are cylindrical that are the exact length as the depth of the frame. The load being stored will not rely on the cradle for support; they will only be used to keep the load in place. Drum coil cradles are manufactured with structural angle, which has the correct profile to store the loads.

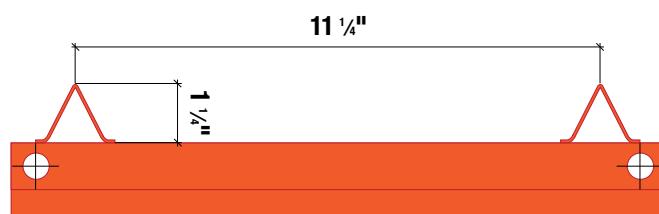
- Beams need to be checked to accommodate point loading generated by coils / drums.
- Set includes (2) cradles (**U0110335**).
- Requires (2) tek screws (**U0074733** x 2 per cradle).
- Maximum load diameter allowed is 22 1/2".
- Available in a standard orange (RAL-2001) finish.



IA400D Drum Coil Cradle Set*		
Part Number	Description	Required Hardware (not included)
U0112033	St.Drum Cradle IA400D	(4) Tek screws - U0074733

*NOTE:

- Drum Coil Cradle Sets do not include hardware.
- In order to provide maximum capacities, supporting beams must be analyzed, consult with your Interlake Mecalux sales representative for more information.





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