

Introduction

For HIGH, WIDE or BULKY Hand-Loaded Items

Penco Wide Span is the standard of the industry for shelving designed to contain wide, bulky loads. It bridges the storage gap between conventional shelving and pallet rack. The range of applications can be from a single unit (right) to a sophisticated multi-level picking system (bottom).

Penco Wide Span is easily the quickest shelving product to assemble. There are a minimum number of parts that snap or fit into place quickly and easily. No bracing to add and no hardware required. Not to be loaded with fork trucks.



Multi-level Wide Span Pick Module



Optional wire deck shelves



Museum storage



Auto part center storage

How To Order Wide Span Units

Wide Span Units are easy to order. Shown on the next page are common sizes of units for 3 levels of plywood shelves.

Many other sizes are available by ordering from the component parts on the following pages. Allow for the width of each upright post in planning your layout. The Wide Span Growth Chart on the next page illustrates this concept for your convenience.

To order Wide Span Shelving Units:

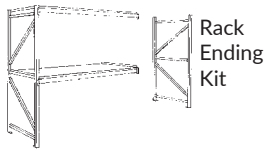
1. Order as many Basic Units as you need for your row of shelving.
2. Order one Rack Ending Kit to end each row or single unit (plywood must be purchased separately).

Growth Dimension Considerations

When planning a row of Wide Span Shelving, allow for the 1-3/4" width of each upright post and 1/4" additional per bay for the thickness of the beam ends. The Wide Span Growth Chart on the following page shows typical growth for two 96" steel shelf units and 96-1/2" plywood beam units.

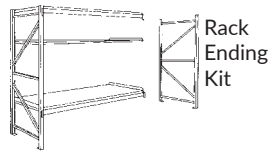
For safety purposes, we recommend that Wide Span Uprights be floor or wall anchored.

Wide Span Units



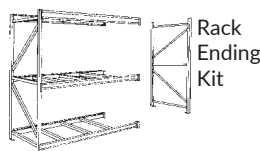
Basic 2-Shelf Unit

- 1 Upright Frame
- 2 Steel Shelf Levels
- 2 Pair Side Shelf Supports
- 2 Pair Rigidity Beams



Basic 3-Shelf Unit

- 1 Upright Frame
- 3 Steel Shelf Levels
- 3 Pair Side Shelf Supports
- 2 Pair Rigidity Beams



Basic 3-Level Unit for Plywood*

- 1 Upright Frame
- 3 Pair Standard Plywood Beams
- 3 Plywood Support Angles per pair of 72-1/2" Beams
- 4 Plywood Support Angles per pair of 96-1/2" Beams

ORDER RACK END KITS SEPARATELY. SEE BELOW.

* NOTE: Plywood not included.

Wide Span Shelving Units

Unit Height	Beam Width	30" Deep		36" Deep		48" Deep	
		Basic Unit Cat. No.	Rack End Kit Cat. No.	Basic Unit Cat. No.	Rack End Kit Cat. No.	Basic Unit Cat. No.	Rack End Kit Cat. No.
Two Shelf Units with Steel Shelves							
72"	60"	20351	20002C	20359	20003C	20375	20005C
	72"	20353	20002C	20361	20003C	20377	20005C
	84"	20355	20002C	20363	20003C	20379	20005C
	96"	20357	20002C	20365	20003C	20381	20005C
96"	60"	20383	20018C	20391	20019C	20407	20021C
	72"	20385	20018C	20393	20019C	20409	20021C
	84"	20387	20018C	20395	20019C	20411	20021C
	96"	20389	20018C	20397	20019C	20413	20021C
Three Shelf Units with Steel Shelves							
120"	60"	20415	20034C	20423	20035C	20439	20037C
	72"	20417	20034C	20425	20035C	20441	20037C
	84"	20419	20034C	20427	20035C	20443	20037C
	96"	20421	20034C	20429	20035C	20445	20037C
144"	60"	20447	20050C	20455	20051C	20471	20053C
	72"	20449	20050C	20457	20051C	20473	20053C
	84"	20451	20050C	20459	20051C	20475	20053C
	96"	20453	20050C	20461	20051C	20477	20053C
Three Level Units for Plywood Shelves							
120"	72-1/2"	-	-	-	-	20512	20037C
	96-1/2"	-	-	-	-	20514	20037C
144"	72-1/2"	-	-	-	-	20535	20053C
	96-1/2"	-	-	-	-	20537	20053C

Plywood used in lieu of Steel Shelves

Special beams and supports are used when plywood, pressed wood, particle board, oriented strand board or other composition type panels are used in place of steel shelves (these deck materials must be purchased separately).



All Wide Span Beams have a patented Beam Lock that secures the beam end to the upright post to retard accidental beam dislodging. An embossed nib on the beam end engages a slot on the side on the upright

post, which holds the beam end tight against the post (U. S. Patent No. 4,928,834). Can be disengaged with a mallet.

Two beam types are available: Standard Plywood Beams, and Heavy Duty Plywood Beams. Each is manufactured an extra 1/2" long to facilitate placement of full foot lengths of decking. Each uses a different type of front to back support for the decking material. Neither can be used in the same unit or bay with standard rigidity beams, because the lengths are different.

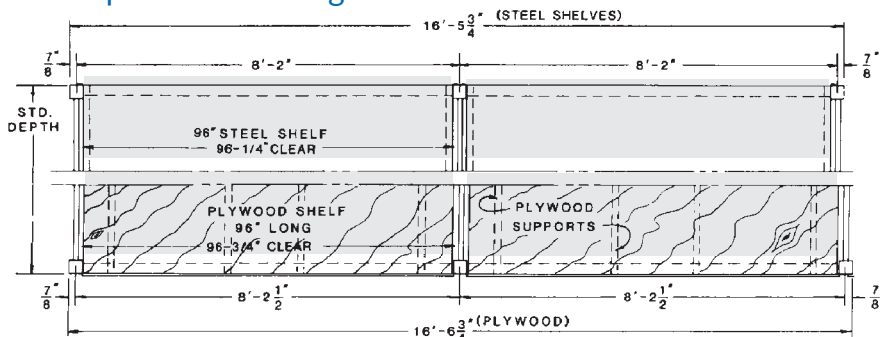
Standard Plywood Beams

Standard Size panels may be used without trimming. This is accomplished by the step design which allows decking depths which match the upright depth. Capacities vary by beam length. Plywood Support Angles must be ordered separately. A full 48" x 96" deck will fit on a pair of 96-1/2" beams when 50" deep upright frames are used.

Heavy Duty Plywood Beams

These beams can support a greater load than Standard Plywood Beams, and have a flush front facing the aisle. Requires the use of Beam Brace/Heavy Duty Plywood Supports which are ordered separately.

Wide Span Growth Diagram



Shelving Components

Side Shelf Supports

Heavy gauge steel angles which support steel shelves. Each support engages the upright frame at four points. One or more tangs stamped into the surface engages the reinforcing pan on the shelf bottom to prevent accidental dislodging of the shelf. One pair is required for each steel shelf.



Side Shelf Supports		
Unit Depth	Capacity Per Pair	Cat. No. Per Pair
18"	3600 lb	22018
24"	3600 lb	22024
30"	2900 lb	22030
36"	2400 lb	22036
42"	2100 lb	22042
48"	1800 lb	22048

Rigid Wall Spacers

Assures that uniform spacing between upright and building wall is maintained. Includes hardware to fasten to frame.



Rigid Wall Spacers	
Unit Depth	Cat. No.
4"	5AR404
6"	5AR406
8"	5AR408
10"	5AR410

Rigid Row Spacers

Used to space and join back-to-back units. Adds rigidity to double row applications. Includes hardware.



Rigid Row Spacers	
Unit Depth	Cat. No.
6"	5AR506
8"	5AR508
10"	5AR510
12"	5AR512

Standard Plywood Beams

Designed to support 1/2" thick deck material flush with top of beam flange when used with the appropriate number of Plywood Support Angles which insert into slots in beam step. Overall height is 3-1/2". Beam step is 1-1/2" deep by 5/8" high. A 48" deep deck will fit between beams without trimming when a 48" deep upright frame is used.



Standard Plywood Beams		
Beam Width	Capacity Per Pair***	Cat. No. Per Pair
48-1/2"	2500 lb	20337
60-1/2"	2120 lb	20338
72-1/2"	1700 lb	20339
84-1/2"	1500 lb	20340
96-1/2"	1350 lb	20335

***Capacity in pounds for evenly distributed loads.

Shelving Components

Heavy Duty Plywood Beams

A heavy duty beam designed for greater capacity when used with deck material. Deck material sits on beam step and is supported by the appropriate number of Beam Brace/Heavy Duty Plywood Supports (order separately). Deck must be trimmed to 2" less depth than the depth of the upright frame.

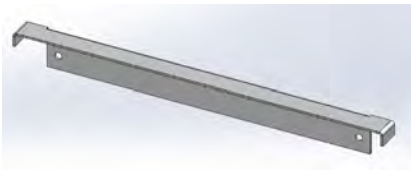
Heavy Duty Plywood Beams can be used in the same unit or bay with Standard Plywood Beams. However, the decking material must be trimmed 2" for the heavy duty beams. Capacity in pounds for evenly distributed loads.



Heavy Duty Plywood Beams		
Beam Width	Capacity Per Pair	Cat. No. Per Pair
48-1/2"	2500 lb	210480
72-1/2"	2500 lb	210720
96-1/2"	2500 lb	210960

Standard Plywood Support Angles

Standard Plywood Support Angles fit into the slots in the beam step of Standard Plywood Beams. Order separately from beams. Order 2 per pair of 48-1/2" & 60-1/2" beams; 3 for 72-1/2" & 84-1/2" beams; 4 for 96-1/2" beams.



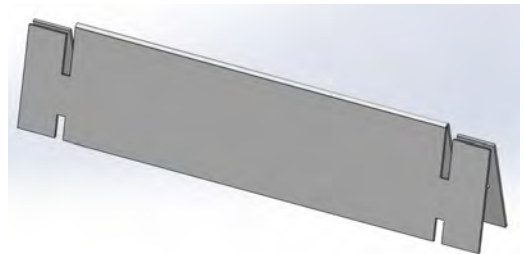
Std Plywood Support Angles	
Depth	Cat. No.
18"	20349C
24"	20341C
30"	20330C
36"	20342C
42"	20332C
48"	20336C

Beam Brace / H. D. Plywood Support

This item fits easily into the inside of the beam opening and has two functions.

When Rigidity Beams are used as load bearing members, the Beam Braces are used to keep the beams from twisting.

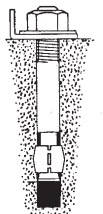
When used with Heavy Duty Plywood Beams they become Plywood supports. Use a minimum of two supports per pair of beams. Use more if required by your load condition - see capacities in the table.



Beam Brace / H.D. Support		
Depth	Capacity	Cat. No.
24"	1200 lb	202040C
30"	1100 lb	202050C
36"	900 lb	202060C
42"	700 lb	202070C
48"	500 lb	202080C
50"	500 lb	2P0050C

Concrete Floor Anchor

Use the longer anchor #9281 in seismic zones above 2A.

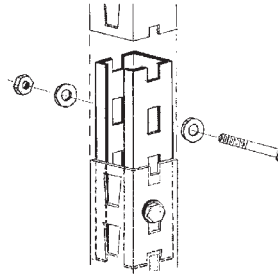


Concrete Floor Anchor			
Unit Width	Unit Depth	Unit Height	Basic Unit Cat. No.
3/8"	-	2-1/4"	9280
3/8"	-	3-3/4"	9281

Shelving Components

Upright Frame Splice

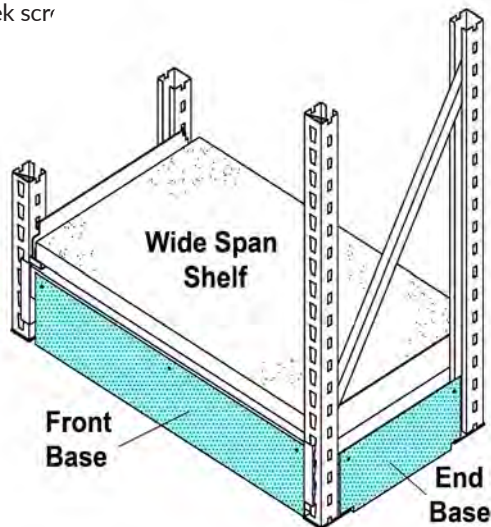
Note that TWO splices must be ordered per frame. Top upright frame **MUST** be ordered without footplate. Hardware included.



Wide Span Upright Frame Accessories			
Unit Width	Unit Depth	Unit Height	Cat. No.
Upright Frame Splice			
-	-	8"	20099H
Shim, unpainted			
2-1/2"	3-1/2"	-	20100C

Wide Span Base Closures

These base closures will close the space beneath a unit between the bottom Rigidity or Heavy Duty Plywood Beam at their lowest position, and the floor, or at the end of the unit between the lowest horizontal brace and the floor. They are supplied with tek scr

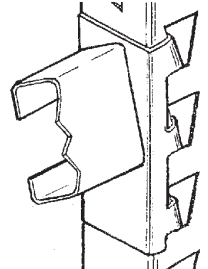


Wide Span End Bases		
Depth	Height	Cat. No.
18"	7-3/4"	
24"	7-3/4"	
30"	7-3/4"	
36"	7-3/4"	
42"	7-3/4"	
48"	7-3/4"	
50"	7-3/4"	

Wide Span Front Bases		
Width	Height	Cat. No.
48"	6"	202200H
60"	6"	202201H
72"	6"	202202H
84"	6"	202203H
96"	6"	202204H

Tire Rack Beams

Beam is slanted to cradle tires. It is designed to be installed on aisle side of unit.



Tire Rack Beams (Each)	
Unit Width	Cat. No.
48"	20619C
60"	20620C
72"	20621C

Tire Rack Upright Frames		
Unit Depth	Unit Height	Cat. No.
Single Entry Units (with Footplates)		
18"	96"	20016C
18"	126"	20260C
18"	156"	20056C
18"	192"	24040C
Double Entry Units		
38"	96"	20262C
38"	126"	20263C
38"	156"	20264C
38"	192"	20265C

Tire Rack Units			
Unit Width	Unit Depth	Unit Height	Cat. No.
Basic Units, Single Entry			
60"	18"	96"	20651
60"	18"	126"	20653
60"	18"	156"	20655
60"	18"	192"	20657
Basic Units, Double Entry			
60"	38"	96"	20659
60"	38"	126"	20661
60"	38"	156"	20663
60"	38"	192"	20665

Upright Frames



Penco Wide Span Upright Frames are made from heavy gauge steel, MIG welded into one rigid assembly containing posts, diagonal and horizontal braces and foot plates for anchoring. There is no assembly required. Other sizes are available. See page 11 for anchors.

Posts are punched on the face to provide positive independent beam placement on 2" vertical centers. The posts are marked on 12" centers to facilitate placement of shelf levels. A slot on each side of the post accepts a nib on the end of each beam, to lock it in place.

Frames have a capacity of 7,500 pounds with a 1.92 safety factor where vertical beam spacing does not exceed 60". Footplates are punched for anchoring: see "Anchors" in the post section of Clipper shelving on page 11.

Upright Frames							
Unit Height	18" Deep Cat. No.	24" Deep Cat. No.	30" Deep Cat. No.	36" Deep Cat. No.	42" Deep Cat. No.	48" Deep Cat. No.	50" Deep Cat. No.*
72"	20000C	20001C	20002C	20003C	20004C	20005C	2P072C
84"	20008C	20009C	20010C	20011C	20012C	20013C	2P084C
96"	20016C	20017C	20018C	20019C	20020C	20021C	2P096C
120"	20032C	20033C	20034C	20035C	20036C	20037C	2P020C
144"	20048C	20049C	20050C	20051C	20052C	20053C	2P044C
168"	-	20065C	20066C	20067C	20068C	20069C	2P068C
192"	-	24001C	24002C	24003C	24004C	24005C	2P092C

* 50" deep frame is for use with H.D. Plywood Beam. Allows use of standard 48" plywood deck without cutting for depth dimension.

Rigidity Beams



Rigidity beams provide lateral stability when steel shelves are used. A minimum of 2 pairs of beams is required per unit. They are constructed of 3" high steel channels with return flanges, with a beam end connector welded to each end.

It is not necessary to place rigidity beams beneath each steel shelf. Rigidity Beams do not carry a load unless used to support wire decking. If used with wire decking, then use the Beam Brace/Heavy Duty Plywood Supports (shown on the page 22).

Rigidity Beams		
Unit Width	Capacity Per Pair**	Cat. No. Per Pair
48"	2500 lb	20315
60"	2140 lb	20316
72"	1780 lb	20317
84"	1580 lb	20318
96"	1340 lb	20319

** Capacity per pair in pounds for evenly distributed load when used as load bearing members using Beam Braces/H.D. Plywood Supports as follows: 60" x 72" length, 1 Beam Brace; 84" x 96" length, 2 Beam Braces.

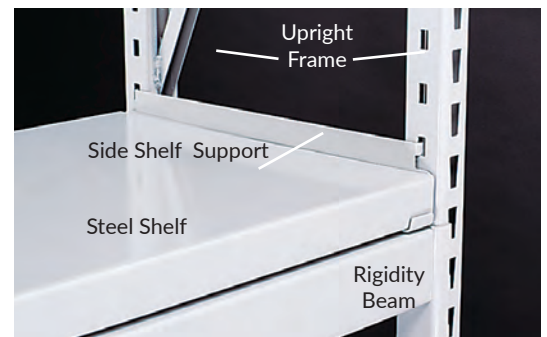
Steel Shelves

Penco Steel Wide Span Shelves are the ultimate in providing a smooth, safe surface for storing a wide variety of items. They are 1-3/4" high and feature double flanges at front and rear edges with a full width reinforcing pan welded to the center of the bottom.

Each shelf requires a pair of Side Shelf Supports, which must be ordered separately. For 36", 42" and 48" depths, the appropriate number of 18" and 24" deep shelves are provided, and are installed together on the Side Shelf Supports to achieve the stated depth.

Tire Rack Beams

Penco can supply special beams for installation on the aisle side that are slanted to accept passenger tires, while standard Rigidity Beams are used at the rear. Contact your Penco representative for more information on Tire Rack Units.



Steel Shelves										
Unit Depth	48" Wide		60" Wide		72" Wide		84" Wide		96" Wide	
	Cat. No.	Capacity *	Cat. No.	Capacity *	Cat. No.	Capacity *	Cat. No.	Capacity *	Cat. No.	Capacity *
18"	22418C	1200 lb	22518C	1200 lb	22618C	1000 lb	22718C	800 lb	22818C	600 lb
24"	22424C	1500 lb	22524C	1200 lb	22624C	1000 lb	22724C	800 lb	22824C	600 lb
30"	22430C	2300 lb	22530C	1800 lb	22630C	1500 lb	22730C	1200 lb	22830C	900 lb
36"	22436C	2400 lb	22536C	2400 lb	22636CC	2000 lb	22736C	1600 lb	22836C	1200 lb
42"	22442C	2000 lb	22542C	2000 lb	22642C	2000 lb	22742C	1600 lb	22842C	1200 lb
48"	22448C	1800 lb	22548C	1800 lb	22648C	1800 lb	22748C	1600 lb	22848C	1200 lb

* NOTE: Shelf capacities in pounds, evenly distributed.

Specifications

COMPONENTS

Upright Frames: Penco Wide Span Upright Frames are made from heavy gauge steel, MIG welded into one rigid assembly containing posts, diagonal and horizontal braces and foot plates. There is no assembly required. Many sizes are available. Posts are punched on the face to provide positive independent beam placement on 2" vertical centers. The posts are marked on 12" centers to facilitate placement of shelf levels. A slot on each side of the post accepts a nib on the end of each beam, to lock it in place. Frames have a capacity of 7,500 pounds with a 1.92 safety factor where vertical beam spacing does not exceed 60".

Rigidity Beams: Rigidity beams provide lateral stability for the shelving; a minimum of two pairs of beams is required per unit. They are constructed of 3" high steel channels with return flanges and a beam end connector welded to each end. Beams are supplied in even foot lengths from 4' through 8'. Clearance between upright frames is 1/4" more than stated beam size. If the beams are being used as load bearing members, then Beam Braces are required. All Wide Span Beams have a patented Beam Lock that secures the beam end to the upright post to retard accidental beam dislodging. An embossed nib on the beam end engages a slot on the side on the upright post, which holds the beam end tight against the post (U. S. Patent No. 4,928,834). Can be disengaged with a mallet. It is normally not necessary to place rigidity beams beneath each steel shelf.

Steel Shelves: Penco Steel Wide Span Shelves are the ultimate in providing a smooth, safe surface for storing a wide variety of items. They are 1-3/4" high and feature double flanges at front and rear edges with a full width reinforcing pan welded to the center of the bottom. Each shelf requires a pair of Side Shelf Supports, which must be ordered separately. For 36", 42" and 48" depths, the appropriate number of 18" and 24" deep shelves are provided, and are installed together on the Side Shelf Supports to achieve the stated depth.

Side Shelf Supports: Heavy gauge steel angles which support steel shelves. Each support engages the upright frame at four points. One or more tangs stamped into the surface engages the reinforcing pan on the shelf bottom to prevent accidental dislodging of the shelf. One pair is required for each steel shelf.

Rigid Wall Brackets: Used to fasten upright frames to the wall for sturdy single row applications. Includes hardware to fasten to frame.

Rigid Row Spacers: Used to space and join back-to-back shelving units. Adds rigidity to double row applications. Includes hardware.

PLYWOOD USED IN LIEU OF STEEL SHELVES: Special beams and supports are used when plywood, pressed wood, particle board, oriented strand board or other composition type panels are used in place of steel shelves (these deck materials must be purchased separately). Two beam types are available: Standard Plywood Beams, and Heavy Duty Plywood Beams. Each is manufactured an extra 1/2" long to facilitate placement of full foot lengths of decking. Each uses a different type of front to back support for the decking material. Neither can be used in the same unit or bay with standard rigidity beams, because the lengths are different.

Standard Plywood Beams: Designed to support 1/2" thick deck material flush with top of beam flange when used with the appropriate number of Plywood Support Angles (ordered separately) which insert into slots in beam step. Overall height is 3-1/2". Beam step is 1-1/2" deep by 5/8" high. A 48" deep deck will fit between beams without trimming when a 48" deep upright frame is used.

Heavy Duty Plywood Beams: These beams can support a greater load than Standard Plywood Beams, and have a flush front facing the aisle. Requires the use of Beam Brace/Heavy Duty Plywood Supports which are ordered separately. A full 48" x 96" deck will fit on a pair of 96-1/2" beams when 50" deep upright frames are used. Heavy Duty Plywood Beams can be used in the same unit or bay with Standard Plywood Beams, however the depth of the decking material must be trimmed for the heavy duty beams (i.e. deck must be trimmed to 2" less depth than the depth of the upright frame.)

Standard Plywood Support Angles: Standard Plywood Support Angles fit into the slots in the beam step of Standard Plywood Beams. Order separately from beams. Order two per pair of 48-1/2" & 60-1/2" beams; three for 72-1/2" & 84-1/2" beams; four for 96-1/2" beams.

Beam Brace/Heavy Duty Plywood Support: This item fits easily into the inside of the beam opening and has two functions: A) When Rigidity Beams are used as load bearing members, the Beam Braces are used to keep the beams from twisting; B) When used with Heavy Duty Plywood Beams they are used as Plywood supports. Use a minimum of two supports per pair of beams. Use more if required by your load condition.

PENCO RESERVES THE RIGHT TO VARY SPECIFICATIONS CONSISTENT WITH A POLICY OF CONTINUOUS PRODUCT IMPROVEMENT.