MOBILE MEDIA INC

Storage Solutions

Lateral System Specifications & Detail Drawings

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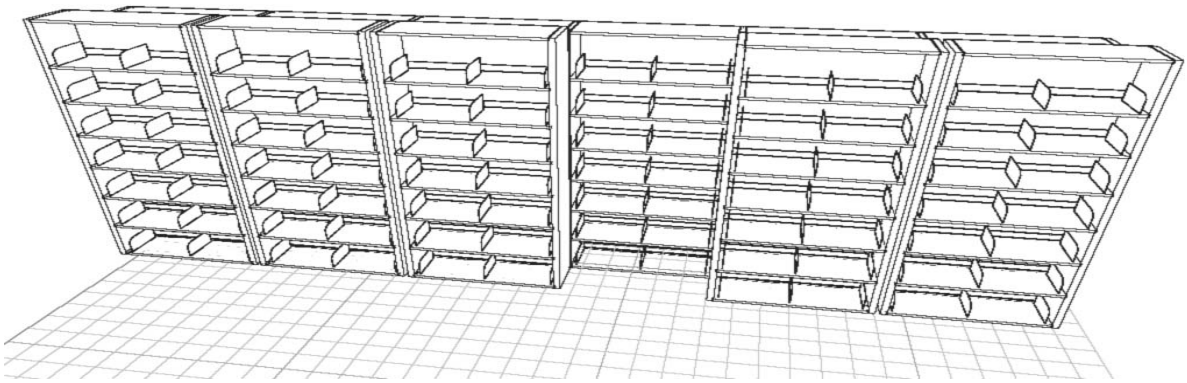
MOBILE MEDIA INC
Storage Solutions



LATERAL SYSTEM SPECIFICATIONS

All component specifications used with lateral systems are enclosed. Which components are used (floor anti-tip vs. lateral anti-tip etc.) for your specific system are dependant on the features / options you have chosen.

Please consult your drawing / job requirements to determine which tracks etc. are to be used.

Carriages

Specifications

Height:	2.875 / 3.125” from finished floor
Width:	To nominal shelving size
Length:	To nominal shelving size
Weight Per Ft.:	Approx. 1.37 lbs. per sq. ft.
Serrated:	All Surfaces

The carriage frame is unit-structure aluminum designed with a load bearing channel under each shelving upright. This design is to allow for maximum distribution of the load over the floor.

The rail and channel is extruded 6063-T6 aluminum. The standard rail is 2” x .125” serrated two sides to prevent marring. The rail for the shaft driven carriage is 3 1/4” x ?. The channel is 1.875” x 1.125” with .375” solid legs for maximum load bearing without distortion.

The corners are 3” or 4” (based on carriage type) x .125” with a 1” lip above the carriage surface. The mid-plates are 3” x 3” square. Both pieces have a black enamel baked finish.

Standard maximum capacity per linear carriage foot is 858-1,144 lbs.

The carriages are not subject to distortion as there is no place where the frames are actually supporting any load bearing weight.

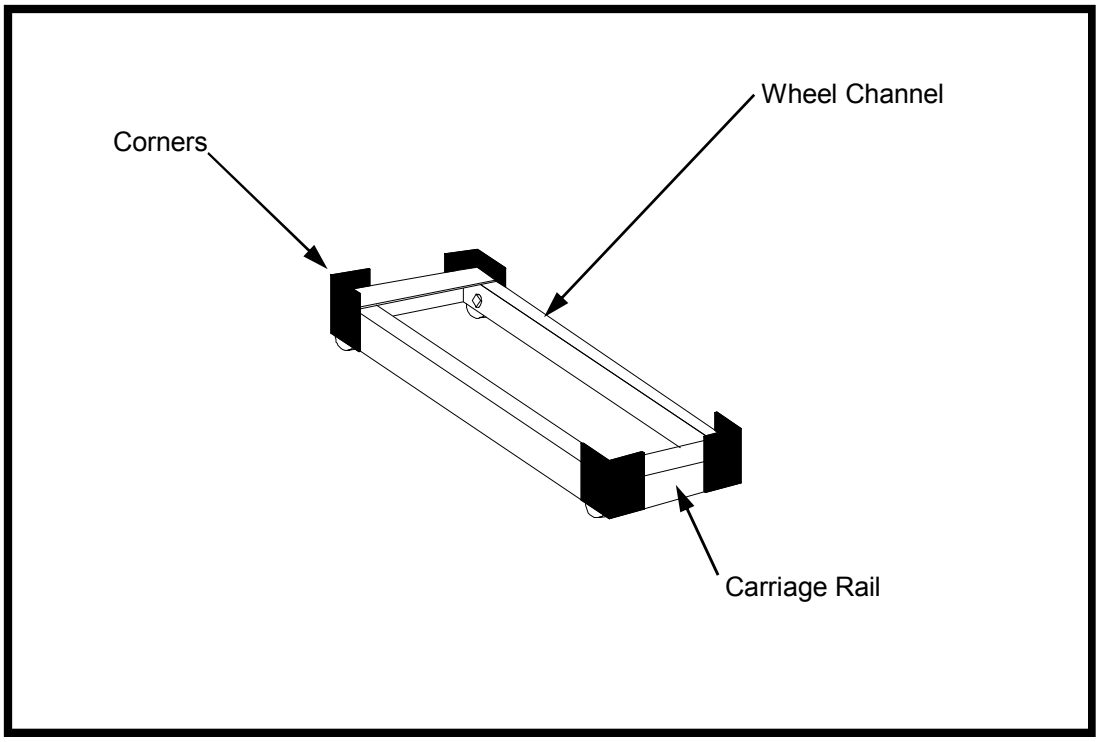
Carriages can be made to any size length and width to fit all shelving sizes and makes. Single unit, or back to back shelving can be used.

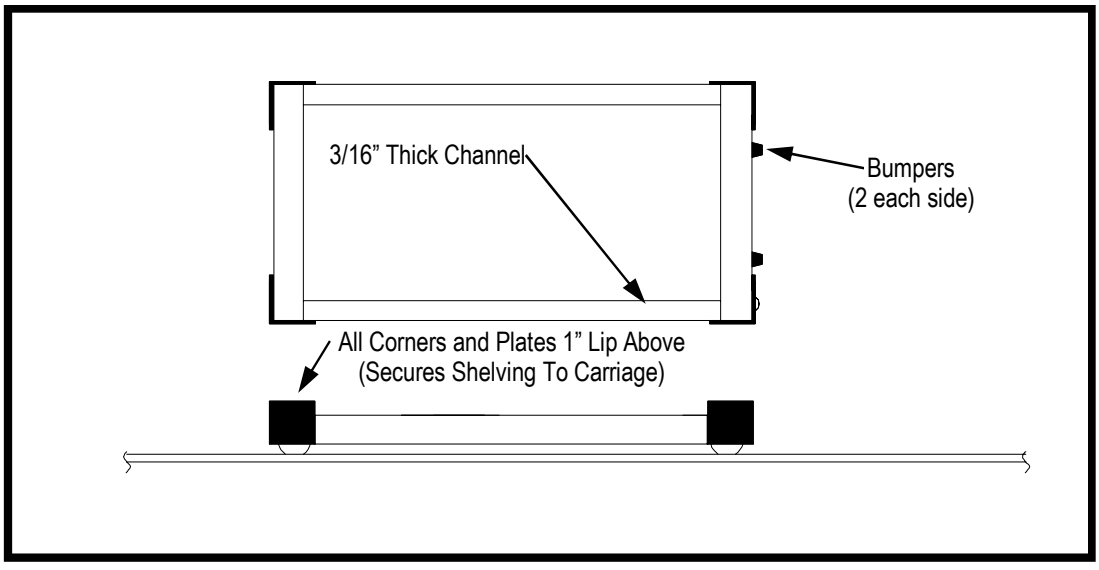
Having back to back shelving presents load bearing uprights in the middle of the channel. A “center” wheel is then placed in the middle of the channel to support that load.

The frame is fastened together using 1/4” and 1/2” bolts and lock nuts to ensure structural integrity and to eliminate any chance of loosening. All holes for hardware placement are machined for a .0132 tolerance to remain within commercial scale.

Carriages

Specifications





Wheel Assembly

Specifications

Height:	
Width:	
Length:	
Weight Per Ft.:	N/A
Serrated:	N/A

The wheel is a 6063 permanently sealed, self-lubricating, high revolution bearing. The static load bearing capacity is 1,430 lbs. per wheel.

The guide wheels in the front channel are locked into place with oil impregnated, bronze, flange bushings.

The wheels and flange bushings are pressed into the channel and secured with a 1/2" 13 x 2" button head cap screw with a shear strength of over 20,000 lbs. The screw is then secured into position with a nylon lock nut at 110 lbs. psi.

The guide wheels allow no play in the front channel which virtually eliminates racking in the carriage.

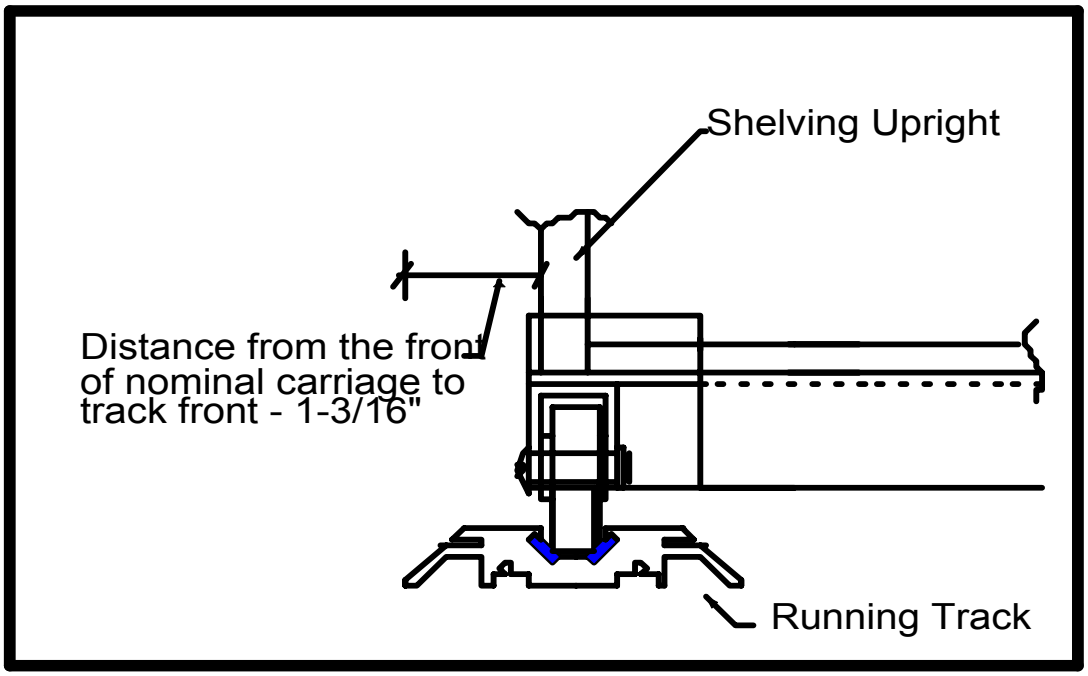
All carriages have one set of guide wheels with the remainder of the channels housing running wheels. All running channels have the same wheel with a straight bushing to allow a tolerance of .375" in the alignment of the wheel. This allows for any in-consistencies in the floor.

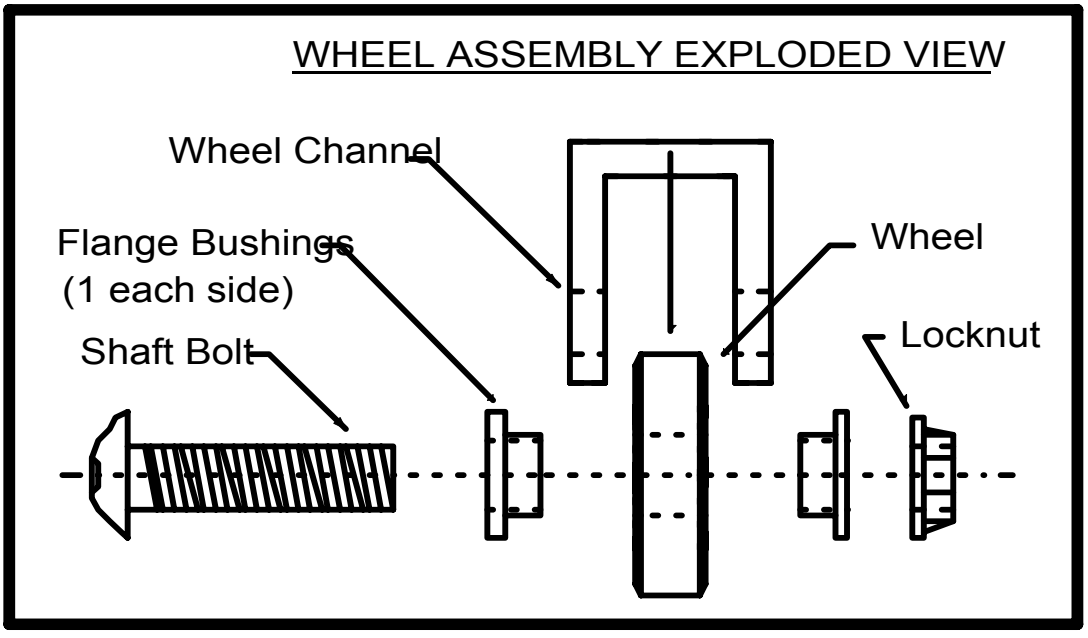
The wheel rides with a running surface of less than .060" against the hardened steel insert. There is a .245" inset exposure into the track housing to prevent derailing.

There is a 45 degree bevel on the rim of the wheel for the minimum riding surface under the weight capacities required.

Wheel Assembly

Specifications





Running Track

Specifications

Height:	.624”
Width:	3.50”
Length:	10’ 0” Stock
Weight Per Ft.:	1.71 lbs.
Serrated:	Three sides
Accepts Ramp:	Yes

The mobile running track (MT) is required under all wheel channels not requiring mechanical assist or an anti-tip system.

The track is 3.50” wide x .624” high with 45 degree bevels on both access sides to prevent tripping during use. The top three sides are serrated to prevent marring.

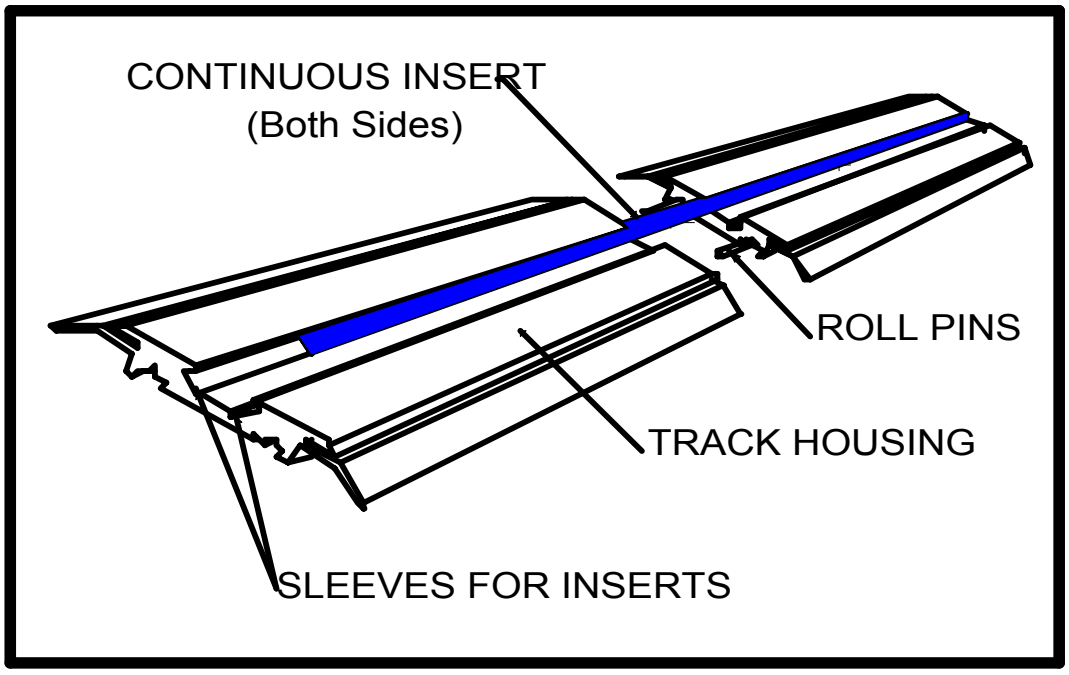
There is a .125” slot on both sides of the track for the insertion of a ramp when leveling the track heightens it to the point of becoming a tripping hazard.

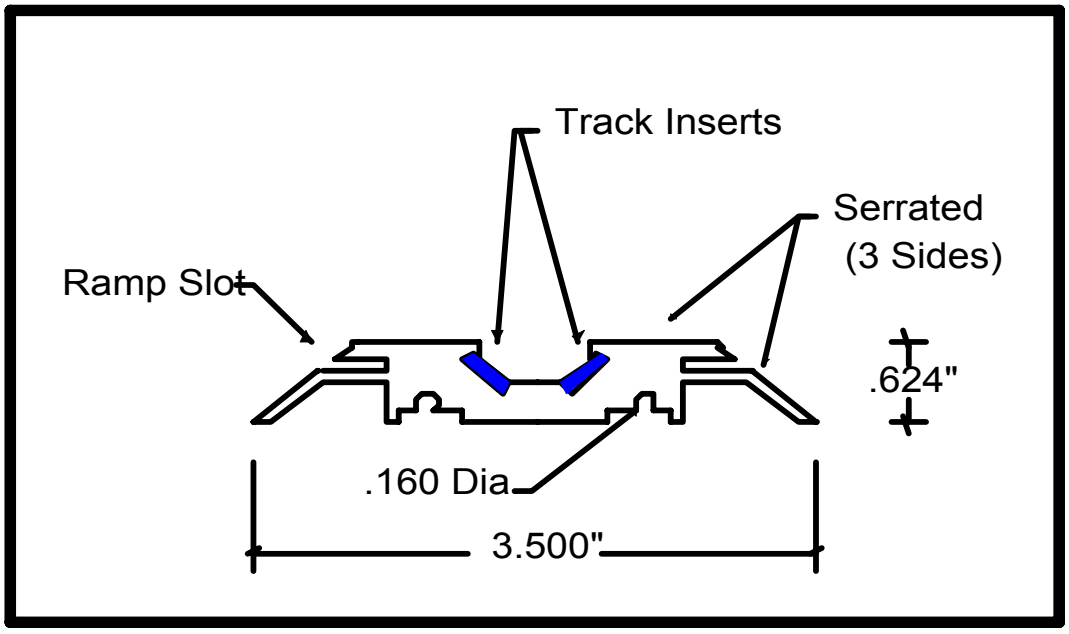
There a two rolls of C-1095 blue tempered spring steel hardened to 56 Rockwell C scale inserted into the housing to act as a riding surface for the wheel. The inserts are held in place by .043” flanges on both sides.

There are two .187” hardened roll pins hold all splices together with a 1” inset in both sides of the splice.

Running Track

Specifications





ADA Track

Specifications

Height:	.421”
Width:	3.500”
Length:	10’ 0” Stock
Weight Per Ft.:	1.05 lbs.
Serrated:	Three sides
Accepts Ramp:	No

The *American Disabilities Act* mandates that any structure on the floor with an overall height of less than .5” must have a 4 to 1 ratio graduation to the floor.

Any structure equaling or exceeding the .5” height must have a 12 to 1 ratio. This is our only track less than .624” high. The ratio at which this track has been designed is 4.156 to 1.

The track (TADA) is 3.5” wide x .421” high with 15.7 degree bevels on both access sides to prevent tripping during use. The top three sides are serrated to prevent marring.

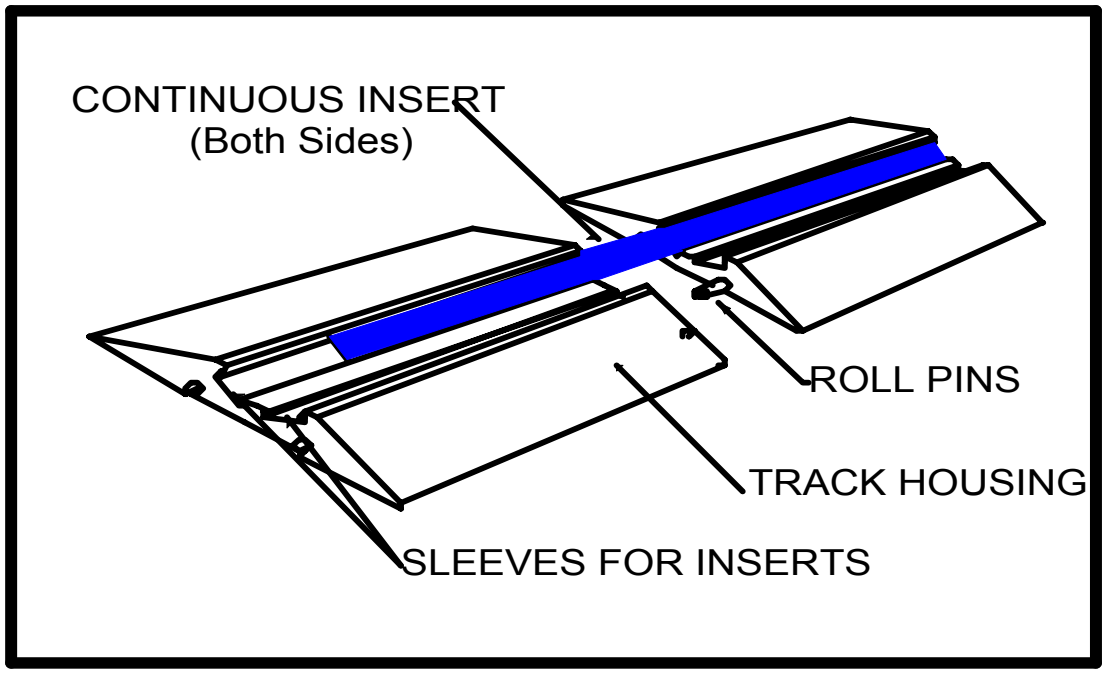
There is no slot in the TADA for the insertion of a ramp. The height of the track does not allow for the clearance needed.

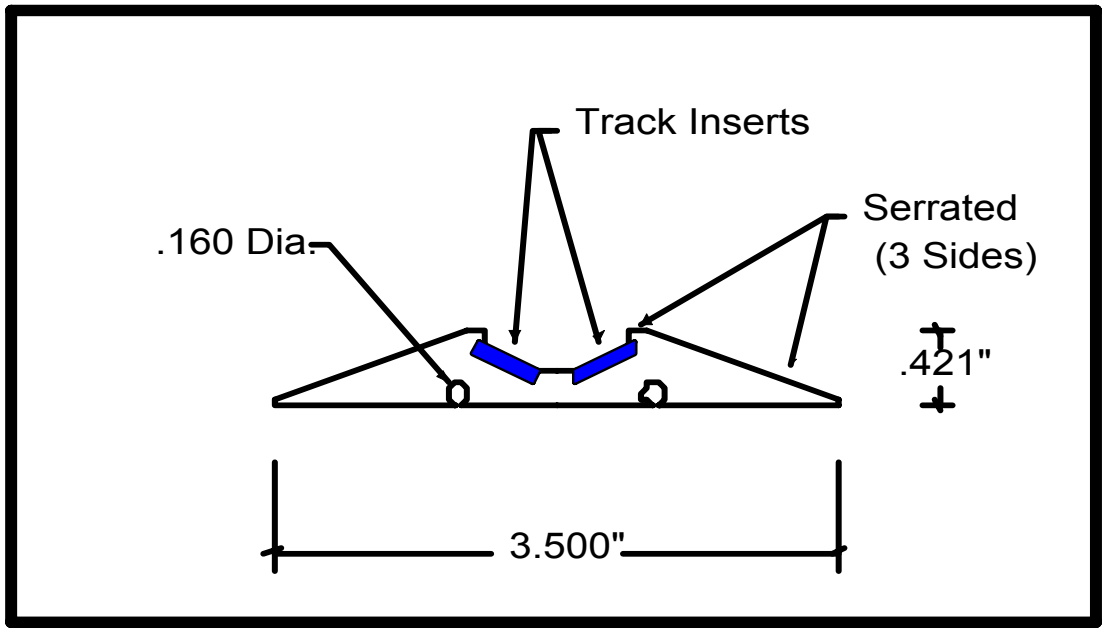
There are two rolls of C-1095 blue tempered spring steel hardened to 56 Rockwell C scale inserted into the 6063-T6 hosing for a riding surface for the wheel. The inserts are held in place by .043” flanges on both sides.

There are two .187” hardened roll pins to hold all track splices together with a 1” inset in both sides of the splice.

ADA Track

Specifications





Floor Anti-Tip Track

Specifications

Height:	.624”
Width:	4.871”
Length:	10’ 0” Stock
Weight Per Ft.:	1.92 lbs.
Serrated:	Three sides
Accepts Ramp:	Yes

When the shelving height exceeds four times the depth or when there are seismic considerations, an anti-tip (AT) system is needed.

Our floor mounted AT system utilizes two .135” angled arms attached to the corners of the carriages. The arms are perfectly aligned into an enclosed channel with a .065” return flange.

The track (TAT) offers the wheel riding surface and the channel for the anti-tip arm in uni-body form. This allows the weight of the shelving to aid in the anti-tip process as well as the procedure of installation.

The .135” AT arm has a .620” penetration into the enclosed channel.

There is an overall tolerance of .489” in the channel.

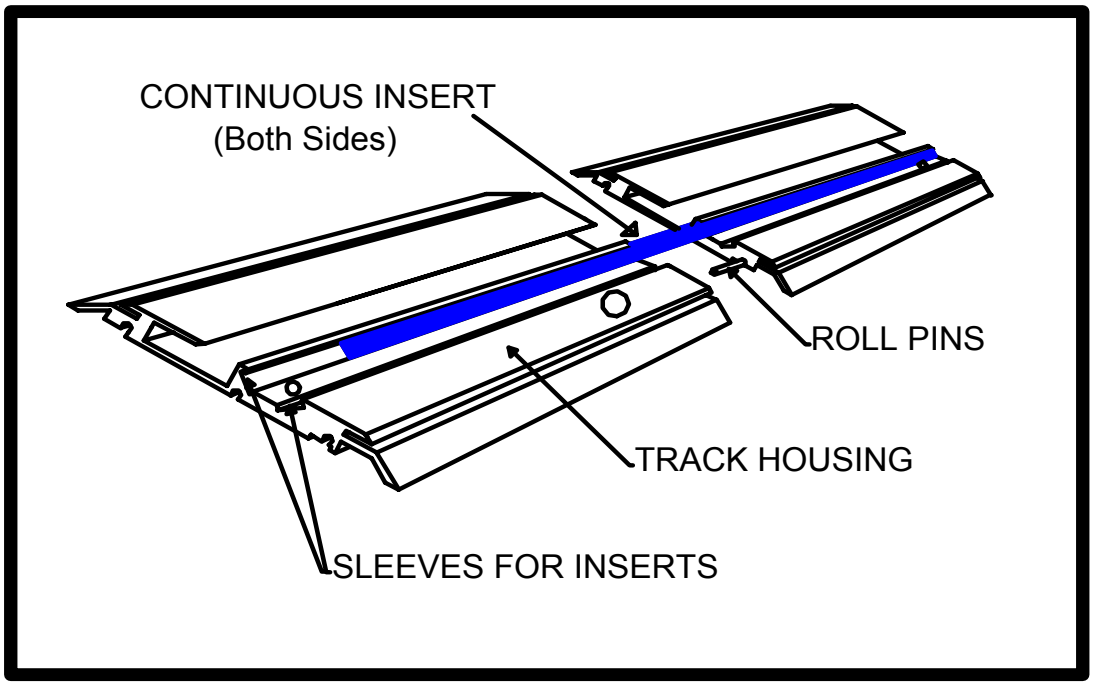
The track is 4.871” wide x .624” high with 45 degree bevels on both access sides to prevent tripping during use. The top three sides are serrated to prevent marring.

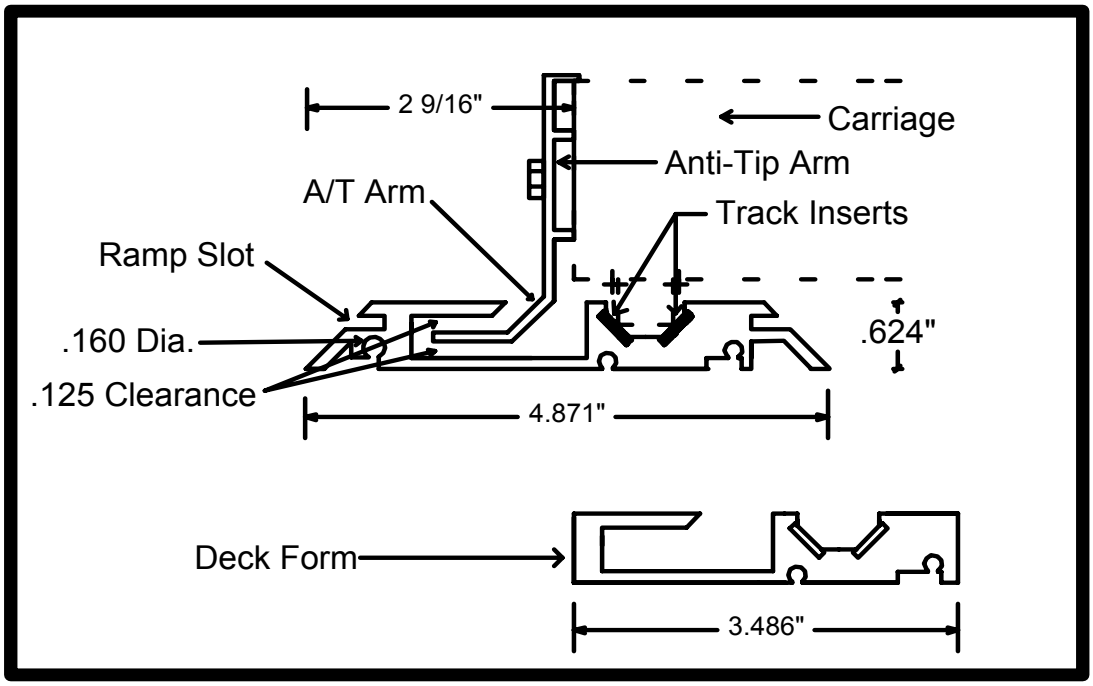
There is a .125” slot on both sides of the track for the insertion of a ramp when leveling the track heightens it to the point of becoming a tripping hazard.

There are two rolls of C-1095 blue tempered spring steel hardened to 56 Rockwell C scale inserted into the 6063-T6 housing for a riding surface for the wheel. The inserts are held in place by .043” flanges on both sides.

Floor Anti-Tip Track

Specifications





Blok Track

Specifications

Height:	.624”
Width:	1.750”
Length:	10’ 0” Stock
Weight Per Ft.:	.62 lbs.
Serrated:	One side
Accepts Ramp:	No

The blok track (TBK) was designed solely for use with a deck. All other tracks have the 45 degree bevel for a smooth transition to the floor when a deck is not used.

When a flush floor is definitely going to be added the TBK has a 90 degree bevel for the easiest addition of a plywood deck.

The track is 1.750” wide x .624” high with 90 degree bevels on both access sides. The top is serrated to prevent marring.

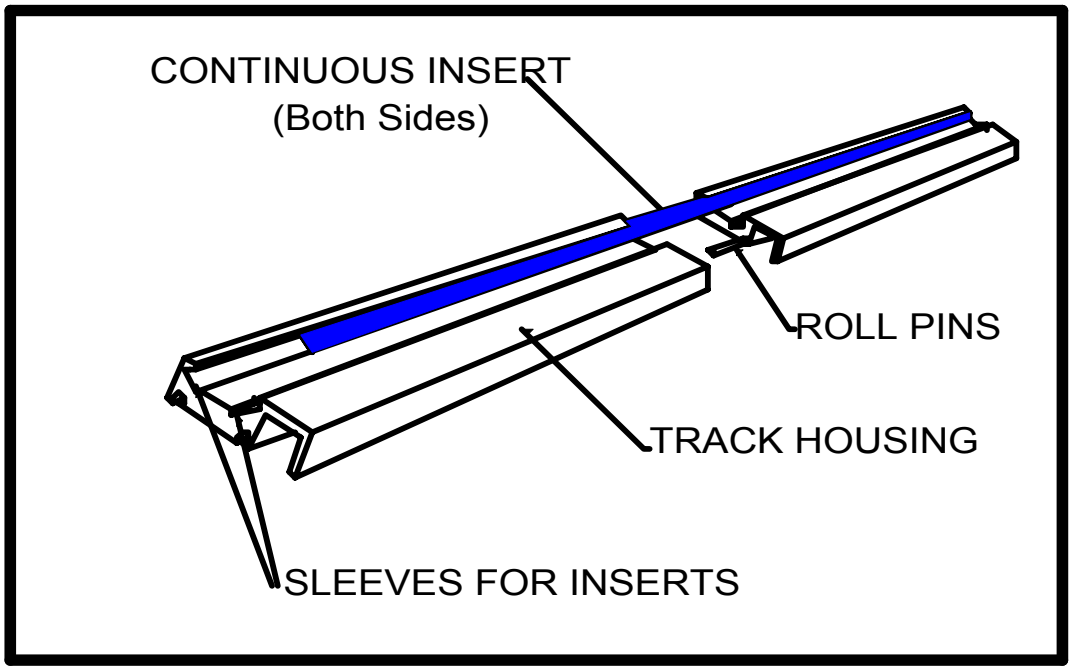
There are two rolls of C-1095 blue tempered spring steel hardened to 56 Rockwell C scale inserted into the 6063-T6 housing for a riding surface for the wheel. The inserts are held in place by .043” flanges on both sides.

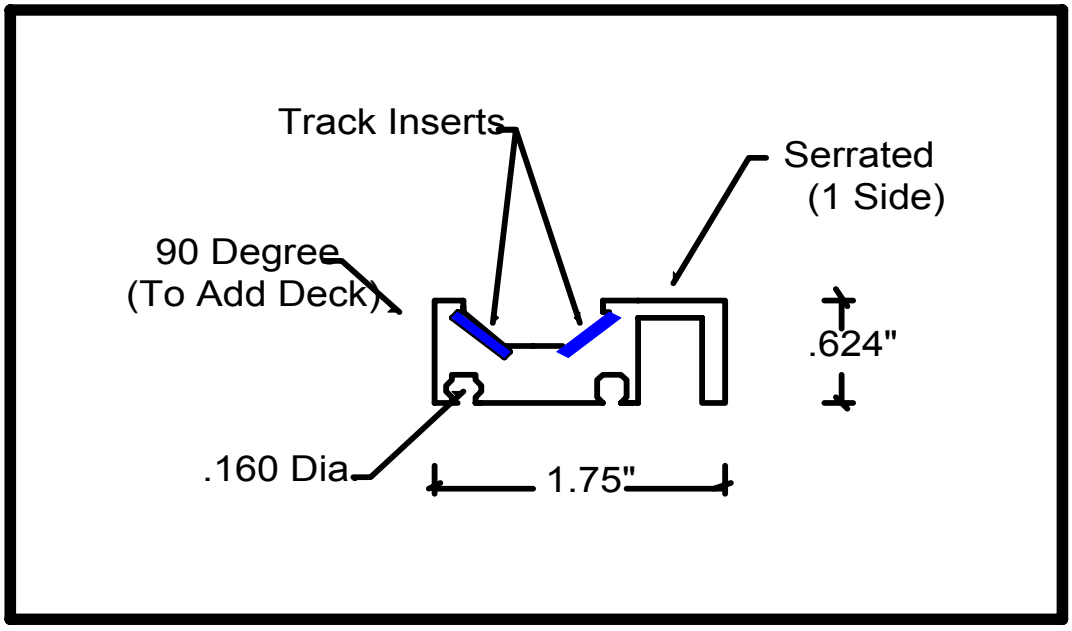
There are two .187” hardened roll pins to hold all track splices together with a 1” inset in both sides of the splice.

There is a .5” horizontal surface for the placement of anchoring hardware.

Blok Track

Specifications





Seismic Anti-Tip Track

Specifications

Height:	.624”
Width:	4.937”
Length:	10’ 0” Stock
Weight Per Ft.:	2.36 lbs.
Serrated:	Three sides
Accepts Ramp:	Yes ***** Also available in deck form**

The seismic anti-tip track (TSAT) is 4.937” wide x .624” high with 45 degree bevels on both access sides to prevent tripping during use. The top three sides are serrated to prevent marring.

There is a .125” slot on both sides of the track for the insertion of a ramp when leveling the track heightens it to the point of becoming a tripping hazard.

There are two rolls of C-1095 blue tempered spring steel hardened to 56 Rockwell C scale inserted into the 6063-T6 housing for a riding surface for the wheel.

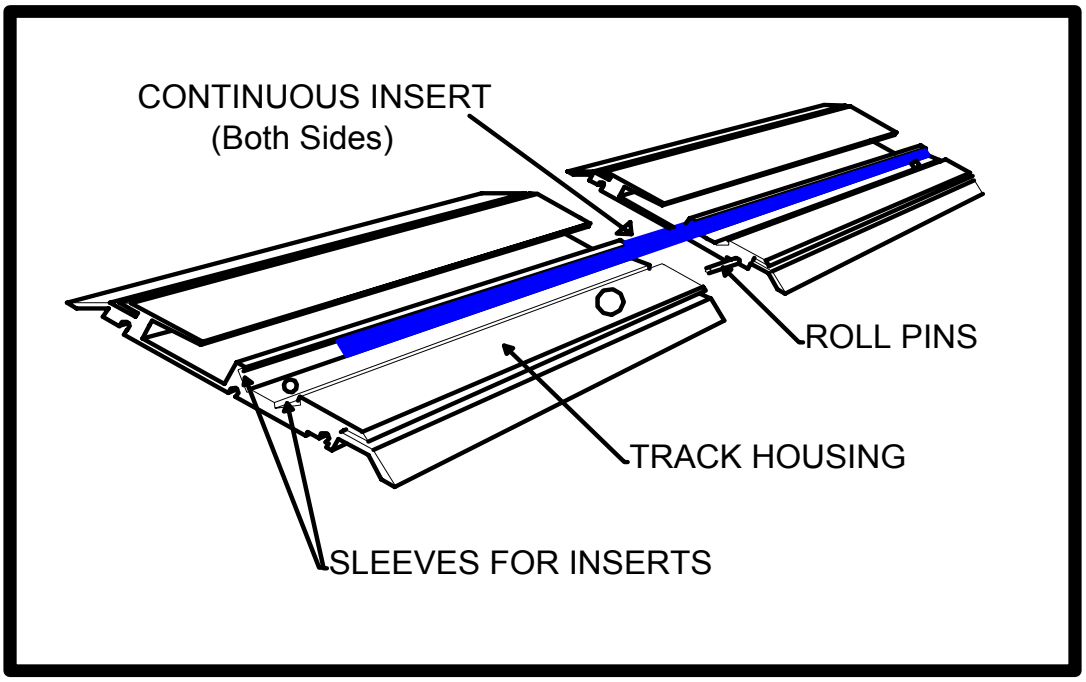
The inserts are held in place by .043” flanges on both sides.

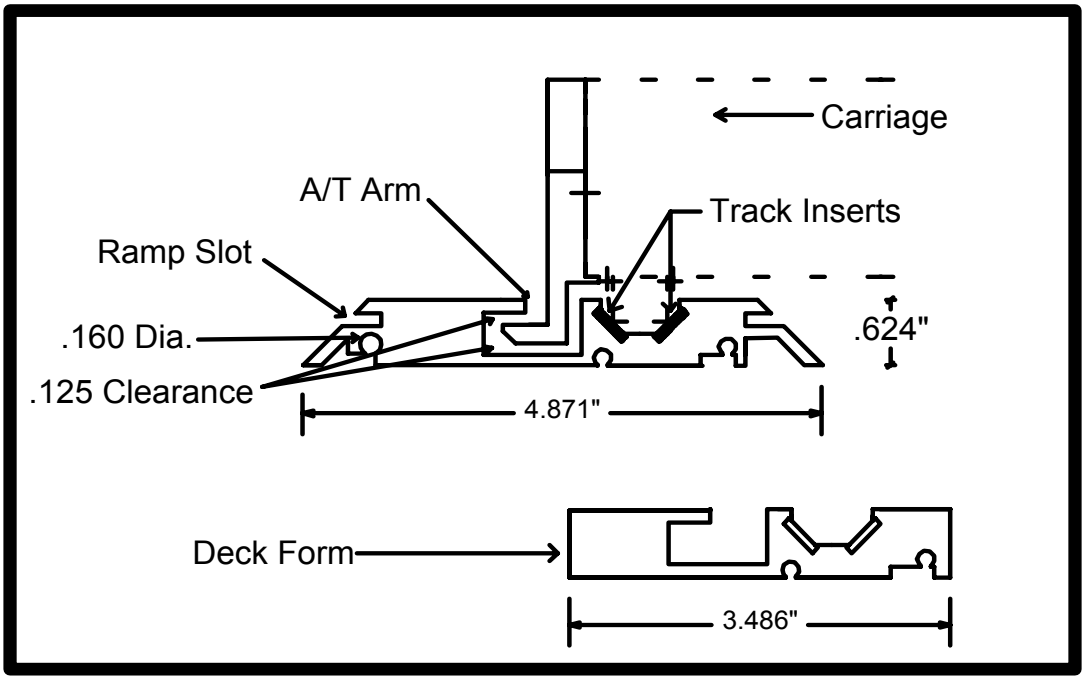
There is a .500” x .375” opening for the insertion of an ANSI pre-stretched 35 chain for the carriage sprocket. The chain is held in place by two .094” x .062” flanges.

There are two .187” hardened roll pins to hold all track splices together with a 1” inset in both sides of the splice.

Seismic Anti-Tip Track

Specifications





Entry Ramp

Specifications

Height:	.4999”
Width:	4.929”
Length:	10’ 0”
Weight Per Ft.:	.846 lbs. per sq. ft.
Serrated:	One Side

When leveling the track raises it to a height where it becomes a tripping hazard an access ramp may be needed.

There is a slot in all tracks (except the Blok and ADA track) for the insertion of an access ramp.

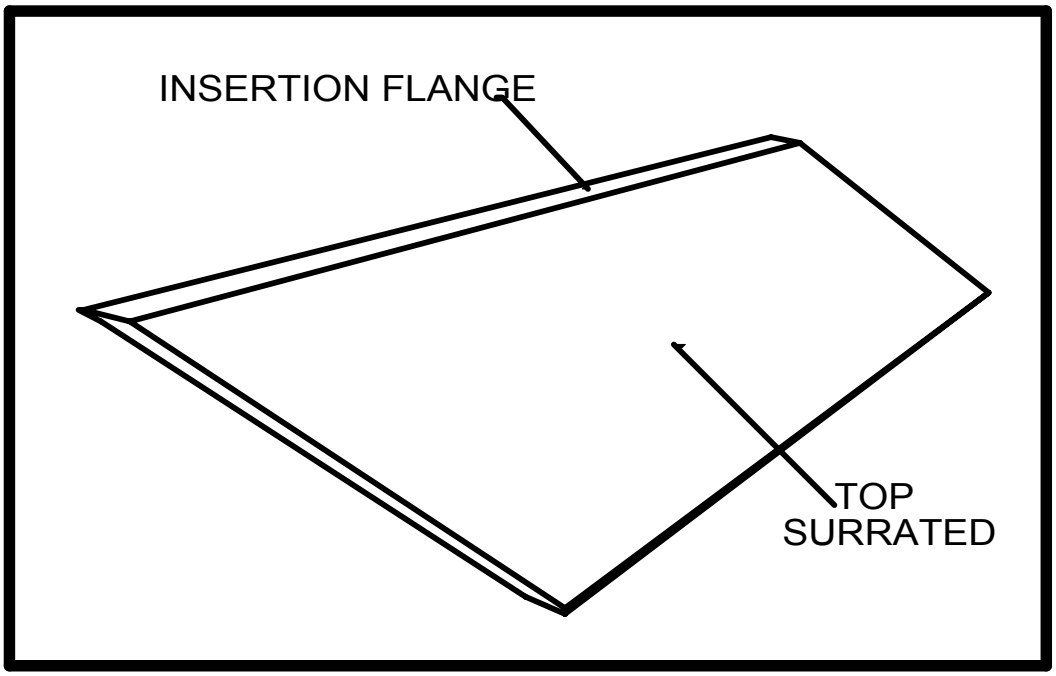
The ramp is .156” thick 6063-T6 aluminum to
prevent bowing under live load. The top surface of the ramp is serrated to prevent marring.

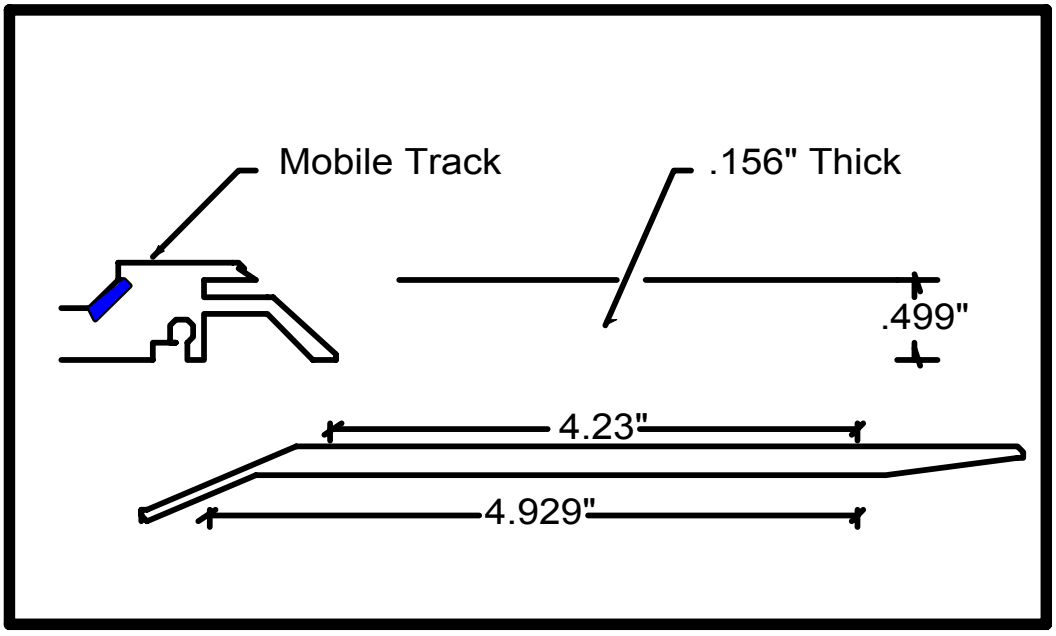
When inserted, the ramp extends 4.23” past the end of the track for a smooth graduation to the floor.

The ramp is held into the track slots by expandable concrete anchors secured at all ends.

Entry Ramp

Specifications





Handles & Static Bases

Specifications

Handles

Mechanical-Assist

Our stock handle is a single spoke with rotating grip handle. A three spoke handle is available upon request.

The hub is machined for a slip fit onto the shaft aligned by keyway or flat and secured by a set screw through the front of the hub.

Diameters are available in 14” and 9” to accommodate the shelving size.

Manual

Upon request manual handles can be added to any manually assisted unit. This will better establish a center of gravity for movement as well as provide a place to grab.

Our stock handles are 1/2” steel, painted black, with a powder coat finish. They are secured into place with a 10 - 24 machine screw through the corner of the upright.

The dimensions are as seen on the drawing.

Static Bases

Stationary, non-movable bases are provide upon request so there will be a uniform height throughout the system for both mobile and static shelving.

There are two heights available depending on whether or not a deck is being installed.

The static carriage is constructed out of the same materials as a regular carriage except for the wheel assembly.

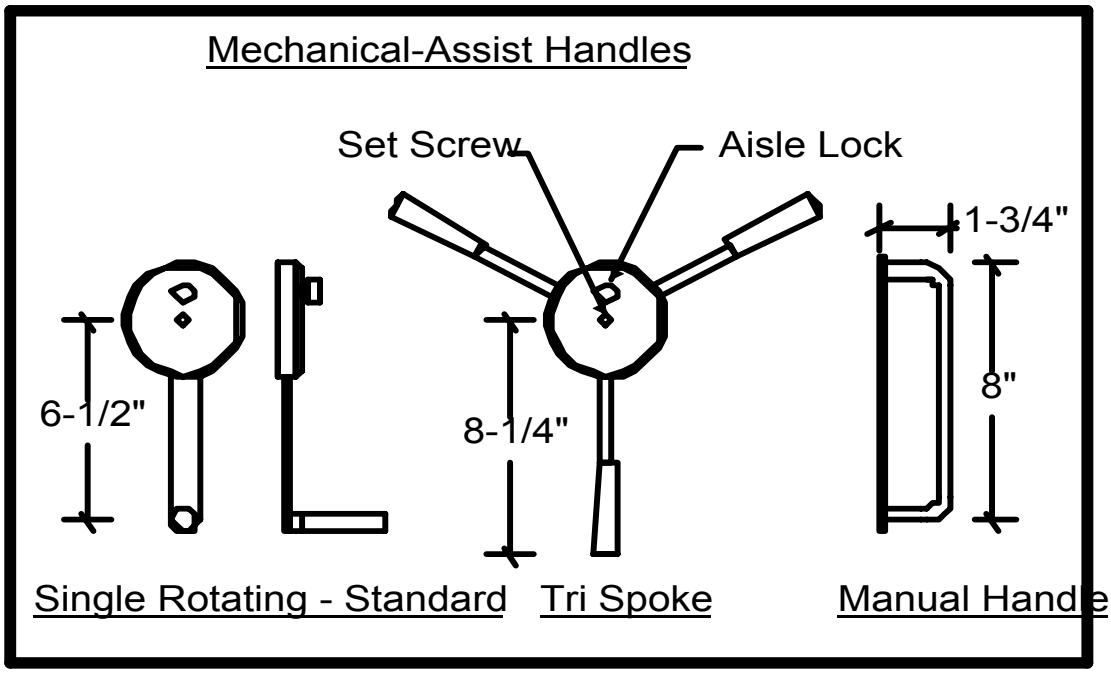
Blocks of wood are painted black to match the system they are the main load bearing component. These blocks are placed and secured to the carriage channel with bolts and lock washers to prevent movement.

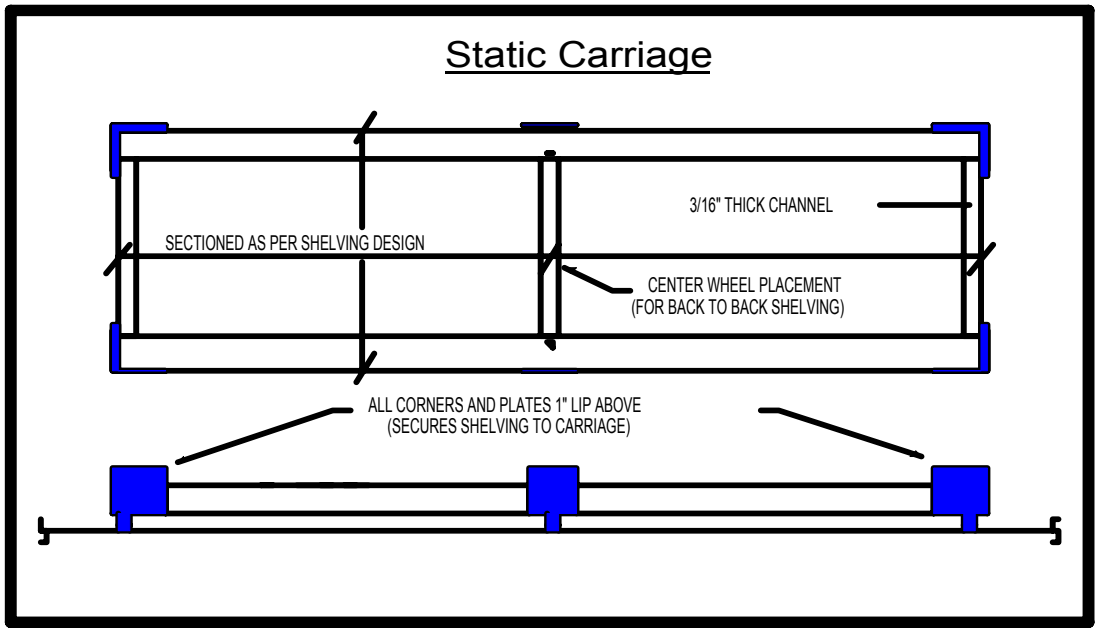
All shelving is mounted and secured the same way to the carriage.

Floor anti-tip is an available feature when needed for static bases also.

Handles & Static Bases

Specifications





Locks & Hardware

Specifications

Locks

There are two locks available;

Aisle Lock - To prevent access while system is being used.

System Lock - To prevent access by unauthorized personnel.

Aisle Lock

Availale with mechanically assisted systems only. This is an indexing plunger with a .28" insertion into the mechanical housing.The locking mechanism is activated by pushing the plunger directly into the housing. This plunges a steel rod through machined holes in the mechanical housing.

System Locks

Available for both manual & mechanical systems. This is a keyed plunge lock installed on the carriage. When pushed a steel rod is inserted into an aligned hole in the track.

After the system is installed all the carriages are placed to one side. This shows the position for the hole to align to the lock.

Also available for mechanically assisted systems is a keyed lock placed directly in the handle hub.

Hardware

The track is normally installed (unless a special request has been made) with a 2" expandable concrete anchor at each end and a 1-1/2" anchor at all splices.

After aligning and drilling the hole into the floor the anchor is inserted through the end stop, end cap and track into the floor. Hammering the anchor down (normally after leveling the tracks) then secures all parts into place.

The end stop has a permanently installed washer to prevent movement or tearing from pressure.

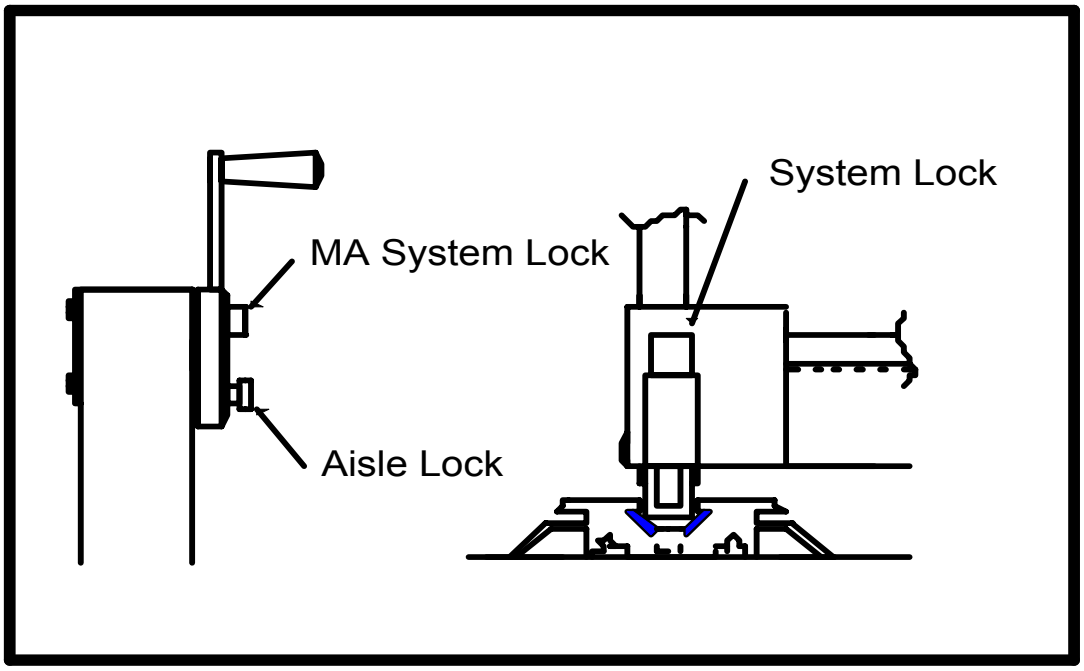
The end cap keeps the inserts from sliding out of position.

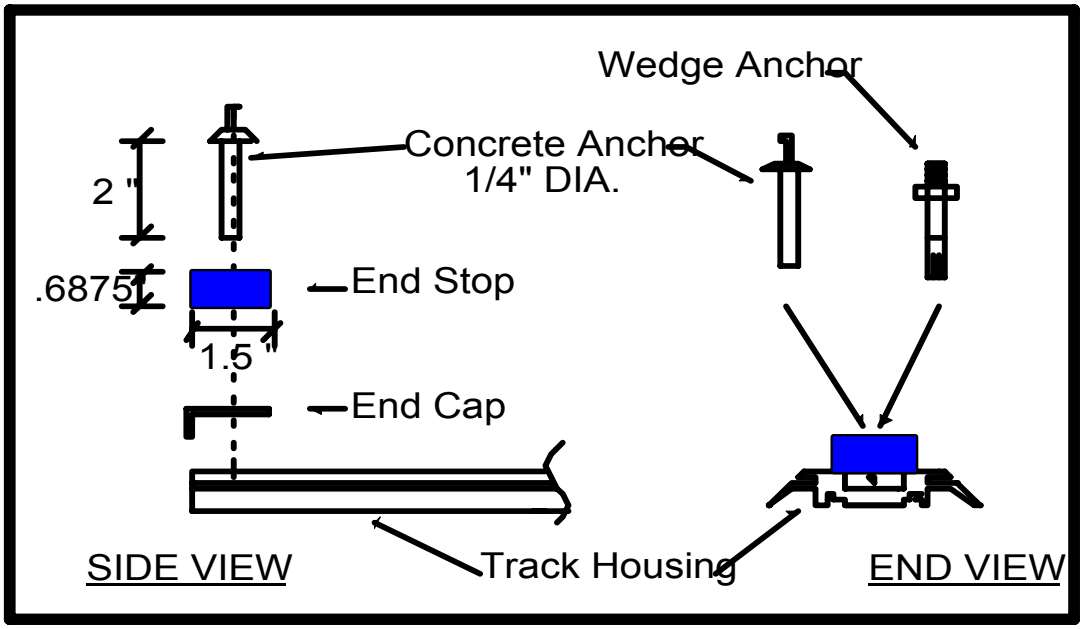
Upon request or in seismic areas a 3.25" wedge anchor is used for further penetration into the ground.

High pressure, tempered roll pins hold all splices together with a 1" penetration on both sides.

Locks & Hardware

Specifications





Carriage & Track Growth

Specifications

Carriage Growth Dimensions

After the shelving size is determined the standard growth in both directions is 1/4" to allow for any inconsistencies in the shelving.

The carriages are manufactured to within 1/32" tolerance to any size determined for an open or tight fit. The comfort level of deciding this is dependent on the exactness in the shelving manufacturing method.

Carriages can be made oversized up to 3/4" to allow for this, the corners and center plates are still more than able to keep the shelving in place.

The shelving sections being used to make a run (a 12' long carriage for example) need to be stated so mid channels can be placed accordingly.

The standard carriage height is 2-7/8" off the finished floor (shaft carriages are 4-1/8").

*This is based on a level floor. Any raising of the track for leveling will change this measurement.

Track Growth Dimensions

Track lengths can also be made to any length to allow for any size aisle requested.

To determine the exact aisle in a specific space:

1. Add 3" for both end stops at each end of the track.

2. Add the width of the carriage plus 9/16" times the number of the carriages in a run.**

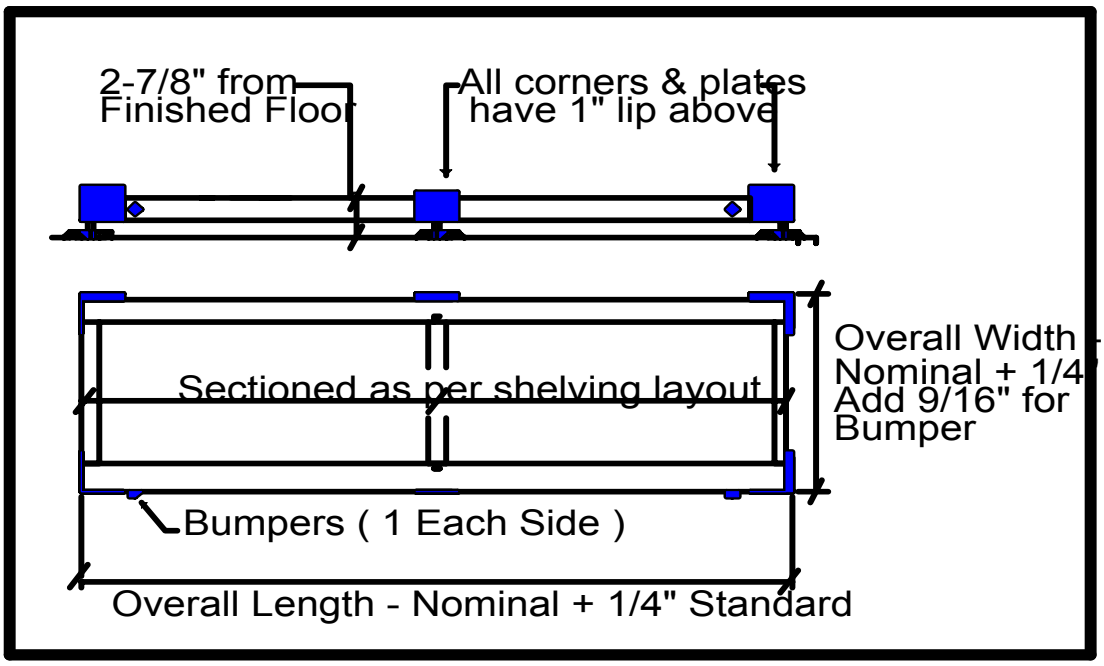
3. Subtract this number from the length of the track and this is the aisle space.

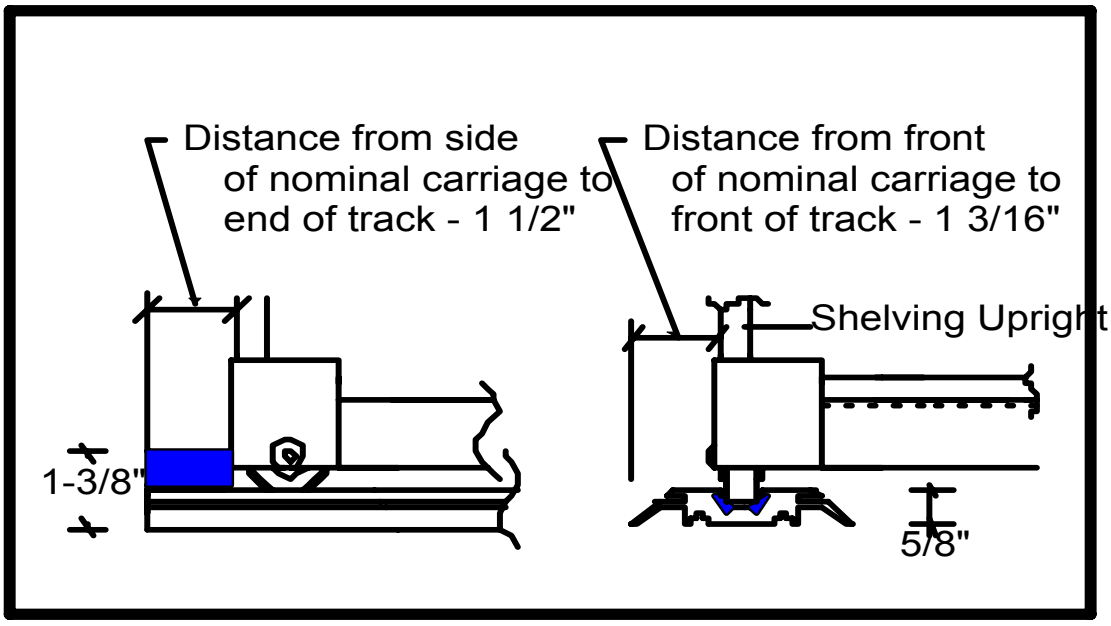
*Or to get a specific aisle space make the additions necessary and add the aisle space required. This will total the needed track length.

** For carriage size see opposite section.

Carriage & Track Growth

Specifications





Lateral Anti-Tip

Specifications

Most lateral systems utilize an overhead anti-tip (AT) system which provides two advantages:

1) The system is prevented from tipping or falling.
2) The units are stabilized for smooth operation.

Standard - Offset Arms
Standard lateral anti-tip arms (see two-deep system illustration) are offset .125" steel formed for a complete insertion of the wheel into the channel.

The arms fabricated for a 1-1/2" spacing between the static unit and the mobile (depending on the placement of the AT channel). There are slots to attach the arm to the shelving unit. This allows for adjustment of spacing between the units.

A self contained polypropylene wheel rides in an aluminum channel with a .0625" tolerance designed to maintain stability while preventing friction to the smooth movement.

Spacers are provided to be installed when the unit track is against the existing floor. These can be removed as the track is leveled and the overall system height of the unit is raised. This allows the wheel to remain consistent in the channel.

Option - Straight AT Arms
Certain applications call for wider spacing with longer arms. These are made of .125" aluminum 'U' channel for strength.

These are are typically cut to match the depth of the carriage. Since the carriage is generally 1" to 2" from the static unit, this allows the arm to be inset the same amount from the face of the unit. A decorative rubber end cap is provided for the end of the arm.

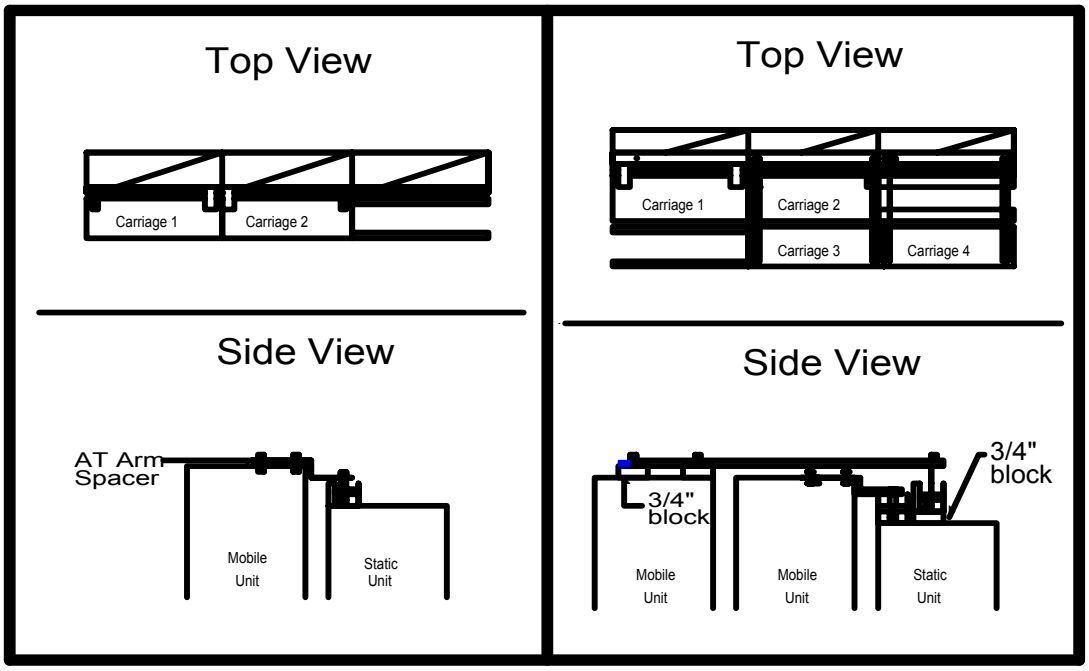
Option - Three Deep Systems
When a third or fourth row is being added to a system, AT arms are longer. (See three-deep system on right side of drawing).

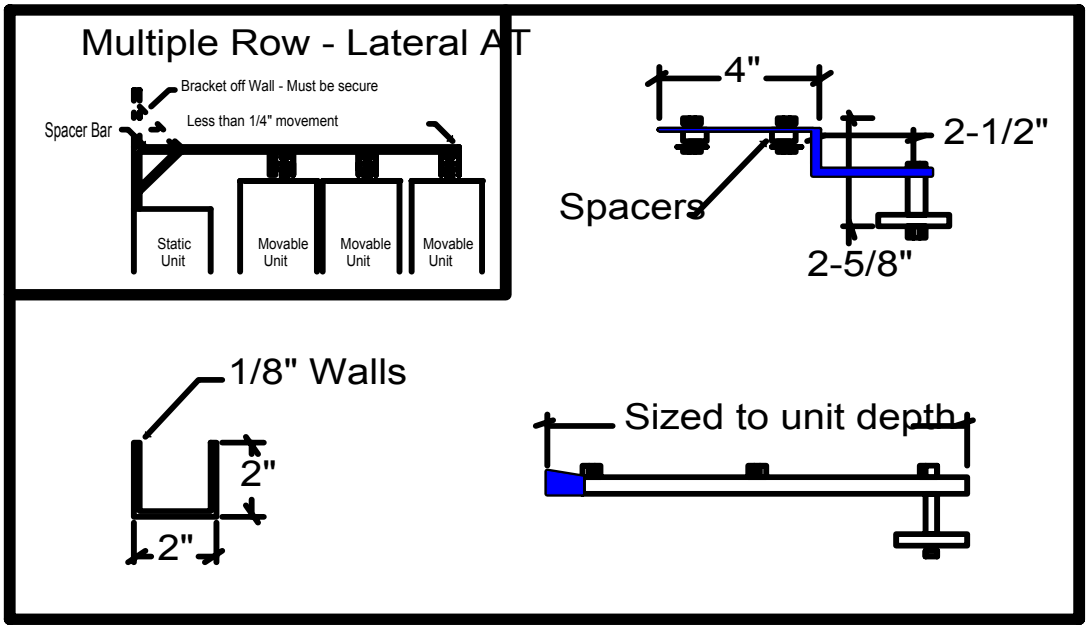
Typically the offset arm is used for the first row and the straight arm for all additional rows.

Basically, all AT arms and AT channels are raised evenly to pass over the arm in the row before it.This type of AT system works well up to 3-4 rows deep. Once a system requires more than three (3) mobile rows deep the AT system should be switched to an overhead type.

Lateral Anti-Tip

Specifications





Deck Detail & Seismic Detail

Specifications

Deck Detail

All tracks used for the addition of a deck are 5/8” high. The front track on all systems has one side with a slot for the addition of a ramp.
All other tracks are at a 90 degree angle for the addition of a deck.

To prevent chipping of the floor tile the finished height of the track should be 1/8” above the track.

There are two choices for plywood for a finished deck - 5/8” and 3/4”. We will discuss the layout using 3/4” below. Allowances will be made when using 5/8” plywood or carpet.

A deck spacer of 3/8” (to match the width of the track) is installed underneath the track. This makes the finished height of the track 1”.

The 3/4” deck with the addition of a 1/8” tile will have a finished height of 7/8”.

This will attain the desired result of the track being 1/8” above the deck.

Changes are made when using carpet or 5/8” plywood to reach the same end result.

Seismic Detail

When the system is being installed in a seismic zone, individual applications warrant custom calculations.

Modifications have been added to our standard floor anti-tip to meet generic seismic requirements.

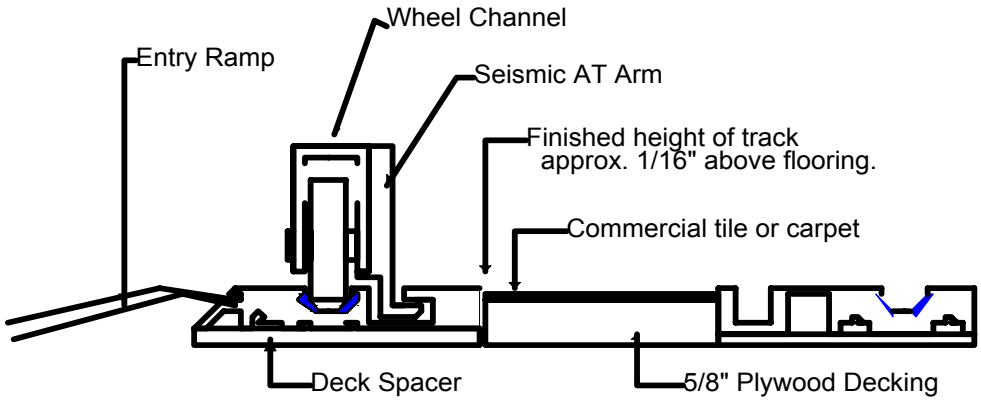
Back to back shelving must be used to prevent side to side swaying. A 2” angle is provided at all corners for the attachment of the shelving to the carriage.

Please call for additonal seismic information.

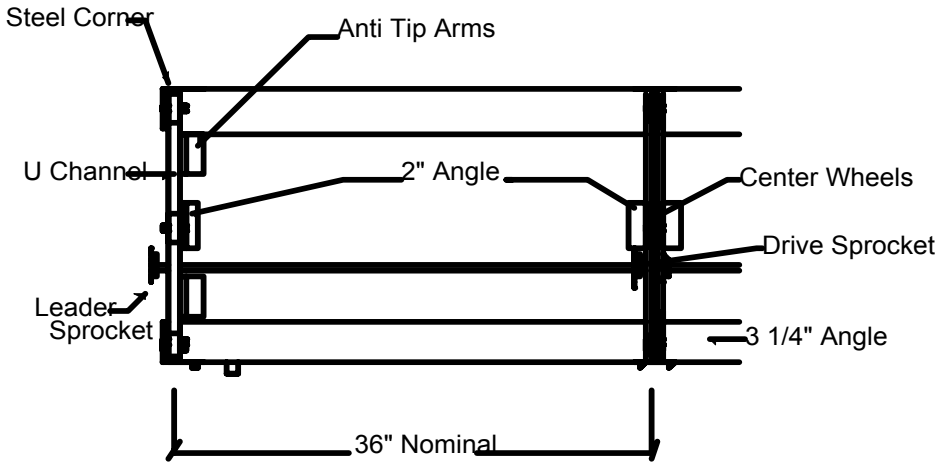
Deck Detail & Seismic Detail

Specifications

DECK DETAIL



CARRIAGE SEISMIC DETAIL



Wire Dividers

Specifications

In broadcast applications tape separation is sometimes an issue. Custom wire dividers are available.

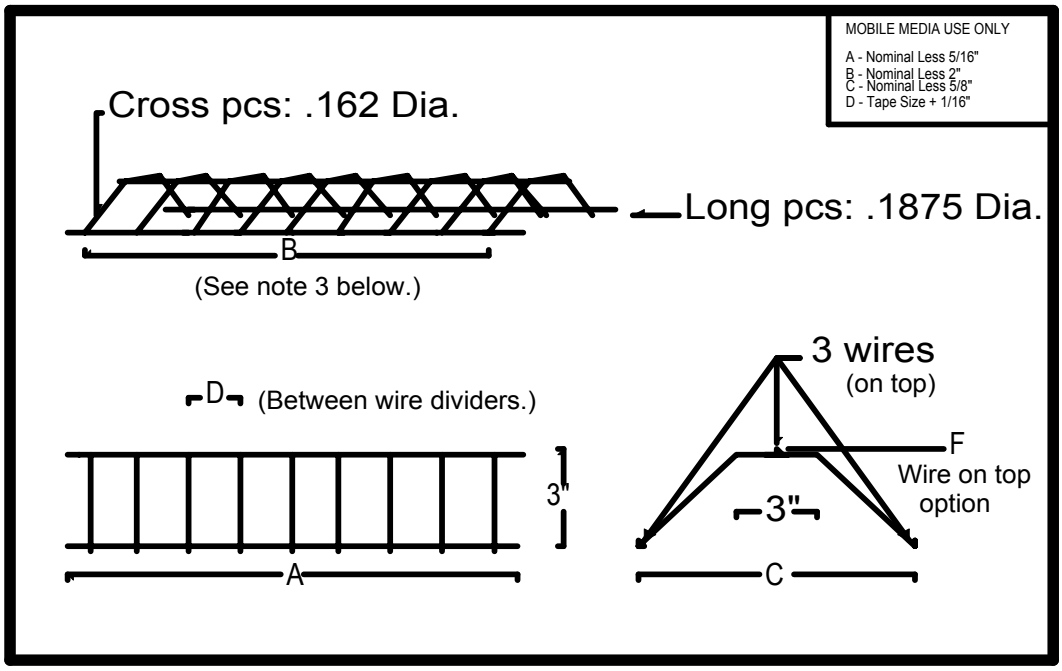
The amount of required openings, length, width and depth are all variables to the cost. The amount of tapes per slot varies from one to three (1 - 3) standard. Tape dividers made of wire provide permanent separation and also provide a lip to prevent movement of the tapes when moving a mobile carriage.

Dividers are available in a variety of color choices to match new or existing shelving. Standard colors are tan, black, and white. Matching a custom color will affect lead price and lead times.

The chart on the left page will walk you through the information needed for pricing and manufacturing of the wire dividers.

Wire Dividers

Specifications



QUANTITY	A	B	C	D	E # of Openings	F

Notes: 1. The numbers of openings centered on B measurement should be centered on A.
2. Wire to be .125" thick. Please specify thickness if not matching exact.
3. To not loose any space and use the full distance of B - after using the space of D x E, use remaining space left in B in last opening on 1 side